CALIFORNIA STATE UNIVERSITY, FRESNO

General Catalog

2013-2014

FRESNO STATE

Discovery. Diversity. Distinction.

Contents

Courses and programs are listed by college/school.

Features

Academic Calendar 4
The California State University 6
Trustees and Officers 8
President's Message 9
Fresno 10
Campus 12
California State University, Fresno 14
Maddy Institute 16
University 1 17
Diversity 18

Sources/Resources

Honor Code 20
Advising Services 22
Alumni Association 24
Associated Students 25
Athletics 26
Auxiliaries 27
California State University, Fresno/COS Center 28
Career Services 29
Continuing and Global Education - Extension Programs 30
Educational Opportunity Program 31
Health and Psychological Services 32
Housing 33
International Student Services and Programs 34
Learning Center 35
Library Services 36
Outreach Services 37
Richter Center for Community Engagement and Service-Learning 38
Services for Students with Disabilities 39
Student Affairs 40
Student Affairs Federal Programs 41
Student Involvement 42
Student Success Services 43
Study Abroad and International Exchanges 44
Technology Services 45
Testing Services 46
Women and Culture, Center for 47

Admissions, Fees, and Financial Assistance

Admission Requirements 50
Registration Process 58
Preprofessional Preparation 61
Fees and Expenses 63
Financial Aid 66
Scholarships 69
Institutional Information 70

Academic Regulations

Academic Regulations 72
Academic Placement 79
Degree Requirements 82

University Degree Programs and Courses

Degree Programs, Majors, and Minors 88
General Education 89
Course Subjects, Symbols, and Terms 93
Honors 95
Athletics 99

California State University, Fresno

www.fresnostate.edu/catalog

Jordan College of Agricultural Sciences and Technology 100
Agricultural Business 101
Animal Sciences and Agricultural Education 107
Child, Family, and Consumer Sciences 115
Food Science and Nutrition 122
Industrial Technology 128
Plant Science 134
Viticulture and Enology 142

College of Arts and Humanities 147
Armenian Studies 149
Art and Design 151
Classical Studies – Interdisciplinary Minor 161
Communication 162
English 168
Humanities – Interdisciplinary 176
Linguistics 178
Mass Communication and Journalism 184
Modern and Classical Languages and Literatures 190
Music 199
Philosophy 208
Theatre Arts – Drama and Dance 213

The Craig School of Business 219
Accountancy 222
Aerospace Studies 224
Economics 226
Finance and Business Law 230
Information Systems and Decision Sciences 235
Management 239
Marketing and Logistics 244
Military Science 249
Special Option for Business Administration 251
Business — Graduate Programs 252

Kremen School of Education and Human Development 258
Education Departments and Programs 259
Liberal Studies 263
Teaching 265
Graduate Education 274
Credentials 276
Certificates 279
Master's Degree Programs 281
Doctorate Program 287
Education Courses 288

Lyles College of Engineering 304
Departments 305
Civil Engineering 309
Construction Management 314
Electrical and Computer Engineering 317
Geomatics Engineering 325
Mechanical Engineering 328
Engineering — Graduate Programs 333

College of Health and Human Services 336
Communicative Disorders and Deaf Studies 337
Gerontology 345
Kinesiology 347
Nursing 357
Physical Therapy 369
Public Health 376
Recreation Administration 382
Social Work Education 387
Health — Interdisciplinary Courses 393

College of Science and Mathematics 394
Biology 395
Biotechnology 407
Chemistry 408
Computer Science 415
Earth and Environmental Sciences 420
Mathematics 427
Physics 433
Psychology 440
Science and Mathematics — Interdisciplinary Courses and Programs 448

College of Social Sciences 450
Africana Studies 451
Anthropology 454
Chicano and Latin American Studies 461
Criminology 465
Geography 472
History 477
Political Science 484
Social Sciences Programs 492
Sociology 493
Women's Studies 498

Special Programs 502
Division of Graduate Studies 508
University Administration 520
Policies and Regulations 524
Faculty, Administration, Emeriti 531
Campus Directory 560
Campus Map ..... Inside Back Cover

Vol. CVII • May 2013

The *General Catalog* is prepared under the supervision of the Office of the Provost and Vice President for Academic Affairs and the Office of the Dean of Undergraduate Studies with assistance from Dr. Dennis Nef.

Associate Vice President for University Communications
Shirley Armbruster

Catalog Editor
April Schulthies

Catalog Assistants
Margarita Adona
Leilani Esqueda

University Photographer, California State University, Fresno
Cary Edmondson

Contributing Photographers, University Communications, California State University, Fresno
Tom Uribes, *Public Information Specialist*

Academic Calendar 2013-2014

This document is not intended to be construed as an employee work calendar.

Fall Semester

AUGUST 2013

7 Ramadan ends

9 Last day to submit to the Division of Graduate Studies departmental clearance paperwork on behalf of August 2013 master's degree candidates (include a copy of the completed final report on incomplete or in-progress work, if needed for graduation)

TBA New International Student ORIENTATION
ACADEMIC ASSEMBLY for faculty

19 SEMESTER begins

22 INSTRUCTION begins
APPLICATION period for degrees to be granted in December 2013 begins

22-29 FRESNO STATE WELCOME — activities and programs for new and continuing students, faculty, and staff

SEPTEMBER 2013

2 Labor Day — no classes; all offices closed

5 Last day
- to ADD a class without instructor permission
- to ADD a class by WaitList
- to register for Credit by Examination

Registration fees will be determined by the number of units enrolled as of this date. Class schedule adjustments (add, drop, swap) made after this date, may result in a change in fee status from part-time to full-time.

Rosh Hashanah

6 Last day
- to file an application for BACHELOR'S and MASTER'S DEGREES to be granted in December 2013
- for faculty to submit CHANGES and CLEARANCES (incomplete grades, approved petitions, departmental approvals, transfer transcripts) required for graduation with a bachelor's degree at the end of the summer 2013

14 Yom Kippur

19 Last day to
- ADD CLASSES with permission
- DROP CLASSES online without a serious and compelling reason and without a grade of *W* (withdrawal) listed on university transcript
- change to *or* from credit/no credit grading
- change from credit registration to audit registration or audit registration to credit registration
- take examination for Credit by Examination

23 Last day for graduate students to apply for ADVANCEMENT TO CANDIDACY this semester in order to be eligible for graduation in May 2014

OCTOBER 2013

1 ADMISSION APPLICATION cycle for fall 2014 begins
SCHOLARSHIP APPLICATIONS for the 2014-2015 academic year will be available online

3 Last day for faculty to submit Credit by Examination grades

21 Last day to file edited, committee-approved MASTER'S THESIS for December 2013 graduation

NOVEMBER 2013

4 Registration for spring 2014 semester begins

11 VETERANS' DAY observed
Campus closed

19 Last day to DROP/WITHDRAW from classes for SERIOUS and COMPELLING REASONS. After this date, only drop/withdrawals for circumstances beyond the student's control will be considered.

27 THANKSGIVING RECESS BEGINS
No classes; offices will post hours

28-29 THANKSGIVING RECESS
Campus closed; the library will post holiday hours

DECEMBER 2013

6 Spring 2014 Early Registration Fee payment deadline

11 Last day of INSTRUCTION
Last day to drop/withdraw for circumstances beyond the student's control

12&13 Final exam preparation and faculty consultation days

16-19 FINAL SEMESTER EXAMINATIONS

24 FALL SEMESTER ends
Last day to
- submit incomplete make-up work or request extension of time for incomplete grades from fall 2012
- submit to the Division of Graduate Studies departmental clearance paperwork on behalf of December 2013 master's degree candidates (include a copy of the completed final report on incomplete or in-progress work, if needed for graduation)

25-31 Campus closed (Dec. 25-Jan. 1)
WINTER RECESS (Dec. 24–Jan. 11)

27 Fall 2013 online grades due from faculty

AUGUST 2013

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER 2013

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER 2013

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER 2013

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER 2013

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Please note: This calendar is subject to change after the print catalog goes to press. For the most current calendar, please see *www.fresnostate.edu/catoffice/current/calndr.html*.

Academic Calendar 2013-2014

JANUARY 2014

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY 2014

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH 2014

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL 2014

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY 2014

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Spring Semester

JANUARY 2014

1 Campus closed (Dec. 25-Jan. 1)
FINANCIAL AID application filing period for priority consideration for the 2014–2014 academic year begins (Jan. 1–March 2)

2 WINTER RECESS (Dec. 24-Jan. 11)

13 SEMESTER begins

16 INSTRUCTION begins
APPLICATION period for degrees to be granted in May 2014 begins

20 Martin Luther King, Jr. holiday — no classes; campus closed

30 Last day to
- ADD a class without instructor permission
- ADD a class by Wait List
- Register for Credit by Examination

31 Last day for faculty to submit CHANGES and CLEARANCES (incomplete grades, approved petitions, departmental approvals, transfer transcripts) required for graduation with a bachelor's degree at the end of the fall 2013 semester
Last day to file an application for BACHELOR'S and MASTER'S DEGREES to be granted in May 2014
Chinese New Year

FEBRUARY 2014

13 Last day to
- ADD CLASSES with permission
- DROP CLASSES online without a serious and compelling reason and without a grade of *W* (withdrawal) listed on university transcript
- change to *or* from credit/no credit grading
- change from credit registration to audit registration or audit registration to credit registration
- take examination for Credit by Examination

17 Presidents' Day — no classes; all offices closed

24 Last day for graduate students to apply for ADVANCEMENT TO CANDIDACY this semester in order to be eligible for graduation in August 2014 or December 2014

27 Last day for faculty to submit Credit by Examination grades

28 Application deadline for SCHOLARSHIPS for the 2013-2014 academic year

MARCH 2014

2 Filing deadline for FINANCIAL AID priority consideration for the 2014-2014 academic year

10 Last day to file edited, committee-approved MASTER'S THESIS for May 2014 graduation

31 Cesar Chavez holiday observed — no classes; campus closed

APRIL 2014

14 SPRING RECESS begins (April 14-April 18)

15 Pesach (Passover) begins
Last day to DROP/WITHDRAW from classes for SERIOUS and COMPELLING REASONS. After this date, only drop/withdrawals for circumstances beyond the student's control will be considered.

20 Easter

21 Regisration for fall 2014 begins

23 Administrative Professionals' Day

25-27 VINTAGE DAYS

MAY 2014

7 Last day of INSTRUCTION
Last day to drop/withdraw for circumstances beyond the student's control

8 & 9 Final exam preparation and faculty consultation days

12-15 FINAL SEMESTER EXAMINATIONS

16 Last day to
- submit incomplete make-up work or request extension of time for incomplete grades from spring 2013
- submit to the Division of Graduate Studies departmental clearance paperwork on behalf of May 2014 master's degree candidates (include a copy of the completed final report on incomplete or in-progress work, if needed for graduation)

17 SPRING SEMESTER ends
103rd annual COMMENCEMENT

19 SUMMER CLASSES begin

26 Memorial Day holiday observed — no classes; campus closed.

27 Spring 2014 online grades due from faculty

JUNE 2014

TBA DOG DAYS — new student orientation, fall 2014

13 Last day for faculty to submit CHANGES and CLEARANCES (incomplete grades, approved petitions, departmental approvals, transfer transcripts) required for graduation with a bachelor's degree at the end of the spring 2014 semester
Last day to file an application for bachelor's degree to be granted August 2014

JULY 2014

TBA DOG DAYS — new student orientation, fall 2014

4 Fourth of July holiday — campus closed

25 Fall 2014 Early Registration Fee payment deadline

The California State University

The individual California State Colleges were brought together as a system by the Donahoe Higher Education Act of 1960. In 1972, the system became the California State University and Colleges, and in 1982 the system became the California State University (CSU). Today, the campuses of the CSU include comprehensive and polytechnic universities and, since July 1995, the California 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 — CSU Channel Islands — opened in fall 2002, with freshmen arriving in fall 2003.

Responsibility for the California State University is vested in the Board of Trustees, whose members are appointed by the Governor. The Trustees appoint the Chancellor, who is the chief executive officer of the system, and the Presidents, who are the chief executive officers of the respective campuses.

The trustees, the chancellor, and the presidents develop systemwide policy, with implementation at the campus level taking place through broadly based consultative procedures. The Academic Senate of the CSU, made up of elected representatives of the faculty from each campus, recommends academic policy to the Board of Trustees through the chancellor.

Academic excellence has been achieved by the CSU through a distinguished faculty whose primary responsibility is superior teaching. While each campus in the system has its own unique geographic and curricular character, all campuses, as multipurpose institutions, offer undergraduate and graduate instruction for professional and occupational goals as well as broad liberal education. All campuses require a basic program of "General Education Requirements" regardless of the type of bachelor's degree or major field selected by the student.

The CSU offers high-quality, affordable bachelor's and master's level degree programs. Many of these programs are offered so that students can complete all upper division and graduate requirements by part-time, late afternoon, and evening study. In addition, a variety of teaching and school service credential programs are available. A limited number of doctoral degrees are offered jointly with the University of California and with private institutions in California. In 2005, the CSU was authorized to independently offer educational doctorate (Ed.D.) programs.

Enrollment in fall 2011 totaled 427,000 students, who were taught by more than 21,000 faculty. The system awards about half of the bachelor's degrees and a third of the master's degrees granted in California. More than 2.7 million students have graduated from CSU campuses since 1961.

A recent economic report found that the CSU supports more than 150,000 jobs statewide, annually. The engine driving job creation is more than $17 billion in economic activity that directly results from CSU-related spending that generates $5.43 for every dollar the state invests. For more information, please see *www.calstate.edu/impact*.

CSU Campuses

California State University, **Bakersfield**
9001 Stockdale Highway
Bakersfield, CA 93311-1099
Dr. Horace Mitchell, *President*
Phone: 661.664.2011
www.csub.edu

California State University,
Channel Islands
One University Drive
Camarillo, CA 93012
Dr. Richard Rush, *President*
Phone: 805.437.8400
www.csuci.edu

California State University, **Chico**
400 West First Street
Chico, CA 95929-0150
Dr. Paul J. Zingg, *President*
Phone: 530.898.4636
www.csuchico.edu

California State University,
Dominguez Hills
1000 East Victoria Street
Carson, CA 90747-0005
Dr. Willie Hagan, *Interim President*
Phone: 310.243.3696
www.csudh.edu

California State University,
East Bay
25800 Carlos Bee Boulevard
Hayward, CA 94542
Dr. Leroy Morishita, *President*
Phone: 510.885.3000
www.csueastbay.edu

California State University, **Fresno**
5241 N. Maple Avenue
Fresno, CA 93740
Dr. John D. Welty, *President*
Phone: 559.278.2261
www.fresnostate.edu

California State University, **Fullerton**
800 North State College Boulevard
Fullerton, CA 92834-9480
Dr. Mildred García, *President*
Phone: 657.278.7601
www.fullerton.edu

Humboldt State University
One Harpst Street
Arcata, CA 95521-8299
Dr. Rollin C. Richmond, *President*
Phone: 707.826.4402
Toll Free: 866.850.9556
www.humboldt.edu

California State University,
Long Beach
1250 Bellflower Boulevard
Long Beach, CA 90840-0115
Dr. F. King Alexander, *President*
Phone: 562.985.5471
www.csulb.edu

California State University,
Los Angeles
5151 State University Drive
Los Angeles, CA 90032
Dr. James M. Rosser, *President*
Phone: 323.343.3000
www.calstatela.edu

California Maritime Academy
200 Maritime Academy Drive
Vallejo, CA 94590
Rear Admiral Thomas A. Cropper, *President*
Phone: 707.654.1000
www.csum.edu

California State University, **Monterey Bay**
100 Campus Center
Seaside, CA 93955-8001
Dr. Eduardo M. Ochoa, *Interim President*
Phone: 831.582.3518
www.monterey.edu

California State University, **Northridge**
18111 Nordhoff Street
Northridge, CA 91330
Dr. Dianne F. Harrison, *President*
Phone: 818.677.3700
www.csun.edu

California State Polytechnic University, **Pomona**
3801 West Temple Avenue
Pomona, CA 91768
Dr. J. Michael Ortiz, *President*
Phone: 909.869.7659
www.csupomona.edu

California State University, **Sacramento**
6000 J Street
Sacramento, CA 95819
Dr. Alexander Gonzalez, *President*
Phone: 916.278.3901
www.csus.edu

California State University, **San Bernardino**
5500 University Parkway
San Bernardino, CA 92407-2397
Dr. Tomás D. Morales, *President*
Phone: 909.537.5188
www.csusb.edu

San Diego State University
5500 Campanile Drive
San Diego, CA 92182
Dr. Elliot Hirshman, *President*
Phone: 619.594.5000
www.sdsu.edu

San Francisco State University
1600 Holloway Avenue
San Francisco, CA 94132
Dr. Leslie E. Wong, *President*
Phone: 415.338.1111
www.sfsu.edu

San Jose State University
One Washington Square
San Jose, CA 95192-0001
Dr. Mohammad Qayoumi, *President*
Phone: 408.283.7500
www.sjsu.edu

California Polytechnic State University, **San Luis Obispo**
One Grand Avenue
San Luis Obispo, CA 93407
Dr. Jeffrey Armstrong, *President*
Phone: 805.756.2311
www.calpoly.edu

California State University, **San Marcos**
333 South Twin Oaks Valley Road
San Marcos, CA 92096-0001
Dr. Karen S. Haynes, *President*
Phone: 760.750.4000
www.csusm.edu

Sonoma State University
1801 East Cotati Avenue
Rohnert Park, CA 94928-3609
Dr. Ruben Armiñana, *President*
Phone: 707.664.8778
www.sonoma.edu

California State University, **Stanislaus**
One University Circle
Turlock, CA 95382-0299
Dr. Joseph F. Sheley, *Interim President*
Phone: 209.667.3122
www.csustan.edu

Office of the Chancellor

The California State University
401 Golden Shore
Long Beach, CA 90802-4210
Phone: 562.951.4000
www.calstate.edu

Trustees and Officers

Ex Officio Trustees

The Honorable Edmund G. Brown, Jr.
Governor of California
State Capitol, Sacramento 95814

The Honorable Gavin Newsom
Lieutenant Governor of California
State Capitol, Sacramento 95814

The Honorable John Pérez
Speaker of the Assembly
State Capitol, Sacramento 95814

The Honorable Tom Torlakson
State Superintendent
of Public Instruction
721 Capitol Mall
Sacramento 95814

Dr. Timothy P. White
Chancellor
The California State University
401 Golden Shore
Long Beach 90802-4210

Officers of the Trustees

Governor Edmund G. Brown, Jr.
President

Bob Linscheid
Chair

Benjamin F. Quillian
Treasurer

Christine Helwick
Secretary

Correspondence with Trustees should be sent to

c/o Trustees Secretariat
The California State University
401 Golden Shore
Long Beach, CA 90802-4210

Appointed Trustees

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

Roberta Achtenberg (2015)

Bernadette Cheyne (2013)

Rebecca Eisen (2020)

Debra S. Farar (2014)

Kenneth Fong (2013)

Margaret Fortune (2016)

Lupe Garcia (2020)

Steven Glazer (2019)

William Hauck (2017)

Bob Linscheid (2012)

Peter Mehas (2015)

Henry Mendoza (2016)

Lou Monville (2014)

Hugo Morales (2020)

Larry Norton (2020)

Jillian Ruddell (2013)

Glen Toney (2013)

Cipriano Vargas (2014)

Office of the Chancellor

The California State University
401 Golden Shore
Long Beach, CA 90802-4210
562.951.4000

Dr. Timothy P. White
Chancellor

Benjamin F. Quillian
Executive Vice Chancellor
and Chief Financial Officer

Ephraim Smith
Executive Vice Chancellor
and Chief Academic Officer

Garrett P. Ashley
Vice Chancellor,
University Relations and Advancement

Gail E. Brooks
Vice Chancellor,
Human Resources

Christine Helwick
General Counsel

Larry Mandel
University Auditor

President's Message

The 2013-2014 *General Catalog*

This school year is full of opportunity for Fresno State and its students, as we head into a new season of leadership after 22 years of growth under President Dr. John D. Welty. I am humbled and honored to be selected as your new university president, and look forward to meeting with as many of you as possible during the coming months.

As a Valley native, I identify with Fresno State's mission and I plan to be the president for every student, faculty member, staff member and alum — to represent you to the best of my ability on the issues most important to our region.

Under Dr. Welty's leadership, Fresno State has solidified itself as one of California's premier institutions with a well-rounded, national reputation for both academics and athletics. From becoming the nation's first university to operate a commercial winery as part of our prestigious agriculture program, to our nationally ranked business and entrepreneurship programs, we are fostering discovery, diversity and distinction every day at Fresno State.

Fresno State has been a university of opportunity throughout its history. Since the university was founded in 1911, tens of thousands of Central California students — many who, like me, were the first in their families to attend college — have prospered by studying Agricultural Science and Technology, Arts and Humanities, Business, Education, Social Sciences, Engineering, Health and Human Services, and Science and Mathematics.

My wife, Mary, and I were raised in the Hanford area, only 40 miles from the Fresno State campus, and we chose to return to our Valley roots in hopes of making a difference in the region we consider home. I am so impressed that our students, faculty and staff care about making a difference by contributing more than a million volunteer hours a year to the needs of others.

Together, with our alumni and friends who continue to impact our region through innovation, entrepreneurship, community service and philanthropy, we can make the Valley a great place to live, work and play.

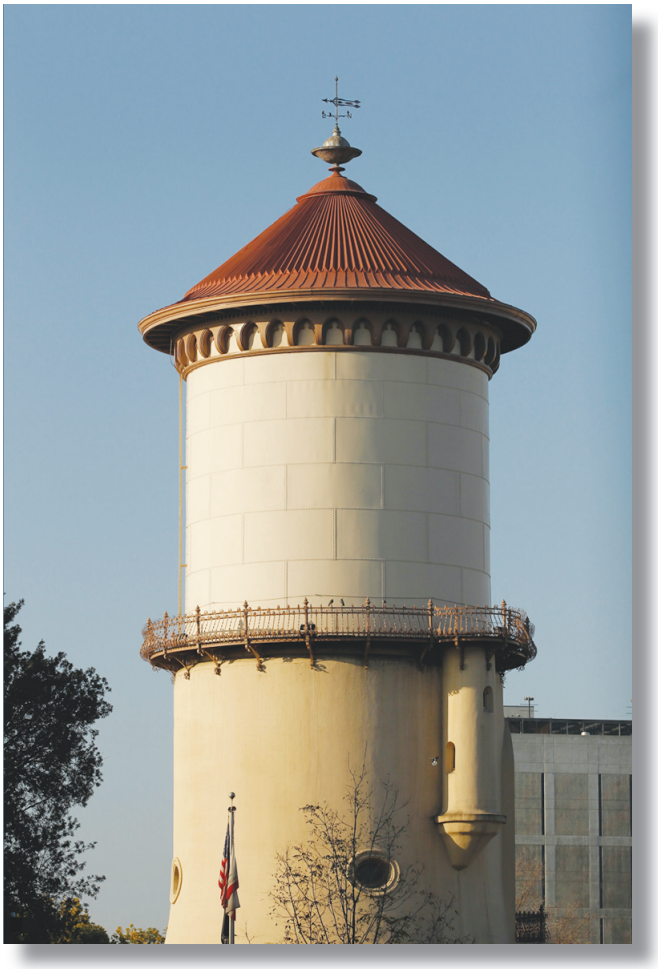
In today's global economy, our growing base of alumni stretches far beyond the Valley, but one thing that makes Fresno State graduates so special is they always remember where they came from — and they're often willing to give back so that today's students have greater opportunities than ever to learn and discover.

This catalog reflects Fresno State's ongoing commitment to the university's tagline — "Discovery. Diversity. Distinction." Our university offers a breadth of academic programs that include degrees at the bachelor's, master's and doctoral levels in selected fields. With one of the most diverse student bodies in the country, we support students of every ethnicity, culture and economic background.

By choosing Fresno State, you're choosing a university with faculty, staff and administrators dedicated to helping you achieve your lifelong goals. Welcome to Fresno State — it's a great day to be a Bulldog!

Joseph I. Castro
President
California State University, Fresno

Fresno



The Community

The city of Fresno has a population estimated at more than 500,000, yet it seems to have a strong sense of community. Cultural events are numerous and feature such groups and facilities as the Fresno Arts Center, the Fresno Philharmonic Orchestra, and several live theater organizations.

The community is proud of California State University, Fresno and enthusiastically supports many of the university's programs, including sports, the arts, academic competitions, and other special events.

Recreation

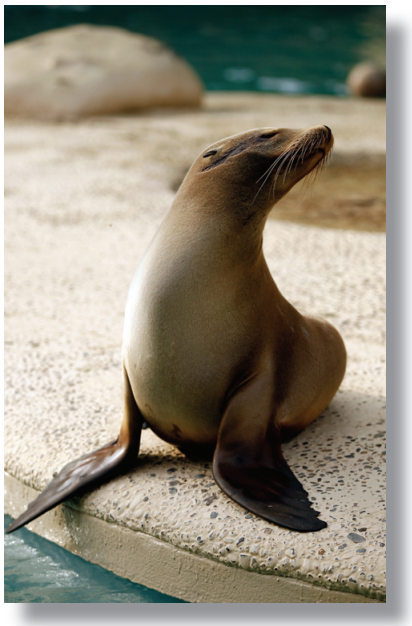
Fresno is the only place in the nation within an easy drive of three national parks — Yosemite, Sequoia, and Kings Canyon. The university's recreational activities and social life often center on the outdoors.

Boating, fishing, water skiing, and windsurfing at one of the six nearby lakes are popular activities during the spring and summer. Winter recreation includes downhill skiing and cross-country skiing at nearby Sierra Summit or Badger Pass in the beautiful Sierra Nevada.

Fresno Chaffee Zoo offers the wonders of the natural world in an educational environment.

All year round, nature lovers and outdoor sports enthusiasts can choose from a variety of parks to visit while in Fresno.

In addition to an extensive intramural program, on-campus recreation includes a series of current films, drama productions, and concerts ranging from rock to jazz to classical. The annual Vintage Days celebration and a number of university receptions, winetastings, and art festivals are among the many events open to the public. Students informally meet in areas such as the University Student Union, the Satellite Student Union, and the Pavilion throughout the day and evening.



Fresno City College

Established in 1910, Fresno City College is part of the California State Community Colleges system that includes 110 campuses and enrolls approximately two million students. Located on the old Fresno State campus on University Avenue, Fresno City College offers programs for students who plan to transfer to California State University, Fresno.

Campus

The University

In 1911, California State University, Fresno began with 150 students as a two-year state normal school that largely prepared teachers for their profession.

Today, this university is a stimulating center of intellectual and cultural activity, dedicated to academic excellence, integrity, and freedom. With more than 22,000 students registered, the university recognizes its commitment to develop qualified professionals who will become tomorrow's leaders in every walk of life.

California State University, Fresno offers challenging and innovative programs in the liberal arts and sciences, in the professions, in applied fields, and in special and interdisciplinary areas. Departmental programs provide unusual and exciting opportunities for a proficient and enriching university experience.

The excellence of our faculty is documented in a variety of ways, including recognition from national and international associations. Ninety percent of the full-time, tenure-track faculty hold doctoral degrees in their areas of study.

However, the most important characteristic of our faculty is their ability to care about students and their willingness to give of their time on an individual basis.

The Campus

Under a dense canopy of 4,000 trees, the campus sits at the northeast edge of Fresno, against a backdrop of the beautiful Sierra Nevadas. The campus was officially designated as an arboretum in 1978. Its parklike setting creates a beautiful environment for making new friends and pursuing a quality education.

The 388-acre main campus features more than 46 traditional and modern buildings. An additional 34 structures are on the 1,011-acre University Farm, which is considered one of the most modern and best equipped agricultural facilities in the West.

Outstanding research facilities (computer, engineering, electronics, and industrial technology laboratories) are complemented by cultural and recreational facilities. The campus has two student unions, indoor and outdoor theaters for drama and music, and swimming facilities. Students can make use of many individual and team sport facilities, a baseball stadium at Beiden Field that seats

6,575 spectators, a football/soccer stadium that seats more than 41,031, and Bulldog Diamond, a 5,467-seat softball stadium.

The Downing Planetarium features a computer-controlled Spitz A3P star projector and a main theater which seats 74 under a thirty-foot dome. The facility includes a teacher resource center and presents multimedia shows on a daily basis.

The 73,000-square-foot, three-story Science II building includes lecture halls and instructional labs for earth and environmental sciences and psychology classes, as well as space for more than 100 faculty offices.

Smittcamp Alumni House is a 10,000-square-foot, two-story structure that houses the Alumni Association's offices and serves as the university's visitor information center. The building includes conference rooms, a kitchen, reception and social areas, a chapter/volunteer resource center, garden courtyards, and an alumni library.

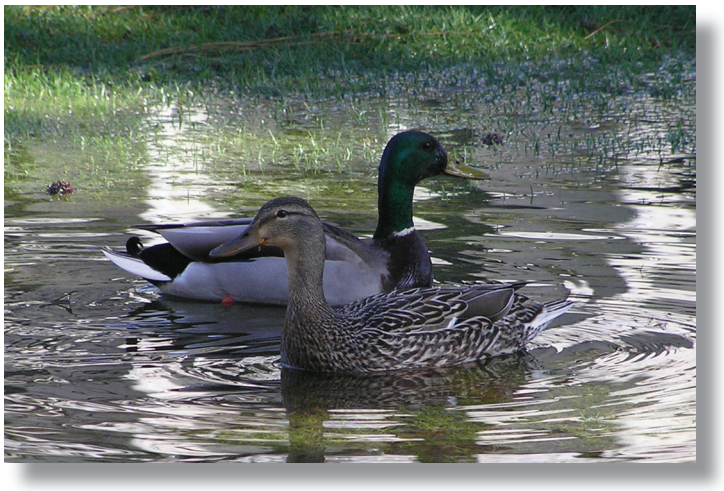
The Save Mart Center at Shaw and Chestnut avenues is a 13-story facility with 16,000 seats. It serves as the new home for Fresno State basketball, volleyball and wrestling, as well as a venue for events. The facility has state-of-the-art classrooms, computer labs, and conference rooms.

The 92,000 square-foot, two-story Student Recreation Center, houses a 13,000 square-foot fitness center (with cardio equipment and free weights), a jogging and running track, two aerobic and dance studios, two racquetball courts, four full-size courts for basketball, volleyball, and badminton, plus locker rooms and showers. Also in the complex are the Leon and Pete Peters Educational Center and the Lyles Center for Innovation and Entrepreneurship.

The 340,000 square foot Madden Library is the largest academic building on campus. Its new design drew inspiration from Central California's natural surroundings and from the area's American-Indian heritage.

University High School's 37,000 square foot permanent home is wrapped in stainless steel, with a futuristic look and room for growth. Its offerings include music facilities, a complete gym and three science labs.

The campus is fully accessible and students with mobility impairments will find the naturally flat terrain easy to navigate.



California State University, Fresno

Accreditation

California State University, Fresno is fully accredited by the California Board of Education and the Western Association of Schools and Colleges. The Western Association of Schools and Colleges may be contacted at 985 Atlantic Avenue, Suite 100, Alameda, CA, 94501 or by telephone at 510.748.9001. The university is also a member of the Western Association of Graduate Schools, the Council of Graduate Schools in the United States, and the American Association of Colleges for Teacher Education.

College/school, department, or program accreditations, certificated memberships, and accrediting organizations include the following:

- Accreditation Board for Engineering and Technology
- American Chemical Society
- American Council for Construction Education
- American Dietetic Association
- American Physical Therapy Association
- American Speech-Language-Hearing Association
- Association to Advance Collegiate Schools of Business
- California Commission on Teacher Credentialing
- California Board of Registered Nursing
- State of California Health and Human Services
- Certified Financial Planner Board of Standards
- Commission on Accreditation of Athletics Training Education
- Commission on Accreditation for Dietetics Education
- Commission on Accreditation in Physical Therapy Education
- Commission on Collegiate Nursing Education
- Commission on Teacher Credentialing
- Council on Academic Accreditation in Audiology and Speech Language Pathology
- Council for Accreditation of Counseling and Related Educational Programs
- Council on Education for Public Health
- Council on Education of the Deaf
- Council on Rehabilitation Education Inc.
- Council on Social Work Education
- Foundation for Interior Design Education Research
- National Association of School Psychologists
- National Association of Schools of Music
- National Association of Schools of Public Affairs and Administration
- National Association of Schools of Theatre
- National Council for Accreditation of Teacher Education
- National Recreation and Park Association
- Organization of American Kodaly Educators
- State Board of Registration for Professional Engineers and Land Surveyors

The University's Mission

The university offers a high-quality educational opportunity to qualified students at the bachelor's and master's levels, as well as in doctoral programs in selected professional areas. To carry out this mission, the university provides a strong General Education program. California State University, Fresno furnishes opportunities for students to expand their intellectual horizons, foster lifelong learning, prepare for further professional study, and gain an appreciation of cultures other than their own. The university offers undergraduate degrees and programs in the liberal arts and sciences as well as in a variety of professional disciplines emphasizing agriculture, business, engineering and technology, health and human services, and education, preparing students for productive careers and responsible world citizenship. Building upon the strength of these undergraduate programs, graduate programs provide opportunities for personal and career enhancement through advanced study, preparing students for positions of leadership in the arts, sciences and professions.

The university encourages and protects free inquiry and expression, ensuring a forum for the generation, discussion and critical examination of ideas. By emphasizing the primacy of quality teaching and the close interaction between faculty and students, the university seeks to stimulate scholarly inquiry and discourse, inspire creative activity, heighten professional and technical competencies, encourage and support research and its dissemination, and recruit and develop outstanding teacher-scholars/artists.

The university fosters an environment in which students learn to live in a culturally diverse and changing society. Within that environment, it strives to develop a community founded upon mutual respect and shared efforts, in which individuals can communicate openly and work together to enrich the lives of all and to further the growth and excellence of the university. The university seeks and encourages historically underrepresented students to embark upon and complete a university education.

The university serves the San Joaquin Valley while interacting with the state, nation and world. California State University, Fresno is a center of intellectual, artistic and professional activity. Through applied research, technical assistance, training and other related public service activities, the university anticipates continuing and expanding partnership and linkages with business, education, industry and government.

The University's History

California State University, Fresno is the sixth oldest in the California State University system. It began with the establishment of the first junior college in California in 1910 and a state normal school in 1911 which, under a single administration, offered two-year programs in general and vocational training and in teacher preparation.

Between 1911 and 1921 a campus was built on University Avenue, then the northern border of Fresno. In 1921, the combined schools became Fresno State Teachers College, authorized to offer a four-year program and grant the bachelor of arts degree in teaching.

In 1935, by act of the Legislature, the official designation became Fresno State College. A variety of degree programs, in addition to those related to the teaching credential, were authorized at that time. Following World War II, expansion accelerated, both academically and physically. In 1949, the university offered its first master's degree; today, it offers this degree in 39 fields of study.

Between 1953 and 1958 the college was moved from the old campus site, by then surrounded by the city of Fresno, to a 1,410-acre site six miles to the northeast. In 1961, under the newly created California State College system, the administration and control of the state colleges was transferred from the State Board of Education to an independent board, the Trustees of The California State Colleges. By legislative action in 1972, the state college system became The California State University and Colleges, and in 1982 the system was renamed The California State University.

In 2007, the university began offering its first non-partnership doctoral degree with the Ed.D. in educational leadership.

The University's Seal

The official seal of the university was designed by artist and California State University, Fresno Professor Emeritus Darwin Musselman, who also created the seal used by the California State University system. The Fresno State seal includes the "lamp of learning" and the "book of knowledge." The Latin inscription "Lvcem accipe vt reddas" translates "Receive the light that you may give it forth." The date 1911 refers to the founding year of the school.

Between 1965 and 1968 an approximation of university organization was accomplished on the Fresno campus, and the transition to official university status in the state system became effective on June 1, 1972. The university is now comprised of the Jordan College of Agricultural Sciences and Technology, the College of Arts and Humanities, the Craig School of Business, the Kremen School of Education and Human Development, the Lyles College of Engineering, the College of Health and Human Services, The College of Science and Mathematics, the College of Social Sciences, Continuing and Global Education, and the Division of Graduate Studies.

Fresno Normal School, in 1911, had an enrollment of 150 students, most of whom were women. By 1940 enrollment had increased to 2,000 students, and in 1968 enrollment surpassed 10,000. Currently, more than 22,000 students are registered at California State University, Fresno.

The presidents are listed below in order of tenure:

Charles L. McLane (1911-27)
Frank W. Thomas (1927-48)
Arnold E. Joyal (1948-64)
Frederic W. Ness (1964-69)
Karl L. Falk (Acting) (1969-70)
Norman A. Baxter (1970-80)
Harold H. Haak (1980-91)
John D. Welty (1991-2013)
Joseph I. Castro (2013-)

The Kenneth L. Maddy Institute

The Kenneth L. Maddy Institute
Frank W. Thomas Building, Room 126
559.278.1133
Prof. Mark J. Keppler, *Executive Director*
www.maddyinstitute.org

The Kenneth L. Maddy Institute was established to honor the legacy of one of California's most principled and effective legislative leaders of the last half of the 20th Century by engaging, preparing, and inspiring a new generation of governmental leaders for the 21st Century.

The institute's work is focused in three key areas: government leadership, policy analysis, and citizen participation.

Government Leadership – Scholar Intern Programs

Our work in the area of government leadership involves preparing the next generation of political and governmental leaders. One of the most important means to accomplish this is to provide intern scholarships for university students so they can be exposed to, learn from, and be mentored by today's political and governmental leaders. The Maddy Institute provides opportunities to complete an intern scholarship in a congressional office, state legislator's office, or local government in Fresno and other cites in the San Joaquin Valley, Sacramento, and Washington, D.C.

Students from all majors are encouraged to apply. Applicants must have a minimum 3.0 GPA and have completed 60 units by the time they begin their internship. Application requirements can be found at *maddyinstitute.org/govt/internships/index.html.*

Policy Analysis

Our work in the area of policy analysis involves providing a nonpartisan, interdisciplinary, fact-driven analysis of public policy issues. We accomplish this through the Maddy Daily e-newsletter and our public affairs programs — *The Maddy Report* TV program and *The Maddy Forum* radio program/podcast. The goal of these programs is to encourage critical questioning to foster a deeper understanding of the issues facing our nation, state, and region by a thoughtful, objective, fair, and civilized exchange of ideas. Each show will include a focus on how the particular issue under discussion impacts the San Joaquin Valley (See *maddyinstitute.org/policy/index.html.*)

Citizen Participation

Our work in the area of citizen participation involves engaging citizens of all ages and inspiring them to follow Senator Maddy's example of active citizen involvement. We accomplish this through out Maddy Associates program which brings together a diverse array of distinguished state and national speakers to discuss topics of importance to our region, our state, and our nation. The Maddy Associates program has been designed to be the key public affairs forum to for Central California — a place where community leaders and those concerned about our region can learn and debate issues of public concern. (See *maddyinstitute.org/citizen/index.html*)

University 1: Introduction to the University
Henry Madden Library, Fourth Floor, Rm. 4140
559.278.7766 • FAX: 559.278.4430
www.fresnostate.edu/university1

University 1

The Vision of University 1

University 1 guides students through the academic process and ensures their success. The course lays a cornerstone for higher education and advanced study. University 1 develops skills for lifelong learning and achievement.

Benefits of University 1

University 1 presents strategies for keeping ahead academically, managing time effectively, and graduating on schedule. The course builds self-confidence and provides an opportunity to set goals and to explore career options. It is designed to expand intellectual horizons and to help students acquire the necessary tools for future success by providing structures and activities that illustrate the relationship between psychological, sociological, and physiological processes.

Master the Art of Higher Learning

Students' experiences during their first year at a university lay the foundation for their undergraduate years. That foundation encompasses the hopes, dreams, and expectations leading to successful lives as students and citizens.

University 1 helps students master the demands of attending a university by answering important questions and by providing a framework for lifelong learning. More importantly, University 1 provides a greater understanding of what it means to be in an academic community and why the art of lifelong learning is essential in today's world.

Freshmen should take University 1 during the first semester they enroll. Students taking the course earn 3 units of elective credit while acquiring the survival techniques for a meaningful and successful college experience.

Topics Covered

- Study Skills
- Goal Setting
- Diversity
- Time/Financial Management
- Career Planning
- Information Competence
- Communication Skills
- Human Sexuality
- Wellness
- Campus Resources

UNIV 1. An Introduction to Learning and the University (3 units)
Assists students to acquire attitudes and skills needed to be effective lifelong learners. Individual and group activities focus on adaptation to change, study skills, goal setting, time management, career planning, information competence, community engagement, health, and wellness. Exposure to campus resources. G.E. Breadth E1.

UNIV 100. Succeeding at the University (1 unit)
Assists transfer and upper-division students in acquiring skills needed to be effective learners: study habits, goal setting, time management, academic planning, campus/community involvement, and information competence. Exposure to campus resources

Diversity

California State University Fresno named Katherine Urabe, a double major in Mathematics and Linguistics, as 2012 President Medalist. Urabe, who represents the College of Science and Mathematics, completed her studies with a 4.0 GPA. Her minor is in Spanish.

A Smittcamp Family Honors College student, Urabe has received numerous awards, including President's Honors, and Bertha and John Garabedian, McClatchy and Provost's Study Abroad scholarships.

The President's Medal winner, one of two that designate the university's top students, is selected from the nine undergraduate Dean's Medalists who represent the academic colleges and schools and the Division of Student Affairs.

Campus Climate and Diversity

Diversity is an integral part of the fabric of California's past, present and future, and therefore an essential element of academic excellence at Fresno State. We are committed to promoting the success of all, and working to address and reduce barriers to success related to differences in areas such as race, ethnicity, socioeconomic status, culture, religion, linguistic diversity, disability, gender identity, sexual orientation, age, geographical region, and more. For example, Fresno State is proud of the majority number of students who are the first in their families to attend college and who continue to make significant contributions in their professions and in their communities.

With this commitment, our faculty, staff and administrators are engaged in initiatives and projects that represent the community of differences that defines our 21st Century world. As the New California's premier engaged University, we focus on broadening students' intellectual horizons, fostering lifelong learning skills, developing the leaders of tomorrow, promoting community involvement, and instilling an appreciation of the world of arts and cultures. In sum, we celebrate the rich diversity of our students, faculty and staff and welcome the participation of all.

As president, I am fully committed to the principles of maintaining a learning and working environment that is characterized by integrity, civility, respect for others, and ethical behavior on the part of its faculty, staff, administrators and students. The university must be safe and inclusive, and we do not tolerate any form of harassment, discrimination, or intimidation, as prohibited by university policy and state and federal civil rights laws. Our efforts require an abiding commitment from all members of the University community. It is everyone's responsibility to uphold these principles as a core objective while working and learning at California State University, Fresno.

The California State University reflects California's rich cultural diversity. The varied backgrounds of students, faculty, and staff enrich the university's intellectual life and create its unique community.

While the university views diversity as a great source of its strength, some people on campus, as elsewhere in society, feel threatened by those who are different and act in disregard of the personal dignity and rights of others. Discrimination and harassment have no place in a university community. They limit the educational aspirations of students, interfere with the performance of faculty and staff, and damage the environment of tolerance and mutual regard that must prevail for a university to fulfill its mission.

The university is therefore committed to maintaining an environment free from discrimination and harassment. To fulfill this commitment, the university will work to prevent discrimination from occurring and will ensure that federal and state laws as well as university regulations prohibiting discrimination are fully enforced.

Demeaning and gratuitously offensive conduct sometimes takes expressive forms that, although repugnant, cannot be prohibited or punished. Both the First Amendment to the Constitution of the United States and Article I, Section 2 of the California Constitution restrict the university's power to limit free speech. To do so, even in the case of speech that is offensive and demeaning, would undermine basic principles of discourse fundamental to any university.

As an educational institution, the university will use its intellectual and persuasive powers to discourage offensive and harassing speech from occurring and to encourage civil exchange. The university will attempt to teach its students and employees to listen as well as to speak, and to do both with an open mind. This is consistent with the university's mission to foster dialogue that educates students and prepares them for effective citizenship. The mission requires respect for differing viewpoints, but does not give license for demeaning language and harassing behavior that stifle free exchange of ideas and compromise the university's educational goals.

Respect throughout the university for the dignity and rights of others, including the right to be free from discrimination and harassment and the right to speak freely, is essential to creating and maintaining an environment conducive to learning.

— From Campus Climate: Toward Appreciating Diversity, a report prepared for the CSU, 1990.

Sources/Resources

Honor Code

California State University, Fresno Code of Academic Integrity

California State University, Fresno is committed to maintaining a culture of academic integrity in which all members are expected to adhere to fundamental values in both academic and non-academic endeavors. For purposes of this code, academic integrity is defined as "a commitment, even in the face of adversity, to five fundamental values: honesty, trust, fairness, respect, and responsibility. From these values flow principles of behavior that enable academic communities to translate ideals to action." (Center for Academic Integrity, Fundamental Values of Academic Integrity, accessed January 2005).

The Code

Members of the California State University, Fresno academic community adhere to principles of academic integrity and mutual respect while engaged in university work and related activities.

Principles of Implementation

a. All members of the university community are responsible for adhering to high standards of academic integrity, for actively ensuring that others uphold the Code, and for responding assertively to violations. (APM 336*)

b. Faculty are responsible for informing students of academic behaviors that are permissible and not permissible and for reporting violations of the code to the proper campus authorities. (APM 235, 241, 336)

c. Students shall not give or receive unauthorized aid on examinations or other coursework that is to be used by the instructor as the basis of grading.

Responsibilities of California State University, Fresno Administration

The California State University, Fresno administration will

a. exhibit high standards of professional ethics.

b. incorporate "orientation/training" about the university's expectations for student academic integrity into Dog Days, University 1, English 5A and 10, History 11 and 12, Political Science 2, and all special group orientations (e.g., EOP, Summer Bridge, AMP, ISSP, SCOP, HCOP, student-athletes, Smittcamp Family Honors College, McNair, etc.)

c. provide training on academic integrity expectations and implementation procedures to all levels of academic personnel through the following: (i) orientations for new faculty, part-time instructors, department chairs, and administrators and (ii) academic policies and procedures, TLT workshops, and other faculty development programs.

d. distribute the Honor Code and related policies widely through office posting and distribution, Internet Web sites (including *my.csufresno.edu*), and university publications and programs.

e. support the Office of Student Judicial Affairs in the implementation of academic integrity policies.

Responsibilities of California State University, Fresno Faculty

The California State University, Fresno academic faculty will

a. exhibit high standards of professional ethics. (APM 336)

b. treat all students fairly and consistently to avoid any appearance of special favors. (APM 336)

c. explain what constitutes cheating, plagiarism, inappropriate collaboration, or other issues related to academic integrity through the class syllabus — and in relation to assignments, tests, and other class activities for which grades are to be assigned; provide links to university Web sites that explain and elaborate these policies. (e.g., APM 235, 241, 336)

d. give examples of cheating and plagiarism for the particular class and provide examples of past consequences to students for such behavior. (APM 241)

e. regularly update tests, assignments, and notes.

f. uphold university policy to report all instances of cheating, plagiarism, and inappropriate academic behavior to the Office of the Vice President for Student Affairs/Dean of Students. (APM 235)

g. establish a "culture of academic integrity" in individual classes and in each department.

h. monitor students during tests and develop procedures for assessing whether assigned work has been completed in accordance with expectations.

j. develop expectations for student self-monitoring and collective monitoring during examinations and on assignments and may have students include and sign the following statement on all work to be used as the basis for a grade: "I have done my own work and have neither given nor received unauthorized assistance on this work."

Responsibilities of California State University, Fresno Students

California State University, Fresno students will

a. understand or seek clarification about expectations for academic integrity (including no cheating, plagiarism, and inappropriate collaboration) as noted by faculty and on class syllabi, the university catalog, university Web sites, and other referenced sources. (APM 235, 241)

b. sign a statement when asked that "I have done my own work and have neither given nor received unauthorized assistance on this work."

c. take responsibility to monitor academic dishonesty in any form and to report it to the instructor or other appropriate official for action.

*End parentheses refer to related portions of the university's *Academic Policy Manual.*

Advising Services
Student Affairs
Joyal Administration, Room 224
559.278.1787 • FAX: 559.278.1895
www.fresnostate.edu/advising
Dean Christensen, *Director*

Advising Services

Advising Services

The Office of Advising Services provides a variety of services designed to help you achieve your educational goals and effectively use the resources of the university.

We can assist you in undeclared major advising, General Education advising, and academic petition procedures. We can also help you decide upon your major, assist with general academic problem-solving, and give appropriate referrals. You may call on us for initial advice regarding special majors. We are also available to explain university policies and procedures.

Undeclared Major Advising

We advise undeclared majors until a major is declared. We can suggest faculty contacts in the academic departments who will be of help to you. Also, experienced career counselors are available in the Career Services office. There you will be assisted on an individual basis with the appropriate use of vocational testing.

We encourage freshmen, especially undeclared majors, to enroll in University 1 (Introduction to the University) to ensure smooth transition into the university.

General Education Advising

We provide General Education advising if you are not in a specialized program or major (e.g., Educational Opportunity Program [EOP], Business Administration, Engineering, Liberal Studies). If you are an incoming student, we will help you plan a schedule that incorporates G.E. with major and elective coursework as appropriate. If you are a continuing student, we can help make sure you are taking correct G.E. classes.

Academic Petitions

Petitions regarding substitutions or exceptions to the General Education and Upper-Division Writing Skills requirements are completed in our office. Normally, an appointment with one of our academic counselors is required. Petition forms for repeating a class and substituting the new grade are obtained in the Joyal North Lobby (see *Grade Substitution by Repetition of Courses*). Petition forms to request a retroactive withdrawal are obtained in Joyal Administration, Room 106. Students with disabilities should contact the Office of Services for Students with Disabilities for additional assistance.

Major Advising

The various academic departments provide advising in specific requirements for a major, minor, or teaching credential. You should meet with your faculty adviser at least once each semester before registering for classes.

The ultimate responsibility for knowing and meeting all graduation requirements is yours. Therefore, we recommend that you check each semester's grades and your Degree Audit Reporting System (DARS) report for correctness (see *Baccalaureate Degree Requirements*).

Special Major Advising

If you are an undergraduate student interested in designing a special major, you initiate the process with an appointment in our office to receive appropriate information and to obtain an application form.

A Four-Year Graduation Plan

To facilitate graduation goals, a qualified first-time freshman may enter the Degree Guarantee Program to attain a baccalaureate degree in four years. The Degree Guarantee Program is a formal partnership initiated by a student before the end of the fourth week of his or her first semester. Certain provisions and regulations must be met.

(See *A Four-Year Graduation Plan*, pages 84-85.)

Advising Services *continued*

Advising Services
Student Affairs
Joyal Administration, Room 224
559.278.1787 • FAX: 559.278.1895
http://studentaffairs.csufresno.edu/advising
Dean Christensen, *Director*

Reentry/Transfer Students

We specialize in the changing needs of adult learners and transfer students. Older students tend to have strong motivation, coupled with an eagerness to learn. At the same time, students returning to school — especially transfer students — often face complicated circumstances. Once you have been admitted to the university and have attended DOG DAYS, we can help you address these complex academic/life/career issues and provide the appropriate referrals if needed.

DOG DAYS: New Student Orientation

DOG DAYS is required for all new first-time freshmen and highly recommended for transfer students. The excitement that comes with starting university life can be tempered by fears that come with starting a new experience.

DOG DAYS: New Student Orientation offers students ways to overcome fears, attain their educational goals, and feel more at home at Fresno State. DOG DAYS will help students feel a connection to the campus. It provides an opportunity to meet with an academic dean, with faculty, and with an academic advisor. It also helps students select courses compatible with university requirements, their goals, interests, and abilities. DOG DAYS familiarizes new students with campus services and highlights opportunities to get involved; it also provides assistance with on-line class registration and affords attendees an earlier registration date.

Parents are invited to attend special orientation sessions that will provide answers to questions about academic, financial, and co-curricular opportunities. Specific topics for parents include parent transition/letting go, academic requirements, University 1; student rights and responsibilities; housing, health, and public safety; parent association; financing education; and classroom activities. Also available are campus, library, and housing tours; the resource information fair; and an opportunity to meet academic deans.

DOG DAYS: New Student Orientation introduces and connects students to the essential elements that have proven to be critical to student success and launches students on a successful journey toward their personal and academic goals.

For more information, contact the DOG DAYS Office at 559.278.4885.

Fresno State Alumni Association

Fresno State Alumni Association
559.278.ALUM
Smittcamp Alumni House
559.278.2761
www.fresnostatealumni.com
Jacquelyn K. Glasener, *Executive Director*

Fresno State Alumni Association

The Fresno State Alumni Association (FSAA) is dedicated to uniting and advancing the interests and traditions of alumni and friends of California State University, Fresno, and to providing scholarship opportunities that attract highly motivated students to the university and support them in their academic endeavors.

More than 200,000 Fresno State graduates have migrated to every state in the nation, as well as going abroad. The university maintains database records of more than 236,000 alumni and friends. Annual dues-paying members number approximately 5,500 and life members number approximately 2,200.

Membership

Membership is open to students, graduates, and friends of the university. The FSAA connects its constituents with other Bulldogs and serves as the gateway to dozens of benefits and services. Each spring, graduating seniors are offered the opportunity to purchase a Grad Pack which includes a discounted one-year membership in the FSAA and coupons for discounts on graduation apparel and accessories.

PAWS

PAWS, Partnering Alumni with Students, is the student-run chapter of the Alumni Association. The goal of this chapter is to connect alumni with students to create greater opportunities for professional and personal development.

Academic and Regional Chapters

The Fresno State Alumni Association has numerous chapters. These alumni chapters sponsor programs, workshops, reunions, and activities for their constituents. The chapters allow alumni and friends to maintain a close connection to the university. Chapters give back to their respective departments through fundraisers and scholarships dollars.

Events and Programs

The FSAA sponsors various events and programs throughout the year including the Top Dog Alumni Awards Gala, Homecoming, Tailgates, Member Appreciation Events, and Grad Fair.

Scholarships

Ten percent of all membership dues are directly donated to a student scholarship endowment fund. The Alumni Association has surpassed the $125,000 mark in annual scholarships awarded. The FSAA leads the 23-campus CSU alumni associations in student scholarship giving. Fresno State students may apply for the many FSAA scholarships through the university scholarship office. Awards are made to undergraduate and graduate students based on financial need, scholarship, leadership, and community involvement.

Smittcamp Alumni House

The Smittcamp Alumni House welcomes past, present, and future Bulldogs and their friends to campus. The Smittcamp Alumni House serves as the university's Visitor Information Center. Facilities available include conference rooms, reception and social areas, garden courtyards, and an alumni library.

Alma Mater

Let us in song, our voices raise
In cloistered courts, to sound thy praise.
Each voice and heart that sings is true
To thee, oh, cardinal and blue.
For thee, our hopes and memories;
For thee, our hearts and loyalties.
Thy sons and daughters hail thee great,
Our alma mater, Fresno State!

Fight Varsity

Fight Varsity
On your toes dig in and hit that line!
We're all pulling hardfor you
So fight and give the best there is in you

Fight Varsity
On your toes and hit that line!
We'll fight on to victory
We're always true to Fresno State!

[chant] B-U-L-L-D-0-G-S!
GO DOGS GO!
FIGHT DOGS FIGHT!
GO DOGS!

Associated Students, California State University, Fresno
Student Affairs
University Student Union, Room 316 & 317
559.278.2656
FAX: 559.278.2720
http://asi.csufresno.edu

Associated Students, Inc.

Associated Students

As the recognized student body governing organization, Associated Students, California State University, Fresno provides a means for effective student participation in the governance of the university, fosters awareness of student opinions on campus issues, assists in the protection of students' rights, and provides programs and services to meet the needs of the students and campus community.

The ASI Leadership Team comprises three separate branches of government. The executive officers include the following: president, executive vice president, and vice president of finance. Seventeen senators are elected either as representatives of their academic college/school or as at-large senators. There are eight academic representatives: agricultural sciences and technology, arts and humanities, business, education, engineering, health and human services, science and mathematics, and social sciences.

The at-large senators are responsible for activities and projects related to specific campus constituencies and issues, such as student organizations, activities, and parking.

The third branch is the Student Court, comprising a chief justice, vice chief justice, and associate justices. The Court makes rulings on actions taken by executives and senators.

How Do I Become a Member of Associated Students, Inc.?

Enrolled students who pay campus fees at Fresno State are automatically members of the ASI. Students can get involved in ASI programs, services, and governance by contacting the ASI office or by visiting the Website listed above.

The per-semester student body fee supports programs such as campus publications, recreation and intramural sports activities, and student organizations, as well as provides for the day-to-day operations of student government.

How do I get involved?

There are many exciting opportunities for involvement in ASI. Please visit the Website or call the office for more information.

Programs and Services

Within the annual operating budget, funds are allocated to student organizations, intramural and club sports, programs and services, and education initiatives.

- **Student Clubs and Organizations Funding.** The annual budgeting process for student groups gives organizations an opportunity to request funds for speakers, promotional and publicity, entertainment performers, and more.
- **Educational Research and Project Grants.** Educational Research and Project Grant (rGrant) offers financial support to both graduate and undergraduate research projects (under faculty supervision) in all academic disciplines. See the ASI office for details.
- **Instructionally Related Activities.** This program, which is administered by ASI, provides funding for activities and laboratory experiences that are partially sponsored by an academic program, discipline, or department and that are integrally related to ASI instructional offerings. More than $500,000 was allocated in the 2008-2009 school year. More information and applications are available on the ASI Website.
- **ASI Readership Program**. ASI provides hundreds of copies of the *Fresno Bee* and other newspapers such as the *New York Times* for the campus each school day. Pick up your free copy at one of the 18 newsstands on campus.
- **ASI's Laptop Loaner Program.** ASI provides laptops for students to check out for free at the Henry Madden Library. Students with two forms of identification; one must be a Fresno State ID. Students can rent laptops for up to four hours at a time.
- **Shared Governance**. ASI is the official voice of Fresno State students. ASI helps the student voice be heard by helping facilitate the shared governance of the university through appointing students to campus committees. Visit ASI's website to join a campus committee and let your voice be heard.

Athletics Department
North Gym
559.278.2643
Thomas C. Boeh, *Director of Athletics*

Athletics

Athletics

Academic excellence and athletics go hand in-hand at Fresno State. Fresno State is a member of the Western Athletic Conference. The broad-based intercollegiate athletics program provides athletes with opportunities for high-level competition to enrich their collegiate experience while they pursue a quality education.

To ensure academic development, California State University, Fresno — known in the athletics world as Fresno State — has instituted a support system designed specifically for student athletes. Services include academic advising, guidance and counseling, monitoring of progress, tutoring, and daily study halls.

Facilities

Bulldog Stadium, home of the football and women's soccer teams, has a 41,031-seat capacity. Beiden Field, a 5,422-seat baseball stadium, is considered one of the finest collegiate complexes in the country and home to the 2008 NCAA National Champion baseball team. Bulldog Diamond, home of the 1998 NCAA champion Fresno State softball team, seats 3,288 and is the finest on-campus facility of its kind in the nation. Fresno State has track and field facilities, two gymnasiums, and putting greens and driving areas complete with sand traps for golf. The strength and conditioning center is one of the best weight rooms on the West Coast with 10,800 square feet, and the resplendent Spalding G. Wathen Tennis Center is home to the men's and women's tennis teams.

In 2003, Fresno State opened the Save Mart Center, the largest on-campus arena on the West Coast with a capacity of 15,596. In 2005, the Ricchiuti Academic Center was constructed during the same time the Duncan Building was expanded to house the new football offices and locker room.

Men's Intercollegiate Athletics

Baseball. In 2011, the Bulldogs won their fifth consecutive WAC tournament title. In 2008, the 'Dogs won the program's first ever NCAA National title in six years. The Bulldogs have advanced to the NCAA Tournament 15 of the last 21 years and 30 times overall, including four College World Series appearances.

Basketball. As a conference and western region leader in fan attendance at the 15,596-seat Save Mart Center, Fresno State is a perennial postseason contender with four NCAA Tournament berths and won the 1983 NIT Championship in their first of nine tournament appearances.

Golf. Fresno State finished in the Top 25 nationally 13 times in the past 26 years. Nick Watney joined the PGA in the spring of 2003 and has become one of the world's best players.

Football. With 11 bowl games in the last 12 seasons, the Fresno State Bulldogs are among the nation's elite Division 1 FBS programs. Fresno State's football program is producing high-caliber student-athletes, with 158 Academic All-WAC players honored in the last 14 years, more than any other WAC school.

Tennis. The Bulldogs have received an NCAA berth in 13 of the last 18 years. Fresno State reached the national quarterfinals in 1996 and the Sweet 16 in 1995, 1997, and 1999. The Bulldogs have also reached the WAC tournament in five of the last six years and won the title in 2011. The team has garnered five All-Americans from 1995-2001.

Track and Field/Cross Country. Fresno State took fourth at the 2010 Outdoor Track and Field WAC Championship, sending six Bulldogs to the NCAA West Regionals. Since 2000, 26 Fresno State athletes have won individual conference titles and four have earned All-American honors. The Bulldog cross country team has emerged as a top team in the conference, taking the individual title at the WAC Championship in 2010 and one student-athlete earning an individual bid to the NCAA Championship.

Women's Intercollegiate Athletics

Basketball. In 2011, the Bulldogs won their fourth consecutive WAC title and advanced to the NCAA tournament for their fourth straight year (2007-11). The 2009-10 season marked their best in school history going a perfect 16-0 in conference play and winning 27 games. Jaleesa Ross (2007-11) racked up 389 3-pointers, most in Fresno State history, third in NCAA history and was Fresno State's all-time leading scorer with 2,002 points.

Equestrian. The Fresno State equestrian team is the only Division 1 equestrian team on the west coast. They are consistently ranked in the Top 10 every year.

Golf. In 2008, the Bulldogs won the program's first ever WAC Championship. In 2009, the 'Dogs had their second WAC individual champion.

Lacrosse. The Fresno State lacrosse team competed in its third season in 2010. Krisdina Gehring became the first-ever Bulldog to earn all-conference honors as she was named to the Mountain Pacific Sports Federation second-team.

Soccer. In 2005, the Bulldogs won the WAC tournament and received an NCAA tournament berth. In 2010, the Bulldogs won their third WAC Tournament title and advanced to the NCAA Tournament.

Softball. The Bulldogs won the university's first-ever National Championship in 1998. The team has received 30 consecutive NCAA berths and won 10 WAC titles and 21 conference titles.

Swimming and Diving. In 2010-2011 the program had two divers compete at the NCAA zones and broke seven Fresno State records at the WAC Championships.

Tennis. The Bulldogs received an NCAA berth 15 of the last 16 years (1996-2009, 2011) and won the WAC title nine of the last 10 seasons (2002-2009, 2011). The Dogs have advanced to the finals in seven national tournaments since 2004, including a victory at the National Indoor Doubles Tournament in 2008. They have produced five Academic All-Americans since 1997. Since 1999, the Dogs have garnered 11 All-Americans.

Track and Field/Cross Country. The women boast an outdoor and indoor track and field, as well as a cross country team. In 2009, the outdoor team finished in third in the conference and picked up four individual conference crowns, nine competing at the NCAA West Regional and two earning bids to the NCAA Championships.

Volleyball. Fresno State has six postseason appearances overall, including three trips to the NCAA tournament.

Auxiliary Corporations
2771 East Shaw
Fresno, CA 93710
559.278.0800
www.auxiliary.com

Auxiliaries

Auxiliary Organizations

Auxiliary organizations are non-profit public benefit entities organized and operating for the purpose of assisting California State University, Fresno in the attainment of its educational mission. Auxiliary organizations must be self-supporting. Fresno State has six recognized CSU auxiliary organizations — Associated Students, Inc.; Athletic Corporation; California State University, Fresno, Association, Inc.; California State University, Fresno Foundation; Agricultural Foundation of California State University, Fresno; and Fresno State Programs for Children, Inc. These auxiliary organizations provide a variety of services and support to serve Fresno State students, faculty, and staff.

The California State University, Fresno Association, Inc.

The California State University, Fresno Association, Inc. administers and manages the commercial activities of the university. It also provides accounting and managerial services for other auxiliary corporations. The Association's Board of Directors is composed of members from the campus and external community and is chaired by the university's vice president for administration/chief financial officer.

These activities include the following:

- Kennel Bookstore (*www.kennelbookstore.com*)
- Save Mart Center (*www.savemartcenter.com*)
- Student Recreation Center (*www.auxiliary.com/src/*)
- University Courtyard - Housing (*www.universitycourtyard.org*)
- University Dining Services (*www.auxiliary.com/diningservices*)
- University Student Union (*www.auxiliary.com/USU/*)

The California State University, Fresno Foundation

Governed by a board of governors, the Foundation provides financial management and administration of sponsored programs, scholarships, loan funds, the endowment fund, investments, and many other activities by the Foundation for the benefit of the California State University, Fresno. The Foundation is responsible for acceptance of gifts and charitable donations, bequests, trusts, endowments, and scholarships — made to the university and other auxiliary organizations.

The Agricultural Foundation

Governed by a board of directors, the Agricultural Foundation of California State University, Fresno is composed of approximately 27 enterprise units that provide our students with a hands-on experience by operating and managing the University Farm Laboratory. The University Farm Laboratory is a vital part of the education program for the Jordan College of Agricultural Sciences and Technology and is used to support courses offered by the seven departments within the college. The Rue and Gwen Gibson Farm Market is one of the enterprise units which sells products that are grown, harvested, processed, produced, and/or created by Fresno State students. The Agricultural Foundation reinvests any surplus funds back into equipment, facilities, and operations, in order to help ensure the long-term viability of this important laboratory for our students.

California State University, Fresno/COS Center
915 South Mooney Blvd.
Visalia, CA 93277
559.622.1818

California State University, Fresno/COS Center

COS Center

A student can attend classes leading to an undergraduate or graduate degree and can earn a credential or certificate at the California State University, Fresno/COS Center in Visalia. The center offers courses at times that are convenient to reentry as well as community college transfer students.

The center's students are registered as regular California State University, Fresno students. They earn resident credit for completed courses, with the majority of courses being delivered via instructional television.

Coursework and degrees offered at the center are fully accredited by the Western Association of Schools and Colleges.

The center is located on the College of the Sequoias campus and has been established as a cooperative arrangement between California State University, Fresno and the College of the Sequoias. The purpose of the center is to provide higher educational opportunities to the communities of Tulare and Kings counties.

Academic Programs

Undergraduate

- Bachelor of Arts in Liberal Studies
- Bachelor of Science in Criminology

Graduate

Master of Arts in Education with an option in

- Administration and Supervision

Credential

- Multiple Subject
- Administration and Supervision

Student Services

Information and assistance in filing applications are available through the California State University, Fresno/COS Center in the following areas:

- Admissions
- Registration (Online, Open University, add/drop of courses)
- Credential program admission
- Financial Aid
- University Outreach Services
- Testing
- Educational Opportunity Program (EOP)

For more information, stop by the California State University, Fresno/COS Center Office and ask Shirlene Major about the center and what it has to offer.

Career Services
Student Affairs
Joyal Administration, Room 103
559.278.2381 • FAX: 559.278.6483
www.fresnostate.edu/careers
Rita Bocchinfuso-Cohen, *Director*

Career Services

Career Services

Career Services, a department within the Division of Student Affairs, supports the mission of the University by enhancing student career success through increased self-knowledge, career literacy, job-search preparation and expanded opportunities to connect with employers. As a centralized and comprehensive career center, Career Services assists all majors from entering freshmen through alumni. At any stage in your college career, you can meet with career coaches or counselors to clarify your career direc¬tions, ensure you are prepared to market yourself well, get assistance with applying to graduate school or develop a personalized job search approach. Employer events, on-campus recruiting and on-line job posting systems increase your access to career opportunities. You can maximize your transition to career success by regularly utilizing all that is available to you or choosing only those features that best fit your individual needs.

Services Offered

Our activities strive to increase student and alumni preparedness and access to opportunities that enhance your ability to achieve your professional goals, including a variety of online resources available through our website (*www.fresnostate.edu/careers*). Staff is available to help you:

- **Learn about yourself to choose a major**: Eureka, SDS, Career-Leader College, other career assessment tools
- **Discover career options**: Eureka, Career Library, Computer Resource Lab
- **Develop a resume**: OptimalResume, Walk-in Resume Critiques
- **Prepare for a job search**: Cover Letter, Interview Prep and Practice, Salary/Industry Trends
- **Connect with employers**: Career Fairs, Networking Mixers
- **Locate a job**: BulldogLink web-based employment system, On-Campus Interview program
- **Gain experience**: Part-time/Internship/or Full-Time opportunities, Scholars Service Grant Program, Community Service Scholarship Program
- **Plan for graduate school**: Application Process, Personal Statement
- **Make the transition from campus to life after college**: Senior Experience, Life After College Speaker Series

Alumni Services

Realizing that your relationship with Fresno State does not end after you leave campus, we strive to provide alumni the best possible resources, advising, and career coaching. Feel free to utilize all of the resources on our website or within our office. In addition, alumni throughout California can gain access to reciprocal services at other CSU Career Centers through our office. Since we have limited resources, we must charge our Alumni a nominal fee of $25 for one year of access to Career Services after the six-month grace period. This fee entitles you to all of our free career assessments, counseling appointments, career fairs, and on-campus interviewing (where appropriate).

Senior Experience

Approaching graduation and preparing for life after undergraduate studies can be a daunting challenge. Career Services currently manages the university's Senior Experience program, an initiative to develop, coordinate, and facilitate resources, activities and events to celebrate undergraduate student attainment of senior status or that help undergraduate seniors cope with the impending change of transitioning out of the college setting to the workplace or graduate/professional school. The Senior Experience website at www.fresnostate.edu/seniors includes detailed information about this program, including a schedule of upcoming activities and events.

Division of Continuing and Global Education

Division of Continuing and Global Education
Education Building, Room 130
559.278.0333
www.fresnostate.edu/cge
Lynnette Zelezny, M.B.A., Ph.D.
Dean and Associate Vice President

The Division of Continuing and Global Education is responsible for providing learners of all ages with educational opportunities designed to meet their needs for career advancement, professional growth, and life enrichment. The financially self-supporting division offers a variety of courses and programs in many disciplines to meet the growing demand for continuing education. The division encourages the participation of individuals and organizations throughout the region and world.

Extension Credit Courses

Various academic departments offer conferences, institutes, workshops, seminars, and courses at several sites throughout the university's service area.

Open University

Open University provides an opportunity for those individuals who are not matriculated at the university to enroll in regular credit courses. These courses are open to anyone in the community.

Intersession

By completing courses during a three-week period between semesters, students can maximize academic success and accelerate their progress toward degree completion.

Study Abroad

These programs provide a unique opportunity for immersion in another culture. These programs offer cultural activities based on a combination of travel and learning. For details, see *Study Abroad and International Exchanges*.

Osher Lifelong Learning Institute (OLLI)

Funded in part by the Bernard Osher Foundation, the OLLI was created for adults age 50+ who wish to enhance their knowledge for the pure enjoyment of it. Innovative intellectual activities such as lectures, classes, and field trips take place on the Fresno State campus as well as off-site.(See *www.fresnostate.edu/olli*.)

Non-credit Programs

Customized programs are developed to meet the needs of specific participants or organizations. Short courses, conferences, seminars, workshops, institutes, test preparation classes, and enrichment programs for youths and adults are offered throughout the year.

Certificate Programs

Certificate programs are designed for adults who desire in-depth knowledge or competency in a specialized area but who do not seek a degree.

Off-Campus Degree Programs

These programs allow students to earn degrees without moving or commuting to campus. They consist of evening, weekend, and online classes designed for working professionals and are held at selected locations throughout the Central Valley.

American English Institute

AEI courses include writing, grammar, reading, vocabulary development, listening, speaking TOEFL preparation, pronunciation, and computer-assisted language learning. For details, see *Special Programs*.

Educational Opportunity Program

Educational Opportunity Program
Student Affairs
Joyal Administration, Room 224
559.278.1787
http://studentaffairs.csufresno.edu/eop/
Dr. Mui Vuong, *Director*

The Educational Opportunity Program

The Educational Opportunity Program (EOP) is designed to make higher education a possibility for students who have the potential and motivation to achieve academic success with the assistance of comprehensive support services.

Eligibility

To qualify for EOP, you must be a first-time undergraduate applicant to the CSU system, a California resident, and come from a family with a history of low income. In addition, you must demonstrate potential for success and be motivated to achieve your educational goals. If the combination of your grades, test scores, and high school courses does not meet criteria normally required for entrance to the university, special admission may be offered. EOP also admits regularly eligible students with specific economic and educational support needs. EOP students transferring from another CSU campus are also eligible to apply.

Services for EOP Students

Services designed to support and assist EOP students in developing their academic potential include the following:

- preadmission counseling
- orientation programs
- special summer program — a residential program that focuses on the development of essential academic skills
- financial aid follow-up
- academic advising
- tutorial services
- learning skill workshops
- counseling
- career planning
- social activities

EOP Grant

EOP students may be offered an EOP grant each academic year. You may apply for the grant by using the standard financial aid application form and procedures required by the Financial Aid Office.

How to Apply for EOP

When you apply for admission through EOP, you are required to submit additional forms and materials. This process enables EOP to select the most qualified applicants to fill the limited number of enrollment openings available each year.

The EOP application can be submitted electronically by going to *www.csumentor.edu*.

Click on the "Apply Online" tab then click on the Educational Opportunity Program link and follow the instructions to submit your EOP application.

Submit the following admissions materials to the Office of Admissions and Records:

- A complete CSU undergraduate application
- $55 application fee or Fee Waiver Request Form
- ACT or SAT test score (The EOP office recommends the ACT for applicants in high school)

Submit the following application materials to the EOP office:

- Applicant Information Form
- Recommendation Form
- High school and/or college transcripts, or GED scores

Health and Psychological Services

University Health and Psychological Services
Student Affairs
Health Center • 559.278.2734
Psychological Services • 559.278.6738
5044 N. Barton Avenue (at Shaw)
Joyce Harris, R.N., M.H.A., Assistant Vice President/Director UHPS

Health Services

University Health and Psychological Services is located on campus in the Student Health Center, just east of University Courtyard. The Student Health Center (SHC) is accredited by the Accreditation Association for Ambulatory Health Care, Inc. and provides medical, educational, psychological counseling, and wellness services. In addition, there are pharmacy, laboratory, and X-ray services on site.

All currently enrolled students are eligible and encouraged to use the services of the SHC. Students automatically pay health fees as part of their tuition. Private health insurance is not required and the Student Health Center does not bill your private insurance company. Presentation of a valid Fresno State identification card is required. We encourage you to visit the SHC Website at *www.fresnostate.edu/health/*.

Family Pact

The Family PACT program provides family planning and sexual health services at no cost to eligible low income men and women. For further details on eligibility and enrollment, visit our Website at *www.fresnostate.edu/health*.

The SHC is open Monday, Tuesday, Thursday, and Friday from 8 a.m. to 4:45 p.m and Wednesdays from 9 a.m. to 4:45 p.m .For student convenience, both the health services department and psychological counseling services operate on primarily a "walk-in" basis. Walk-in hours for Psychological Services are from 9 to 11 a.m. and again from
2 p.m. to 4 p.m. daily. Services are not available on weekends. In case of an emergency, CALL 9-1-1.

Psychological Services

Psychological Services offers counseling and consultation. Our professional staff and interns/trainees are here to help you with stress, anxiety, depression, relationship issues, challenges in academic performance, and any other concerns you may have. A psychiatrist is also available for medication management if the need arises. We offer free and confidential counseling to individuals, couples, and groups for personal growth. Please visit our Website at *www.fresnostate.edu/counseling/*.

Your privacy is our foremost concern. Unless specifically required by law or court order, we do not release private medical information without the consent of the student/patient. If you are under the age of 18, your parents may have to consent to your treatment.

Health Promotion and Wellness Services

The Health Promotion and Wellness Services Department is available to equip students with information and skills to make knowledgeable decisions for good health and disease prevention. Our team of health educators — a registered dietitian and trained peer educators — deliver health education information through the use of one-on-one counseling and innovative and collaborative events, as well as the distribution of educational materials. For further information, please visit our Wellness Resource Center in the Student Health Center or visit our website at *www.fresnostate.edu/health*.

Student Health Advisory Committee (SHAC)

This student-led committee serves in an advisory capacity to the director of the Student Health Center and the vice president for Student Affairs on the scope of service, delivery of services, funding, and other critical issues relating to health services on campus. SHAC members have the opportunity to gain and enhance leadership and advocacy skills. For further information, please visit our Website at *www.fresnostate.edu/health*.

Immunizations

Nursing staff provides required and clinically indicated immunizations. Students on an established allergy/antigen immunization program may be eligible to have their shots administered by the nursing staff at the SHC. Students should bring their immunization record to the SHC when accessing these services. There may be a charge for this service.

Summer Care

Students enrolled in a summer session pay a pro-rated health fee and are eligible to use the SHC for the entire summer session. Students not attending summer classes but who are enrolled or plan to enroll in the fall semester will pay a $15 per visit fee.

Health Insurance

It is strongly recommended that students carry health insurance. Student health fees that are paid with tuition are not a form of health insurance. Medical conditions that exceed the scope of Student Health Services and/or require the care of an outside physician or medical facility are the financial responsibility of the student. Associated Students, Inc. offers health insurance to students. For more information visit *www.csuhealthlink.com.*

University Courtyard
On-Campus Housing
559.278.2345
www.universitycourtyard.org
Erin Boele, *Director*

Housing

On-Campus Living

Your future begins here — choose to live at University Courtyard, Fresno State's only on-campus student housing. Residents have the opportunity to become part of a community of students who share experiences and support each other in achieving academic success.

Accommodations: Each air-conditioned/heated room includes an extra long twin bed over an 80" x 36" desk, three-drawer dresser, two-drawer file cabinet, book carrel with task light, two-position chair, and closet with storage space above for each resident. A meal plan, computer lab, basic cable and internet service, utilities, fitness center, swimming pool, laundry facilities, recreation facilities, and community custodial services are included.

Residence Hall Living: The convenience of on-campus living makes it easy to go to and from class, use the campus library, and attend events during evenings and weekends.

The halls offer interesting programs designed to add an exciting dimension to on-campus living. Social activities include karaoke, bowling, special dinners, barbecues, and movies. Educational programs include alcohol awareness, appreciation of differences, and personal safety.

Incoming freshmen have the opportunity to be placed in a Learning Community where they are guaranteed three G.E. classes. Contact University Courtyard at 559.278.2345 for additional information.

Individual Halls: The housing complex consists of nine residence halls, the Atrium Building, and the University Dining Hall. Three halls are community style. Six halls are shared one-, two-, or three-bedroom residence suites with a furnished living room and bathroom. Quiet living areas are available. All halls house men in one wing and women in another. Bathrooms are gender designated. Up to 1,100 students can live on campus. The majority of the rooms are shared by two students. A limited number of single rooms are available first to returning residents, then to new students. Triple rooms are available on a first-come, first-served basis.

Staff: Trained professionals are available to help make your stay in the residence halls enjoyable. They develop social, cultural, educational, and recreational activities and opportunities.

The residence life staff members include resident directors, assistant resident directors, resident advisers, and public safety assistants. Serving as student leaders on each floor, residence life staff receive training in paraprofessional helping skills and crisis intervention. They understand university structure; they can assist students with academic-related issues, emergencies, and personal concerns.

How to Apply: The housing application process is separate from the university admissions process.

Applications are available October 1 (subject to change) for the following academic year and spring semester. Request an On-Campus Living Application packet or apply online at *www.universitycourtyard.org* as soon as you apply to the university. You are urged to submit your completed application as soon as possible to increase your chances of getting your selected hall preference. Housing is subject to availability at the time your completed on-campus living application is received or placed on the University Courtyard waiting list. Your license agreement is for an entire academic year. (Exception: spring semester only)

All first-time undergraduate university applicants automatically receive housing information after they have applied to the university. You need not wait until you are officially accepted by the university to submit your housing application.

Employment Opportunities: Students can seek employment with University Courtyard, dining services, athletics, and the bookstore. Visit the Job Opportunities link on www.universitycourtyard.org for updated job postings.

Off-Campus Housing: The university does not inspect, approve, or disapprove any units offered for rent.

International Student Services and Programs
Student Affairs, Joyal Administration, Room 256
559.278.2782 • 559.278.2409 (Admissions)
Dr. Paul Hofmann, *Director*
www.fresnostate.edu/issp

International Student Services and Programs

International Community

California State University, Fresno enjoys a large international student community. Our multicultural staff is committed to international student success, as stated in our mission statement. We provide a supportive environment that allows students to make the most of their educational experience.

International Student Services and Programs

Our international admissions staff will process your application for admission. The program sends international students information regarding arrival in the United States, visa and immigration, housing in the Fresno area, and registration after students are admitted. After arrival, the staff guides students through orientation. International students may need to enroll in English courses offered by the Linguistics Department during their first semester. Visit our website for the latest information. (See top of this page.)

Learn about Americans by making friends with families through our International Friendship Program.

Enjoy recreational activities with fellow classmates by participating in trips and activities.

Opportunities

Share your country and culture with the Fresno community and the Fresno State campus by speaking to small groups through the International Coffee Hour series.

Join an international club or any of the 200 other organizations available on campus. Participate in and enjoy the varied cultural programs during the year, such as International Culture Night.

The international student services staff members take a personal interest in helping you adjust to the academic environment and resolve personal concerns, such as financial assistance, immigration matters, and personal needs. Agency and foreign government-sponsored students participate in our Sponsored Student Program.

We offer you good weather, a reasonable cost of living, and excellent selections in undergraduate and graduate academic programs. We care about your development as a whole person; we want your stay in the United States to be worthwhile. We believe your experience and involvement in the United States will enrich your life, as well as our university. We look forward to sharing this experience with you.

Mission Statement

Our mission is to provide student-centered programs of the highest quality for international students, staff, and faculty at California State University, Fresno.

We are committed to

- providing a warm and informative welcome to international students and recognizing their importance and their contributions to the campus and the Fresno community;
- providing appropriate services and assistance to international students so they do not face challenges alone;
- working with international students to assist with their adjustment and understanding of their new environment in a comfortable setting where they have opportunities and encouragement to pursue their dreams, be involved in the university community, and have their efforts recognized;
- encouraging international students to ask questions and offer suggestions while we address their concerns with respect, reassurance, and understanding;
- serving as a resource to faculty and staff to facilitate international exchange, enhance cross-cultural communication, and support international endeavors;
- providing information to prospective students and parents about the university and the quality of available educational experiences that enhance and promote the continued flow of students from nations around the world; and
- offering our friendship today and tomorrow as we work together to dream and build a better world.

Learning Center
Henry Madden Library, Collection Level (Basement)
559.278.3052
Tosha Giuffrida, *Learning Center Coordinator*
www.fresnostate.edu/learningcenter

Learning Center

Learning Center

The Learning Center (LC) offers a supportive learning environment. It assists students in developing learning strategies and behaviors necessary to their growth as critical thinkers and independent, life-long learners. Services include tutoring, supplemental instruction, Academic Success Workshops, group presentations, and individual consultation.

Tutoring is free to enrolled students and available for most subject areas. Tutors complete training certified by the College Reading and Learning Association and are recommended by faculty. Frequently requested subjects include mathematics, history, political science, economics, physics, foreign languages, computer science, chemistry, accounting, decision sciences, business writing, and business statistics. Other subjects are available as demand dictates.

Writing tutors are available to assist with assignments in any course on a drop-in or appointment basis. If English is not your primary language, our writing tutors will help you learn to write more effectively on academic assignments.

General Education tutors are available to assist students with lower-division courses and/or in mastering learning strategies such as time management, test preparation, note taking, and academic reading. They also help you learn to navigate Blackboard. The LC can help you organize a weekly study group for any of your classes.

Workshops to assist you in mastering academic learning strategies are held throughout the semester on topics including:

- Getting organized: manage time, conquer procrastination
- Strategies for maximizing academic reading
- Strategies for preparing for exams and taking exams
- Relaxation and stress reduction techniques
- Strategies for academic note-taking

Check our website for updated tutoring schedules, workshop times, and applications for employment.

The Intensive Learning Experience (ILE) Program

The mission of the ILE Program is to increase retention rates of freshmen scoring at or below the lower quartile on the EPT (Total 141) and/or the ELM (30 or below).

Assistance includes early intervention outreach, individual learning assessment, academic counseling, and tutoring.

The ILE Program partially supports basic skills courses offered through the Department of English and the Department of Mathematics.

SupportNet

SupportNet is an early warning (early alert) program that allows faculty to refer students with poor academic performance or academic disengagement. Students are encouraged to meet with a SupportNet adviser who will provide the appropriate academic assistance and university resources.

Further information can be found at *www.fresnostate.edu/supportnet*.

Services to Faculty and Departments

LC staff and tutors are available to conduct classroom presentations on LC services or learning strategies, provide assistance in forming study groups for students in your class, offer specialized study sessions (supplemental instruction) in high risk classes, consult on how to incorporate learning skills into the curriculum, and collaborate on research regarding student success.

Henry Madden Library
Hours of opening: 559.278.2596
Circulation services: 559.278.2551
Reference questions: 559.278.2174
Peter McDonald, *Dean*
www.fresnostate.edu/library

Library Services

The Library

The Henry Madden Library is a center for study, learning, and scholarship at Fresno State. Its collections and services are central to undergraduate and graduate instructional programs and to research of all kinds. The library is also a campus cultural center and a place for events and exhibits. More detailed information is available on our Web site.

The new library building that opened in 2009 provides state-of-the-art research and study space, including wireless Internet access, a laptop lending program, and spaces for individual and group study. The library's coffee shop is a favorite place to take a study break or meet friends and colleagues. Whether you are looking for a quiet study area, a computer to do research or write a paper, or just somewhere to hang out with your friends, the Henry Madden Library is the place to go.

Collections

Use the library's Web site to search for books, journals, videos, and other library materials quickly and easily. The web site also provides access to over one hundred databases covering a wide range of subject areas.

The Madden Library contains more than a million volumes on all subjects and in many languages. Some are also available as ebooks that can be read online. The library subscribes to approximately 1,000 journals in print and over 60,000 online in electronic formats. Electronic access to books, journals, and databases is available from any campus computer, and from off-campus with a Fresno State login.

The library contains an extensive collection of music scores, audio recordings, dvds, and videos. Facilities for media creation and editing are also available. Other notable collections include: Maps and Government Information, with over 150,000 maps and aerial photos along with publications from the state and federal governments; the Teacher Resource Center, containing books, instructional materials, and curriculum guides for classroom use; and several collections of rare and unique materials, including the Arne Nixon Center for the Study of Children's Literature and the Special Collections Research Center, which contains collections on World's Fairs, the University Archives, and the Central Valley Political Archives.

Services

Research assistance is available at the Reference Desk. Librarians also offer specialized research assistance by appointment. You can also get help by text messaging, instant messenger, email, and phone. Click on the *Need Help? Ask* link on the library home page for details.

The library is dedicated to teaching information literacy skills that help you learn how to find, evaluate, and interpret information sources of all types. Librarians provide individual and group instruction, and have created online research guides, Blackboard tutorials, and other web resources to help you with your assignments.

Almost everything in the library may be checked out. Use the self-check machines or bring your materials to the Circulation Desk on the first floor. Your ID card is your library card.

Technology

There are 125 computer workstations located throughout the library for student use that require you to log in with your campus email username and password. The library provides over 250 laptops that may be checked out by students. We offer a variety of types of laptops, including Macs, PCs, and Linux machines. You can also check out headphones and flip video cameras.

Print/copy/scan machines provided by the campus Pay-for-Print Service are available throughout the library. Assistance is available at the service desk on the second floor.

University Outreach Services
Student Affairs
University Center, Room 125 • 559.278.2048
Frances Peña-Olgin, *Director*
www.gotofresnostate.com
http://studentaffairs.csufresno.edu/

Outreach Services

The University Outreach Office

The Office of University Outreach Services (UOS) coordinates many of the university's ongoing outreach programs and recruitment.

As a regional university, Fresno State concentrates its major outreach activities in high schools and community colleges in the Central Valley, which extends from Sacramento to Bakersfield.

The primary focus of UOS is to assist students with preadmission procedures necessary to attend Fresno State and to develop and maintain a viable relationship with all segments of the community for a better understanding of the university and its services. Another important outreach service is to improve access for students from educationally and/or economically disadvantaged families.

High School Outreach

University Outreach visits high schools during the fall semester with follow-up visits in the spring. Outreach representatives provide information on admissions, financial aid, scholarships, housing, and academic majors in small or large group settings.

Community Colleges/ Transfer Services

Outreach staff members visit community colleges in the university's service area regularly and see most students by appointment. Students are assisted with admissions, financial aid, and advising information. Staff members also provide information on campus support programs. They visit most colleges in the Valley and Central Coast areas on a regular basis. Consult with your transfer center or counseling center. University Outreach Services also participates in the Fresno City College Transfer Center Project. The Transfer Center Project sponsors several activities to promote and increase the number of transfer students.

Student Ambassadors

University college ambassadors motivate high school and community college students to enroll in college preparatory courses that will lead to CSU admission. Ambassadors provide community college students with valuable information on the benefits of higher education. Ambassadors distribute materials to help students prepare for a baccalaureate degree. Forty high schools are in the program.

Preview Day

Preview Day offers a unique opportunity for entering first-time freshmen and transfer students to visit the campus and participate in a classroom setting that is similar to what they will experience as students at Fresno State. Preview Day is designed to give students a closer look at our campus and a chance to interact with faculty.

Tours

Student tour guides conduct campus tours for prospective students and their families. Group tours may also be accommodated with advance notice. Contact the office for the scheduled hours.

School-Based Recruitment Program

Members of University Outreach serve as liaisons with the eight academic colleges/schools. Outreach members disseminate information specific to the colleges/schools, arrange departmental meetings for prospective students and their parents, and engage in specific recruitment activities.

Jan and Bud Richter Center for Community Engagement and Service-Learning
Frank W. Thomas Building, Room 107
559.278.7079
Chris Fiorentino, *Director*
www.fresnostate.edu/cesl

The Richter Center
for Community Engagement and Service-Learning

California State University, Fresno has a rich history of engaging students in service to the community. As part of an overall educational experience, community service learning can have a profound impact on a student's personal, professional, and academic development. During the 2009-10 year, the university provided more than 1.16 million hours of service to the community.

Mission
The Jan and Bud Richter Center for Community Engagement and Service-Learning is dedicated to improving the education and development of our students and helping create a better community through service and learning. To accomplish this mission, the Richter Center coordinates a variety of community engagement initiatives.

Community Engagement
Fresno State is committed to being a premiere engaged university. This is reflected in the many ways our university demonstrates, through mutually beneficial partnerships, the alignment between the university's teaching, research, and professional service agenda and the interests of our region. Examples of community engagement activities include, but are not limited to, community service and volunteerism; service-learning; applied research; efforts that engage the campus community in the democratic process; faculty and staff professional service to the community; and projects that address the historical, cultural, and/or informational needs of the community.

Service-Learning
Service-learning is an educational approach that involves students in meaningful community service directly related to the course's learning goals. There are more than 150 such courses offered each year at Fresno State. Approved service-learning courses are listed in the catalog and the Class Schedule with an "S" designation. Additional details can be found at *www.fresnostate.edu/facultysl*.

To promote the value of service activities and enhance the subsequent learning experience, the university also offers two community service-learning courses for academic credit. (See box.)

Who Should Get Involved in Service?
We hope you will! If you enjoy the rewards of helping someone in need or are concerned with social issues, the Richter Center can find a place for you to share your talents with others. In return, you will experience real-life situations that can help you be successful in all your endeavors.

Who Benefits?
Everyone! Research has shown that students who are involved in community service activities during their undergraduate years significantly enhance many aspects of their personal, professional, and academic development. Programs and citizens of our community dramatically benefit from the service work of students. Community service and service-learning provide an opportunity for everyone to gain important benefits.

"The opportunity to serve the community enriched my life far more than I imagined. I donated my time and in return I gained knowledge, leadership skills, self-esteem, and great memories. Volunteering also helped me relate what I've learned in all my classes to the real world—it all ties together and makes sense now."

Mitchell Casados, Fresno State Student

The university offers two courses in which you can receive academic credit for your community service-learning experience.

COMS 1. Community Service-Learning (1-3 units)
Provides a community service-learning experience where students apply their academic knowledge and skills to community-based issues and needs. Experiential learning will be enhanced through class discussions and presentations on topics related to community service-learning. *CR/NC* grading only.

COMS 101. Community Service Internship (1-3 units; max total of 6 units can apply toward electives requirements)
Provides a community service-learning experience to help students develop personal, professional, and academic knowledge and skills. *CR/NC* grading only.

Note: Students are required to complete a minimum number of service hours with a non-profit agency of their choice. The required number of service hours is determined by the course and number of COMS units. For more information, contact the Richter Center staff or visit the Web page at *www.fresnostate.edu/cesl*

Services for Students with Disabilities

Services for Students with Disabilities
Student Affairs
Henry Madden Library, Room 1202
559.278.2811• FAX: 559.278.4214
Janice Brown, *Director*
www.fresnostate.edu/ssd/

Services for Students with Disabilities

Services for Students with Disabilities (SSD) provides specialized resources that help students with physical, psychological, and learning disabilities to achieve maximum independence while pursuing educational goals. Students who have temporary or permanent disabilities affecting academic functioning may be eligible for a variety of support services.

Services Provided

SSD staff members take a personal interest in meeting the special needs of students with disabilities. The SSD office, located in the Henry Madden Library, has disability management, reading, and testing accommodation specialists on staff and provides access to adaptive equipment and testing rooms.

Academic support services available to students with disabilities include the following:

- readers
- scribes
- sign language interpreters
- real time captionists
- notetakers
- textbooks in alternate formats (audio file, e-file, MP3, PDF, Braille)
- assistive equipment and software
- print enlargement
- personal listening device
- speech input and voice output programs
- Braille embosser
- testing accommodations
- disability management
- campus transportation

Other services provided include career exploration, campus-to-career preparation, and adaptive technology training. SSD staff members also assist students with documentation in support of academic petitions for course substitution when appropriate. Service delivery emphasizes personal growth and development as well as independence and self-advocacy.

Requesting Services

Students with disabilities may visit the SSD office to document the disability and to initiate a request for services. Upon receipt of verification of disability by an appropriate professional, SSD will schedule a meeting with a disability management specialist to establish services.

Students who believe that they may have a disability, but do not have prior verification of a disability, may visit the SSD office to decide on an appropriate course of action.

Priority Registration

When services have been established and registration fees paid, students with verified disabilities may be given priority registration privileges to facilitate class scheduling.

Campus Access

California State University, Fresno is one of the most accessible university campuses in California. The climate is moderate and the flat terrain poses few mobility obstacles. However, for those individuals who may experience mobility difficulties, the campus provides an on-campus transportation service called SCOUT.

The campus is committed to reducing and eliminating structural obstacles as well as providing accessible elevators, restrooms, drinking fountains, telephones, and videophones. Blue curb parking, campus accessibility maps, and other aids are also available. Several on-campus open computer labs are equipped with accessible workstations and assistive technology screen reading software. Call the SSD office at 559.278.2811 for location details.

Students' Responsibilities

Students are responsible for personal accommodations, such as attendant care, transportation to and from the campus, and other personal services not directly related to academic coursework. SSD staff will assist students who need to contact campus, state, and community agencies that provide such services.

University Commitment

California State University, Fresno is committed to meeting the spirit and letter of the Americans with Disabilities Act. SSD staff members work with all areas of the university to reduce or eliminate physical, academic, and other barriers.

Office of the Vice President for Student Affairs and Dean of Students
Joyal Administration, Room 262
559.278.2541
Paul M. Oliaro, *Vice President for Student Affairs*
http://studentaffairs.csufresno.edu/

Student Affairs

Student Affairs

The Division of Student Affairs at California State University, Fresno provides a full array of services and programs that support student success at the university. Services are designed to encourage student development and to enable students to realize their academic, personal, and career goals.

We care about our students and know that they learn and develop as a result of their experiences both inside and outside of the classroom. As a result, we take extra care in ensuring that the university not only has excellent curricular offerings, but also excellent co-curricular activities and student services. The Office of the Vice President for Student Affairs and Dean of Students provides leadership and support to the many programs and offices in the division. They are as follows:

- Admissions, Records, and Evaluations
- Advising Services
- Career Services
- Central California Educational Opportunity Center
- Central Valley Cultural Heritage Institute
- College Assistance Migrant Program
- Development and Scholarship Programs
- Educational Opportunity Program
- Educational Talent Search
- Financial Aid
- International Student Services and Programs
- Learning Resource Center/Intensive Learning Experience
- Registrar's Office
- Services for Students with Disabilities
- Student Activities and Leadership Development
- Student Recreation Center
- Student Support Services Program
- Summer Bridge Program
- Testing Services
- University Courtyard
- University Health and Psychological Services
- University Migrant Services
- University Outreach Services
- University Student Union
- Upward Bound Program/ ESL Upward Bound
- Wellness Services
- Women's Resource Center

Dispute Resolution

A student-related dispute could arise out of a decision or action in the course of official duty by a member of the faculty, staff, or administration of California State University, Fresno. The decision or action could be alleged as discriminatory, contrary to accepted academic relationships and procedures, or restrictive of the rights of any student of the university to fair treatment. The purpose of the dispute resolution process is to provide a mechanism for students to have a third party review the situation.

The student must first make a good faith effort to resolve the matter informally by talking directly with the individual concerned, the individual's direct supervisor or department chair, and the director of the unit or college/school dean. If resolution is not effected through the informal procedures, for assistance students should contact the Office of the Vice President for Student Affairs and Dean of Students.

Student Absences

Students are expected to attend class and should maintain contact with their faculty members regarding any absences. Individual faculty members should be contacted when there are extended absences (more than one week) due to illness, death in the immediate family, or other situations. In urgent or extraordinary emergencies that preclude direct contact with individual faculty, students may contact the Office of the Vice President for Student Affairs and Dean of Students at 559.278.2541. Any make-up work or missed assignments remain the responsibility of the student.

Student Affairs Federal Programs

Student Affairs Federal Programs
Joyal Administration, Room 262
559.278.2541 • FAX: 559.278.7276
http://studentaffairs.csufresno.edu/

College Assistance Migrant Program
Frank W. Thomas Building, Room 105
559.278.4768
FAX: 559.278.6654
http://camp.csufresno.edu

The College Assistance Migrant Program (CAMP) at California State University, Fresno provides retention services to university students from migrant and seasonal farm worker families. As a retention service program, CAMP is committed to help students stay enrolled. Our staff will help you explore your academic and career choices and make sure that you have the information you need to make informed decisions.

Services designed to assist CAMP students include academic assistance, career planning, leadership and cultural enrichment, recruitment, job search, financial aid and scholarship application assistance, and health and vision care assistance.

Central California
Educational Opportunity Center
Frank W. Thomas Building, Room 122
559.278.2280
FAX: 559.278.7904
http://studentaffairs.csufresno.edu

Central California Educational Opportunity Center (CCEOC) is an outreach program that provides free information and assistance to adults who aspire to be first generation college students, have a low income, and are interested in pursuing a postsecondary education.

Services provided by CCEOC include academic needs assessment and advising; assistance with admission and financial aid applications; career assessment and counseling; information on entrance requirements and examinations; and workshops on postsecondary education options, financial aid, and financial literacy.

Educational Talent Search
University Center, Room 127
559.278.2276
FAX: 559.278.2322
http://studentaffairs.csufresno.edu

Educational Talent Search is an outreach program designed to encourage and assist participants to graduate from secondary school and enroll in postsecondary educational programs. Each year 750 eligible participants will be selected from the designated schools.

Services provided by the Educational Talent Search Program are academic assessment and advising, college application assistance, financial aid advising and application assistance, financial literacy workshops, college entrance exam preparation, tutorial services, career exploration, college preparatory workshops, and college campus tours.

Student Support Services
Frank W. Thomas Building, Room 122
559.278.1000
FAX: 559.278.1441
http://www.fresnostate.edu/studentaffairs/

The TRIO Student Support Services Program (SSSP) is designed to assist participants with enhancing their academic skills, increasing their retention and graduation rates, and promoting graduate and professional school programs. SSSP supports Fresno State and Student Affairs as a student-centered environment by providing individualized services to students who are either first-generation, income eligible, or have learning or physical disability. Based on students' needs and goals, SSSP assists them with academic accomplishments and social and cultural enrichment so they may successfully complete baccalaureate degrees.

Services provided by SSSP include academic advising/counseling, personal and career development skills, reading and writing supplemental instruction (small group/individual), peer mentoring and peer tutoring, grant aid financial assistance, academic success workshops, financial literacy basics, and a computer lab with free printing for program participants.

Upward Bound/ELL Upward Bound
5240 N. Jackson
University Center, Room 124
559.278.2693/559.278.5796
FAX: 559.278.4306
www.fresnostate.edu/upwardbound

The Upward Bound Program at California State University, Fresno is designed to enhance the academic skills and career goals of program participants from targeted high schools. Services provided to students are designed to enhance student enrollment and encourage completion of postsecondary education.

Services provided are academic assessment and advising, career advising, after school tutoring, parent workshops, financial aid advising, tours of college campuses, college preparatory workshops, monthly college conferences, and a five-week summer residential program.

Student Involvement -
Student Activities and the University Student Union
Student Affairs - University Student Union, Room 306
559.278.2741
Sally Ramage, *Director*
http://csufresno.edu/studentactivities & www.auxiliary.com/usu

Student Involvement

Student Involvement - Student Activities and the University Student Union

Make the most of your college experience by getting involved. Meet new friends, learn more about becoming a campus leader, develop skills and knowledge by working with others, and enrich your learning in and out of the classroom. Student Involvement offers programs and services that support student success.

Student Involvement Center - Student Activities Office

Being involved during college years means you take an active role in shaping your learning experience. The program advisers and staff understand that student development is an ethic that flows through all of the opportunities and activities of the office. There is a strong emphasis on experiential learning. As a student, you will benefit from opportunities to lead a group or organization; plan meetings and events; manage group projects and budgets; and develop presentation, marketing, and public relations skills.

The Student Involvement Center is the administrative home for many student involvement functions. It issues permits for the **Free Speech Area**; officially recognizes the more than 300 social, cultural, and academic student clubs and organizations; trains and supports club leaders and advisers; and reserves campus facilities, grounds, and classrooms for use by student organizations.

In addition to supporting the student clubs, the professional staff also administers and/or supports **Greek Life** and the **Greek Councils** for the 42 Greek organizations, **Vintage Days** (a spring community festival), **University Commencement**, the **Associated Students, Incorporated (ASI)**, student government, and many programs that are funded by student fees that support the University Student Union.

The University Student Union

As part of Student Involvement, the University Student Union (USU) represents the place where involved students connect with one another and find their "campus community center." The USU has been part of the campus for 40 years. It celebrated its anniversary in November of 2008 with a special recognition of those student leaders, past and present, who helped make the Fresno State student union possible.

Involvement opportunities and programs provided through the USU are varied and many. The **USU Board of Directors**, a student-run advisory board, plays a vital role in the operations and management of the USU. Its mission is to represent the voice of students on issues affecting the USU and SSU; to encourage student involvement and leadership development; to promote college life through the campus programming board and **USU Productions**; and to serve as a liaison to Fresno State faculty, students, administrators, alumni and guests.

Other student opportunities in the USU are available through **leadership programs**, the **Leadership Council**, and **Club Sports Program**. The **USU Recreation Center** offers bowling, billiards, and an X-Box station.

The USU food court hosts Chick Fil A, Subway, Panda Express, and the USU Snack Bar, where you can enjoy Fresno State ice cream and Starbucks coffee, Juice It Up, and other treats.

Student Success Services

Student Success Services
Student Affairs
Joyal Administration, Room 224
559.278.1787 • FAX: 559.278.1895
http://studentaffairs.csufresno.edu/
Maxine McDonald, *Assistant Vice President for Student Success Services*

Student Success Services

Student Success Services includes several student support programs that enhance the retention, graduation, and success of all students. Students participate in activities and programs that help them to develop, learn, and achieve. Student Success Services includes General Education advising, academic planning, counseling, cultural enrichment activities, learning assistance, and tutorial services.

In addition to the programs described in the copy that follows, Student Success Services includes Advising Services, the Educational Opportunity Program, the Learning Center, the Intensive Learning Experience, Testing Services, Dog Days: New Student Orientation, Support Net, Student Support Services, and the College Assistance Migrant Program (CAMP).

Summer Bridge Program

Summer Bridge is an on-campus program that allows low-income, first-time freshmen to experience California State University, Fresno. Summer Bridge prepares students to meet the demands of the university and bridge the gap between high school and university life. Students receive academic credit for completion of a rigorous academic program that includes instruction in writing, mathematics, computer technology, cultural studies, and an orientation to the university.

For more information, contact Summer Bridge, Joyal Administration, Rm. 224, at 559.278.6025.

University Migrant Services

University Migrant Services (UMS) serves students from migrant seasonal farm worker backgrounds. Services and activities are designed to help migrant students maximize their academic skills and abilities as well as support their personal development throughout their university experience.

Participation in activities such as community service, internships, and leadership development activities enrich the academic experience and success of migrant students.

For more information, contact University Migrant Services, Joyal Administration, Rm. 224, at 559.278.1787.

Study Abroad and International Exchanges, Division of Continuing and Global Education
Family and Food Sciences, Room 119
559.278.6452 • FAX: 559.278.4203
www.fresnostate.edu/cge/international/abroad/
Lynnette Zelezny, M.B.A., Ph.D.,
Dean and Associate Vice President

Study Abroad and International Exchanges

International Programs

The university encourages global understanding through academic exchange and cooperation. Toward this end, the university has partnerships with universities around the globe. Institutions in more than 20 countries offer Fresno faculty, staff, or students opportunities for teaching, research, or study abroad, or they send their faculty, staff, or students to this campus.

A faculty advisory council works with the Office of Study Abroad and International Exchanges to provide international experiences.

For further details, refer to the website at *www.fresnostate.edu/cge/international/abroad/.*

Study Abroad for Students

Several programs allow students to complete part of their studies in other countries.

Also offered are short-term, faculty-led travel study programs to other countries each summer, winter break, and spring break.

Other semester and year-long options are available through CSU International Programs and the University Studies Abroad Consortium.

(See *International Programs* in Special Programs section.)

Faculty/Staff Opportunities

Partnerships with universities in other countries provide opportunities for campus faculty and staff to teach or conduct research abroad, attend international conferences, and receive special training overseas. Participation in study abroad offers enriching international experiences, such as Visiting Professors or Resident Directors, as well as in a variety of fellowship programs (Fulbright, Rotary, CSU International Programs, etc.)

Visiting Scholars

Each year, departments and colleges host visiting scholars from other countries who engage in research, offer lectures, and enrich the campus with their expertise.

Technology Services
McKee Fisk, Room 137
559.278.3923
www.fresnostate.edu/technology

Technology Services

Technology Services (TS)

Techonology Services provides and supports a variety of technology services for students including Email, wireless network access, printing services, computing labs, computer security, and classroom technology. Faculty and staff have access to similar and additional services. TS focuses on the individual customer by providing access to training materials, assistance and problem solving via telephone, online, email and walk-in consultations.

Help Desk/Access to Services and Support

Telephone Support: 559.278.7000

In-Person Support: McKee Fisk, Rm. 150

Website: *https://help.csufresno.edu/*

Hours: 7 a.m. to 9 p.m., Monday-Friday; 8 a.m. to 5 p.m. on Saturday

Summer Hours: 7 a.m. to 6 p.m., Monday-Friday; 8 a.m. to 5 p.m. Sarturday

- Self help tutorials
- Request service and support

Services Provided to Students

- E- mail and Google Apps: *https://help.csufresno.edu/students/googleapps/*. E-mail is the official method for communicating University business with students. Each student is provided with a free account and is strongly encouraged to review the contents on a regular basis since critical notifications from the University related to enrollment, academic status, fees, holds, and financial aid will only be sent to students' e-mail.
- Wireless Network: *https://help.csufresno.edu/guest/wireless/*. Students with laptop computers or other wireless Internet devices can use the free campus wireless service, which provides coverage to most main campus buildings. Please visit *https://help.csufresno.edu/guest/wireless/UpdatedWirelessCampusMap.pdf* for more information on coverage areas.
- Pay for print: *https://help.csufresno.edu/content/payforprint.php*
- Computing Labs locations: *https://help.csufresno.edu/students/computerlabs*
- Information Security and Acceptable Use Policy: *http://www.fresnostate.edu/its/pdfs/CSUF_AUP_2_08.pdf*
- Classroom Technology and Video Conferencing (CTV)
- My Fresno State - Links to student system for requesting services and reviewing their records and grades. Access to Student Center, Financial Aid, and class schedules.

Standards

Computers and Software. Both PC and Macintosh computers are used on campus. The Kennel Bookstore sells computers and software products while offering advice on the appropriate system for any major. Special student savings are available on Macintosh, PC computers and printers, plus software from Microsoft, Adobe, and others. For specific recommendations:

- Software available: *http://www.kennelbookstore.com/SiteText.aspx?Software*
- Software compatibility: *https://help.csufresno.edu/compatibility/index.php*

Services Provided to Faculty and Staff

- Email/Collaboration
- Desktop/Laptop Support
- Classroom Technology and Video Conferencing (CTV). Provides design and installation, training, and on-going support of instructional technology in the classroom, including video/data projectors, document cameras, and touch button control systems.
- Telecommunications . Provides voice communications services, maintains copper and enhances telecommunications infrastructure and the voice over IP (VoIP) phone system.
- Networking. Manages and maintains the campus wired and wireless network.

Testing Services
Student Affairs
Family and Food Sciences, Room 110
559.278.2457 • FAX: 559.278.3583
Linda Ensch, *Test Officer/Coordinator*
www.fresnostate.edu/testing

Testing Services

Testing Services

Test taking is very much a part of student life on a university campus. The overall goal of the Office of Testing Services is to provide students and the university with information that will help those involved make sound academic decisions. Towards that end, the office coordinates and administers a wide variety of standardized tests as well as maintains a supply of bulletins for them. These include tests used for admission to colleges, universities, and professional schools; tests for proper placement in English and math classes; tests that assess the writing skills required of graduates of this university; and tests that assess preparation and potential for success in graduate schools and programs.

Testing Services includes a Computer-based Testing (CBT) center, open Tuesday through Saturday. Anyone needing the Graduate Record Exam (GRE), Test of English as a Foreign Language (TOEFL), PRAXIS, or National Board for Professional Teaching Standards (NBPTS) may call or come in for information on how to take these tests.

Undergraduate Entrance Examinations

- The student application for admission to California State University may require scores from the Scholastic Aptitude Test (SAT) or American College Testing (ACT) Program. Though these tests are not routinely administered on this campus at this time, staff members have information about dates and places for them.
- The Test of English as a Foreign Language (TOEFL) is usually required for international students seeking admittance to our university. Special institutional TOEFL dates are scheduled each year for students enrolled in our American English Institute (AEI). For non-AEI students, the TOEFL is offered on computer in our Computer-based Testing (CBT) center.

Undergraduate Required Tests

- The English Placement Test (EPT) and Entry Level Mathematics (ELM) test are given a minimum of eight times each year on our campus. Unless a student has qualified for exception from them, these tests are required for placement into English and math classes the first semester of attendance here.
- The Upper-Division Writing Examination (UDWE) is offered five times each year. Passing this test is one way students may choose to meet the Upper-Division Writing requirement for graduation from this university. Students are eligible to take this exam and need to take it as soon as they have completed 60 units of coursework including ENGL 5B or 10; taking it before accumulating 90 units is strongly advised.

Graduate School Testing

Testing Services administers several tests given statewide or nationwide for admission to special programs of study and graduate schools. They include the following:

- Graduate Record Exam (GRE Subject)
- Law School Admission Test (LSAT) and the PRAXIS and Pharmacy College Admission Test (PCAT) — all paper/pencil exams.
- GRE (General) and TOEFL iBT™ —all administered only on computer
- Miller Analogies Test (MAT) — a choice of either paper-based or computer-based.
- Test of Essential Academic Skills (TEAS) - only on computer

For more information about tests and services, stop by the Office of Testing Services, Family and Food Sciences, Room 110, and ask the people who work with tests the most.

The Center for Women and Culture

The Center for Women and Culture
Student Affairs • Frank W. Thomas Building, Room 110
Women's Resource Center: 559.278.4435 • Violence Prevention Project: 559.278.5696
Central Valley Cultural Heritage Institute: 559.278.6946
Francine Oputa, *CVCHI Director*
www.fresnostate.edu/wrc • www.fresnostate.edu/cvchi

WRC and CVCHI

Women's Resource Center, Violence Prevention Project, and the Central Valley Cultural Heritage Institute provide a supportive environment for interaction and self-discovery through a wide range of programs and activities. Programs and services are designed to enhance the learning and working experiences of students, staff, and faculty in the university community with many events and workshops opened to the general public.

Staff members seek to provide a haven against the intolerance and negative stereotyping that are abundant in society and also to offer a place for a diverse interchange of ideas and experiences, which is the basis for a positive academic setting.

These programs provide a variety of intellectual, cultural, social, artistic, recreational, and personal growth activities. The activities celebrate the multicultural composition of our community and promote healthy lifestyles and nonviolent relationships.

The Women's Resource Center

The WRC provides services to the full spectrum of university women regardless of age, ethnicity, sexual identity, or disability. The Women's Resource Center provides a place where women can share with one another, learn in a collaborative rather than competitive fashion, and seek growth-promoting experiences.

Men are encouraged to participate in the center's activities, to support organizational goals, and to promote among their peers recognition of sexism, racism, and other forms of discrimination against women.

Support and discussion groups are offered on a variety of issues including, but not limited to, current women's issues, single parents, body image, lesbian support, and support for women of color. Peer counseling and referral services are available to women who are coping with personal transitions, crises, or any other life experiences for which they need non-judgmental guidance and support.

Involvement Opportunities

A number of student groups and clubs operate from the Women's Resource Center, including Entre Mujeres, P.O.W.E.R., United Student Pride, and the Women's Alliance. Internships, student/staff positions, and volunteer opportunities are available for interested students.

The Violence Prevention Project (VPP) is a project of the Women's Resource Center where the primary focus is to provide education, prevention and intervention regarding sexual assault, intimate partner violence (domestic violence), and stalking to all students, staff, and faculty. The VPP has established a Campus and Community Response Team (CCRT) to improve the quality and coordination of services to victims of violence. Crisis counselors are available 24 hours a day via 559.278.5696.

The Central Valley Cultural Heritage Institute (CVCHI)

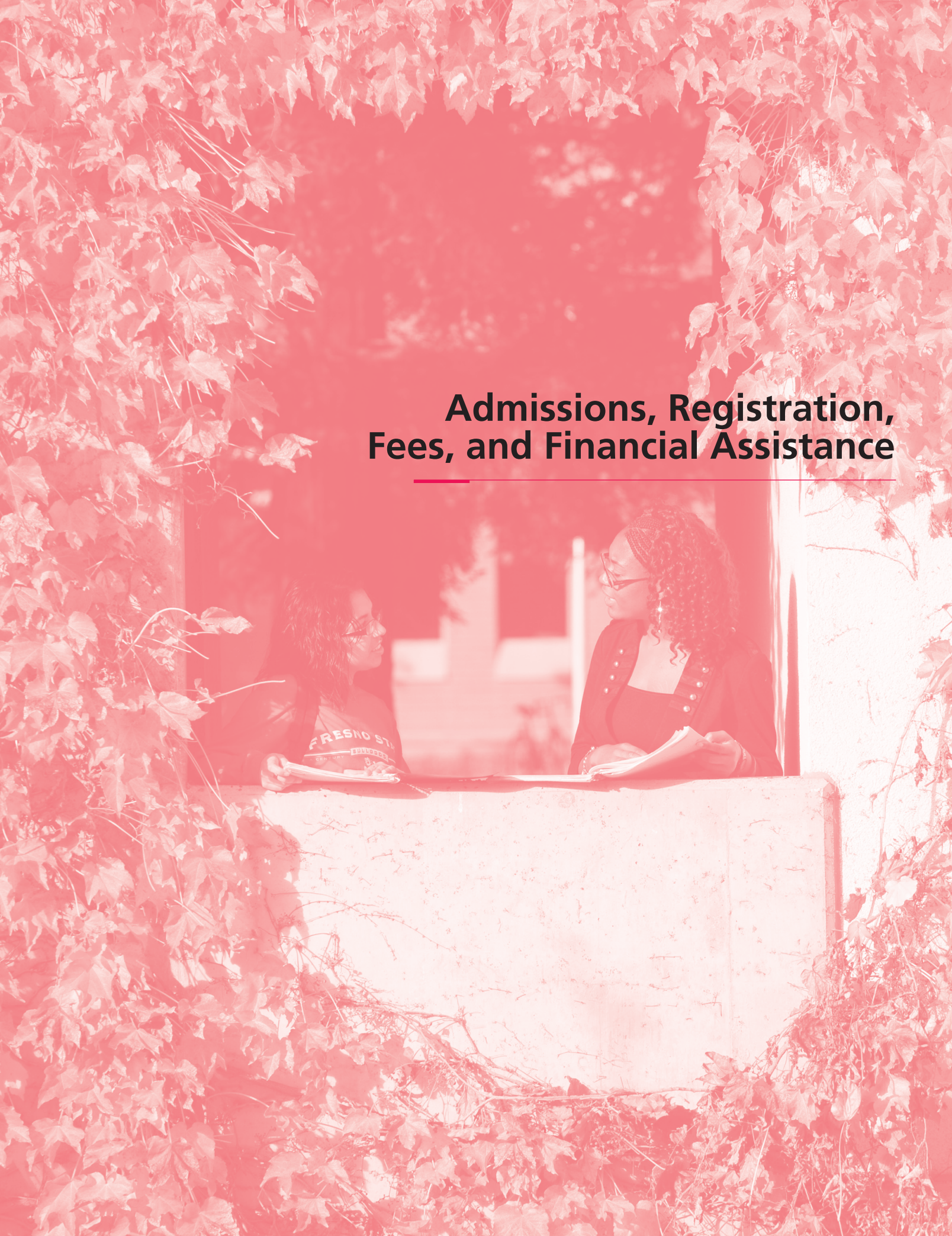
The CVCHI is dedicated to the celebration and study of the cultural heritage, diversity, and contributions of the people of California's Central Valley. The center is also committed to creating a more culturally competent community and supporting a safe environment that welcomes difficult dialogue on controversial issues.

The institute fosters a supportive environment for multicultural interaction, increases students' engagement and sense of belonging, and brings together academic course content and co-curricular activities that contribute to the retention of students. Involvement of first generation students is especially encouraged.

Many multicultural and diversity activities are coordinated out of the institute. Individuals interested in working on issues related to race, class, gender, age, sexual identity, and/or religion are welcome to attend one of the campus National Coalition Building Center (NCBI) "Welcoming Diversity" workshops that are offered twice a semester. We are also seeking volunteers who are interested in working on various events throughout the year.

Additional activities and services co-sponsored by the Center include the following: Stop the Hate Week, Diversity Awareness Week, Building Bridges/Tackling Fears Panel Series, and other annual cultural celebrations.

Admissions, Registration, Fees, and Financial Assistance



Admission Requirements

Admissions Office

Student Affairs

Vivian Franco, *Director*

Joyal Administration North Lobby

559.278.2261

http://studentaffairs.csufresno.edu

Admission Requirements

Requirements for admission to California State University, Fresno are in accordance with Title 5, Chapter 1, Subchapter 3, of the *California Code of Regulations*. Complete information is available at *www.csumentor.edu/planning*.

Electronic versions of the CSU undergraduate and graduate applications are accessible on the World Wide Web at *www.csumentor.edu*. The CSUMentor system allows students to browse through general information about 23 CSU campuses, view multimedia campus presentations, send and receive electronic responses to specific questions, and apply for admission and financial aid.

Applying online via *www.csumentor.edu* is expected unless electronic submission is impossible. An acknowledgement will be sent when online applications have been submitted. Application in "hard copy" form may be obtained online via *www.csumentor.edu* as a portable data format (PDF). Application forms (in PDF) may also be downloaded from *www.calstate.edu/sas/publications*. Paper applications should be mailed to the campus admission office.

Importance of Filing Complete, Accurate, and Authentic Application for Admission Documents. California State University, Fresno 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 academic credit, suspension, or expulsion (Section 41301 of Title 5, *California Code of Regulations*).

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*, Section 6109 of the Internal Revenue Code (26 U.S.C. 6109). See also *Policies and Regulations*.

Taxpayers who claim Hope Scholarship or Lifetime Learning tax credit will be required to provide their name, address, and Taxpayer Identification Number to the campus.

Undergraduate Application Procedures

Prospective students applying for part-time or full-time undergraduate programs of study must submit a completed undergraduate application. The $55 nonrefundable application fee should be in the form of a check or money order payable to "The California State University" or by credit card if submitting the online application, and may not be transferred or used to apply to another term. An alternate major may be indicated on the application. The applications of persons denied admission to an impacted campus may be re-routed to another campus at no cost, but only if the applicant is CSU eligible.

For undergraduate admission to California State University, Fresno you must

1. Submit a current application with a nonrefundable application fee to the Admissions Office.
2. Request institutions formerly attended to send directly to the Admissions Office transcripts of credits from high school and colleges. Failure to include all colleges attended may result in cancellation of your registration. All transcripts submitted by students are retained by California State University, Fresno.
3. Take the Scholastic Aptitude Test (SAT I) or American College Test (ACT) and request official scores be sent to California State University, Fresno if you are a lower-division applicant. The Test of English as a Foreign Language (TOEFL) is required of all foreign applicants and applicants who do not have at least three years of full-time schooling at the secondary level or beyond where English is the principal language of instruction.
4. Take any additional proficiency or placement tests required. (See *Systemwide Placement Tests Requirements*.)

In addition to the other documents required, a veteran should file a copy of the *Notice of Separation* (DD 214) from the armed services with the application for admission. Academic credit will be awarded for service time and service schools completed as recommended by *A Guide to the Evaluation of Educational Experiences in the Armed Services.* Veterans who are California residents may be exempt from certain admission requirements. Special admission may be granted if the applicant is judged likely to succeed academically. Standard admission procedures should be followed.

Applications will not be accepted after admissions categories have closed. Final eligibility for admission cannot be determined until *all* required documents have been received. Due to staff limitations, an evaluation of transfer credit will generally not be available until sometime during the first semester's enrollment.

A maximum of 70 semester units of credit is allowed toward the bachelor's degree for work completed in a community college. However, community college credit in excess of 70 units may be used to satisfy subject requirements. No upper-division credit will be given.

Remedial course units are not accepted for admission or degree credit. For limitations on extension and correspondence credit, see *Extension Classes.*

Students desiring university housing or financial aid should file special applications with the appropriate offices concerned as soon as possible.

Impacted Programs

The CSU designates programs as impacted when more applications from regularly eligible applicants are received in the initial filing period (October and November for fall terms, June for winter terms, August for spring terms, February for summer terms) than can be accommodated. Some programs are impacted at every campus which they are offered; others are impacted only at a few campuses. Candidates for admission must meet all of the campus' specified supplementary admission criteria if applying to an impacted program or campus.

The CSU will announce during the fall filing period those campuses or programs that are impacted. Detailed information on campus and programs impaction will be available at the following websites:

- *www.csumentor.edu*
- *www.calstate.edu/impactioninfo.shtml*
- *www.calstate.edu/sas/impaction-campus-info.shtml*

Campuses will communicate its supplementary admission criteria for all impacted programs to high schools and community colleges in their service area and will disseminate this information to the public

through appropriate media. This information will also be published at the CSU campus individual website and made available online at *www.calstate.edu*.

Applicants must file applications for admission to an impacted program during the initial filing period. Applicants who wish to be considered in impacted programs at more than one campus should file an application at each campus for which they seek admission consideration.

Supplementary Admission Criteria. Each campus with impacted programs or 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 AA-T or AS-T degree, 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. For fall admission, applicants should take tests as early as possible, but no later than November or December of the preceding year.

The supplementary admission criteria used by the individual campuses to screen applicants appear periodically in the *CSU Review* and are made available by the campuses to all applicants seeking admission to an impacted program. Details regarding the supplemental admissions criteria are also provided at *www.calstate.edu/AR/impaction-info.shtml*.

Graduate and Postbaccalaureate Application Procedures

All graduate and postbaccalaureate applicants (e.g., Ed.D., joint Ph.D. applicants, master's degree applicants, those seeking educational credentials or certificates, and, where permitted, holders of baccalaureate degrees interested in taking courses for personal or professional growth) must file a complete graduate application as described in the graduate and postbaccalaureate admission materials at *www.csumentor.edu*.

Graduate and post-baccalaureate applicants may apply for a degree objective, a credential or certificate objective, or where approved, may have no program objective. Depending on the objective, the CSU will consider an application for admission as follows:

- **General Requirements** - The minimum requirements for admission to graduate and post baccalaureate studies at a California State University campus are in accordance with university regulations as well as Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.
- **Specific Requirements** - 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) in the last 60 semester (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.

Applicants seeking a second bachelor's degree should submit the graduate application for admission unless specifically requested to do otherwise. Applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the $55 nonrefundable application fee. Since applicants for post-baccalaureate programs may be limited to the choice of a single campus on each application, re-routing to alternate campuses or later changes of campus choice are not guaranteed. To be assured of initial consideration by more than one campus, it is necessary to submit separate applications (including fees) to each. Applications submitted by way of *www.csumentor.edu* are preferable. An electronic version of the CSU graduate application is available online at *www.csumentor.edu*. For additional information, see the *Division of Graduate Studies.*

Returning Students

Applicants who seek readmission after an absence of one semester or more must file an application for admission. Applicants absent one semester only are exempt from the $55 application fee, providing no academic work was taken in the interim at any other institution. Students absent on an approved planned educational leave are not required to file an application for admission and are exempt from the application fee. (See *Planned Educational Leave.*)

Application Filing Periods

Each non-impacted campus accepts applications until capacities are reached. Many campuses limit undergraduate admission in an enrollment category due to overall enrollment limits. If applying after the initial filing period, consult the campus admission office for current information. Similar information is conveniently available at *www.csumentor.edu/filing_status/Default.asp*.

- Applications for the fall semester are accepted beginning Oct. 1. The initial filing period lasts until Nov. 30.
- Applications for the spring semester are accepted beginning Aug. 1. The initial filing period lasts until Aug. 31.
- Applications for the summer semester are accepted beginning Feb. 1. The initial filing period lasts until Feb. 28.

Application Acknowledgment. On-time applicants may expect to receive an acknowledgment from the campuses to which they have applied within two to four weeks of filing the application. The notice may also include a request that applicants submit additional records necessary to evaluate academic qualifications. Applicants may be assured of admission if the evaluation of relevant qualifications indicates that applicants meet CSU admission requirements, and in the case of admission impaction, and campus requirements for admission to an impacted program. Unless specific written approval/confirmation is received, an offer of admission is not transferable to another term or to another campus.

Hardship Petitions. The campus has established procedures for consideration of qualified applicants who would be faced with extreme hardship if not admitted. Petitioners should write the campus Admissions Offices regarding specific policies governing hardship admission.

Undergraduate Admission Requirements

Freshman Requirements. Generally, first-time freshman applicants will qualify for regular admission if they meet the following requirements: (1) they have graduated from high school, have earned a Certificate of General Education Development (GED), or have passed the California High School Proficiency Examination; (2) they have a qualifiable minimum eligibility index (see section on Eligibility Index); and (3) they have completed with grades of ***C*** or better each of the courses in the com-

ELIGIBILITY INDEX TABLE

for California High School Graduates or Residents of California

GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score
3.00 and above qualifies with any score			**2.66**	17	780	**2.31**	24	1060
2.99	10	510	**2.65**	17	780	**2.30**	24	1060
2.98	10	520	**2.64**	17	790	**2.29**	24	1070
2.97	10	530	**2.63**	17	800	**2.28**	24	1080
2.96	11	540	**2.62**	17	810	**2.27**	24	1090
2.95	11	540	**2.61**	18	820	**2.26**	25	1100
2.94	11	550	**2.60**	18	820	**2.25**	25	1100
2.93	11	560	**2.59**	18	830	**2.24**	25	1110
2.92	11	570	**2.58**	18	840	**2.23**	25	1120
2.91	12	580	**2.57**	18	850	**2.22**	25	1130
2.90	12	580	**2.56**	19	860	**2.21**	26	1140
2.89	12	590	**2.55**	19	860	**2.20**	26	1140
2.88	12	600	**2.54**	19	870	**2.19**	26	1150
2.87	12	610	**2.53**	19	880	**2.18**	26	1160
2.86	13	620	**2.52**	19	890	**2.17**	26	1170
2.85	13	620	**2.51**	20	900	**2.16**	27	1180
2.84	13	630	**2.50**	20	900	**2.15**	27	1180
2.83	13	640	**2.49**	20	910	**2.14**	27	1190
2.82	13	650	**2.48**	20	920	**2.13**	27	1200
2.81	14	660	**2.47**	20	930	**2.12**	27	1210
2.80	14	660	**2.46**	21	940	**2.11**	28	1220
2.79	14	670	**2.45**	21	940	**2.10**	28	1220
2.78	14	680	**2.44**	21	950	**2.09**	28	1230
2.77	14	690	**2.43**	21	960	**2.08**	28	1240
2.76	15	700	**2.42**	21	970	**2.07**	28	1250
2.75	15	700	**2.41**	22	980	**2.06**	29	1260
2.74	15	710	**2.40**	22	980	**2.05**	29	1260
2.73	15	720	**2.39**	22	990	**2.04**	29	1270
2.72	15	730	**2.38**	22	1000	**2.03**	29	1280
2.71	16	740	**2.37**	22	1010	**2.02**	29	1290
2.70	16	740	**2.36**	23	1020	**2.01**	30	1300
2.69	16	750	**2.35**	23	1020	**2.00**	30	1300
2.68	16	760	**2.34**	23	1030	Below **2.00** does not qualify for regular admission		
2.67	16	770	**2.33**	23	1040			
			2.32	23	1050			

prehensive pattern of college preparatory subject requirements (see *Subject Requirements*). Courses must be completed prior to the first enrollment in The California State University.

Eligibility Index. The eligibility index is the combination of the high school grade point average and scores on either the ACT or the SAT. Grade point averages (GPA) are 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.

A CSU Eligibility Index (EI) can be calculated by multiplying a grade point average by 800 and adding your total score on the mathematics and critical reading scores of the SAT. For students who took the ACT, multiply the grade point average by 200 and add ten 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 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 admissions tests in the computation of the CSU Eligibility Index.

Persons who did not graduate from a California high school and are not residents of California for tuition purposes need a minimum index of 3502 (SAT) or 842 (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 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.

Honors Courses. Up to eight semesters of honors courses taken in the last two 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.

Subject Requirements. 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.

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 one 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 with labs)
- 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.

Foreign Language Subject Requirement. The foreign language subject requirement may be satisfied by applicants who demonstrate competence in a language other than English, equivalent to or higher than expected of students who complete two years of foreign language study. Consult with your school counselor or any CSU campus Admissions or Relations with Schools offices for further information.

Subject Requirement Substitution for Students with Disabilities. Applicants with

disabilities are encouraged to complete college preparatory course requirements if at all possible. If an applicant is judged unable to fulfill a specific course requirement because of his or her disability, alternate college preparatory courses may be substituted for specific subject requirements.

Substitutions may be authorized on an individual basis after review and recommendation by your academic adviser or guidance counselor in consultation with the coordinator of a CSU Services for Students with Disabilities office. Although the distribution may be slightly different from the course pattern required of other students, students qualifying for substitutions will still be held responsible for 15 units of college preparatory study.

Students should be aware that failure to complete courses required for admission may limit later enrollment in certain majors, particularly those involving mathematics. For further information and substitution forms, contact the coordinator of disabled student services at your nearest CSU campus.

High School Students. High school students may be considered for enrollment in certain special programs if recommended by the principal and the appropriate campus department chair and if preparation is equivalent to that required of eligible California high school graduates. Students should have at least a 3.0 GPA in college preparatory subjects or exhibit unusual academic abilities. Such admission is only for a specific program and does not constitute the right to continued enrollment. Contact our Admissions Office.

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.

The CSU General Education-Breadth (G.E. Breadth) program allows California Community College (CCC) transfer students to fulfill lower-division general education requirements for any CSU campus prior to transfer. Up to 39 of the 48 G.E. Breadth units required can be transferred from and certified by a California community college. "Certification" is the official notification from a California community college that a transfer student has completed courses fulfilling lower-division general education requirements. The CSU GE-Breadth certification course list for particular community colleges can be accessed at *www.assist.org*.

CSU campuses may enter course-to-course or program-to-program articulation agreements with other CSU campuses and any or all of the California community colleges, and other institutions. Established CSU and CCC articulations may be found on www.assist.org. Students may be permitted to transfer no more than 70 semester (105 quarter) units to a CSU campus from an institution which does not offer bachelor's degrees or their equivalents, e.g., 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.

No more than 70 semester units may be transferred to a CSU campus from an institution which does not offer bachelor's degrees or their equivalents, e.g., community colleges. Given the university's 30-unit residency requirement, no more than 90 total units may be transferred into the university from all sources.

Conditional/Provisional Admission - Freshmen. California State University, Fresno may provisionally admit first-time freshman applicants based on their academic preparation through the junior year of high school and planned for the senior year. The campus will monitor the final two years of study to ensure that admitted students complete their secondary school studies satisfactorily, including the required college preparatory subjects, and graduate from high school. Students are required to submit an official transcript after graduation to certify that all course work has been satisfactorily completed. Official high school transcripts must be received prior to deadline set by the university. In no case may such documentation of high school graduation be received any later than the census date for a student's first term of CSU enrollment. A campus may rescind admission decisions, cancel financial aid awards, and cancel any university registration for students who are found not to be eligible after the final transcript has been evaluated.

Applicants will qualify for regular (non-provisional) admission when the university verifies that they have graduated and received a diploma from high school, have a qualifiable 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.

Transfer Requirements

Applicants who have completed fewer than 60 transferable semester college units (fewer than 90 quarter units) are considered lower-division transfer students. Applicants 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 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.

Lower-Division Transfer Requirements. Generally, applicants will qualify for admission as a lower-division transfer student if they have a grade point average of at least 2.0 (*C* or better) in all transferable units attempted.

1. Students will meet the freshman admission requirements (grade point average and subject requirements) in effect for the term to which they are applying (see "Freshman Requirements" section); or
2. Students were eligible as a freshman at the time of high school graduation except for missing college preparatory subject requirements, have been in continuous attendance in an accredited college since high school graduation, and have made up the missing subject requirements with a 2.0 or better GPA.

Applicants who graduated from high school prior to 1988 should contact the admission office to inquire about alternative admission programs. (Due to increased enrollment demands, many CSU campuses do not admit lower-division transfer applicants.)

Applicants who graduated from high school prior to 1988 should contact the Admission Office to inquire about alternative admission programs. (Due to enrollment pressures, many CSU campuses do not admit lower-division transfer applicants.)

Making Up Missing College Preparatory Subject Requirements. Lower-division applicants who did not complete subject

* Non-residents must have a 2.4 GPA or better.

requirements while in high school may make up missing subjects in any of the following ways:

1. Complete appropriate courses with a C or better in adult school or high school summer sessions.
2. Complete appropriate college courses with a C or better. One college course of at least three semester or four quarter units will be considered equivalent to one year of high school study.
3. Earn acceptable scores on specified examinations, e.g., SAT subject tests.

Please consult with the CSU campus admission office, to which you are applying for further information about alternative ways to satisfy the subject requirements. (Due to increased enrollment demands, many CSU campuses do not admit lower-division transfer applicants.)

Upper-Division Transfer Requirements. Generally, applicants will qualify for admission as an upper-division transfer student if they meet all of the following requirements:

1. They have a grade point average of at least 2.0 (***C***) or higher in all transferable units attempted; and
2. They are in good standing at the last college or university attended; and they have completed at least 60 transferable semester (90 quarter) units of college coursework with a grade point average of 2.0 or higher and a grade of ***C*** or higher 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 semester (90 quarter) units must include at least 30 semester (45 quarter) units of courses, which meet the CSU general education requirements 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.

Associate Degrees for Transfer (AA-T or AS-T) established by the Student Transfer Achievement Reform (STAR) Act (SB 1440). The Associate in Arts (AA-T) and the Associate in Science for Transfer (AS-T) degrees offered at the California Community College (CCC) are designed to provide clear pathways to corresponding CSU degree majors for CCC transfer applicants earning these degrees.

California Community College students who earn a transfer associate (AA-T or AS-T) degree 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 priority consideration 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 units.

Conditional/Provisional Admission - Transfers. California State University, Fresno may provisionally or conditionally admit transfer applicants based on their academic preparation and courses planned for completion. The campus will monitor the final terms to ensure that those admitted complete all required courses satisfactorily. All accepted applicants are required to submit an official transcript of all college level work completed. Campuses may rescind admission for all students who are found not to be eligible after the final transcript has been evaluated. In no case may such documents be received and validated by the university any later than a student's registration for their second term of CSU enrollment.

Test Requirements. 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 write to or call:

The College Board (SAT)
Registration Unit, Box 6200
Princeton, New Jersey 08541-6200
Phone 609.771.7588
www.collegeboard.org

ACT Registration Unit
P.O. Box 414
Iowa City, Iowa 52240
Phone 319.337-1270
www.act.org

English Language Requirement (TOEFL). 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 500 or above on the Test of English as a Foreign Language (TOEFL). Some majors may require a higher score. A few campuses may also use alternative methods of assessing English fluency: Pearson Test of English Academic (PTE Academic), the International English Language Testing System (IELTS), and the International Test of English Proficiency (ITEP).

A score of "Conditionally ready for college-level English courses" or "Conditional" on the CSU Early Assessment Program (EAP) taken on grade 11, provided successful completion of the Expository Reading and Writing Course (ERWC), AP English, 1B English or an English course approved for extra honors weight on the University of California "a-g" Doorways course list.

All graduate applicants must submit a minimum TOEFL score of 550, unless they have a baccalaureate degree from an institution of higher education in which English is the language of instruction. Some campuses may also use alternative methods of assessing English fluency. Graduate applicants taking the Internet version must score 80 or above.

Each campus will posts the tests it accepts on its website and will notify students after they apply about the tests it accepts and when to submit scores.

Systemwide Placement Test Requirements. The California State University requires that each entering undergraduate, except those who qualify for an exemption, take the CSU Entry Level Mathematics (ELM) examination and the CSU English Placement Test (EPT) prior to enrollment. These placement tests are not a condition for admission to the CSU, but they are a condition of enrollment. These examinations are designed to identify entering students who may need

additional support in acquiring college entry-level English and mathematics skills necessary to succeed in CSU baccalaureate-level courses. Undergraduate students who do not demonstrate college-level skills both in English and in mathematics will be placed in appropriate remedial programs and activities during the first term of their enrollment.

Students placed in remedial programs in either English or mathematics must complete all remediation in their first year of enrollment. Failure to complete remediation by the end of the first year may result in denial of enrollment for future terms. Students register for the EPT and/or ELM at their local CSU campus.

Students register for the EPT and/or ELM at their local CSU campus. Questions about test dates and registration materials may be addressed to Testing Services, 559.278.2457. (See *Academic Placement* for EPT and ELM.)

Early Start Program. For 2013, resident students would be required to participate in the Early Start Program if their ELM score is less than 50 and/or their EPT score is less than 138. By 2014, all new freshmen students who have not demonstrated college-readiness in mathematics and English will need to begin work on becoming ready for college-level English before the start of their first term.

The goals of Early Start Program are

- to better prepare students in math and English, before the fall semester of freshman year;
- to add an important and timely assessment tool in preparing students for college; and
- to improve students' chances of successful completion of a college degree.

For 2012, resident students would be required to participate in the Early Start Program if their ELM score is less than 50 and/or their EPT score is less than 138. Newly admitted freshman students who are required to complete Early Start will be notified of the requirement and options for completing the program as part of campus communications to newly admitted students.

Adult Students. As an alternative to regular admission criteria, applicants who are 25 years of age or older may be considered for admission as adult students if they meet all of the following conditions:

1. possess a high school diploma (or have established equivalence through either the General Educational Development or California High School Proficiency Examinations)
2. have not been enrolled as a full-time student for more than one term during the past five years (*Part-time enrollment is permissible.*)
3. have earned a ***C*** average or better in all college coursework attempted in the last five years

- **First time freshman**: completion of at least high school level intermediate algebra and high school college prep level English.
- **Lower-division transfer**: completion of at least intermediate algebra at the college level and completion of English composition at the college level.
- **Upper-division transfer**: a student with 56 or more transferable units does not qualify for special admission through this program and must meet all regular admission requirements.

Consideration will be based upon a judgment as to whether the applicant is as likely to succeed as a regularly admitted freshman or transfer student and will include an assessment of basic skills in the English language and mathematical computation. For information, call the Reentry Office at **559.278.1787.**

Graduation Requirements in Writing Proficiency. 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 Evaluations Office or the Testing Office.

Appeal of Admission Decision. Section 89030.7 of the California Education Code requires that the California State University 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.

Graduate and Postbaccalaureate Admission Requirements

See *Division of Graduate Studies.*

International (Foreign) Students

The California State University must assess the academic preparation of foreign students. For this purpose, "foreign students" include those who hold U.S. temporary visas as students and exchange visitors, or in other nonimmigrant classifications.

The CSU uses separate requirements and application filing dates in the admission of "foreign 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 foreign institutions must be on file by the deadline (see application deadlines in the copy that follows) for the first term and, if not in English, must be accompanied by certified English translations.

Applicants must have completed a comprehensive pattern of college preparatory courses. Verification of English proficiency (see the section on TOEFL requirement) and academic performance are required. Applicants who are seeking admission from American secondary or post-secondary schools must fulfill all requirements (see *Admission Requirements*).

No admission decision will be made until required materials have been submitted to International Admissions.

Application Forms. All foreign students requesting admission for undergraduate or graduate study at California State University, Fresno must complete and file the international student application. Applicants must submit the following:

- an international application
- a $55 nonrefundable processing fee (note that checks must be drawn on a U.S. bank account)
- a current official bank statement from financial sponsor

- an official TOEFL score taken no earlier than two years prior to attendance at California State University, Fresno
- official original or certified true copies of academic documents and other school records in the native language and in English translation

Graduate students must also submit current GMAT/GRE scores and letters of recommendation.

All documents submitted become the property of California State University, Fresno and will not be returned. They will be kept permanently for those students who actually attend; however, documents for those students who do not enroll will be retained for only one year.

Application Deadlines. The international application, fee, and all required documents, transcripts, and test scores must be received no later than:

Semester	Undergraduate	Graduate
Fall	**June 1**	**March 1**
Spring	**November 1**	**October 1**

Academic credentials will be evaluated for academic eligibility in accordance with the general regulations governing admission to California State University, Fresno. Additionally, applicants must demonstrate English proficiency. (See *TOEFL* next section.)

Graduate applications will be reviewed by the individual academic departments to determine eligibility for the requested graduate program.

TOEFL. To ensure that students are prepared to take advantage of the educational opportunities available at California State University, Fresno, each international student who must submit TOEFL scores will be required to participate in a post-admission testing program. The test will be administered during orientation immediately before the student's first matriculated semester. The purpose of the testing program (e.g. the University English Exam) is to assess strengths and weaknesses in written English. As a result of the post-admission testing, a student may be required to enroll in certain English as a Second Language (ESL) courses. TOEFL will be waived for those students who hold a bachelor's degree from a U.S. university.

An undergraduate student whose academic qualifications are acceptable, but who has not achieved an acceptable TOEFL score, may be granted a conditional admission. Such a student must obtain an I-20 form (Certificate of Eligibility) from an English language school and attend an English as a Second Language (ESL) program. In order to transfer from a language school to California State University, Fresno, a conditionally admitted student must present an official TOEFL score of 500 on the pencil-based exam or 173 on the computer-based exam, on a test taken within the last two years. (See also *TOEFL Requirement*, pages 54.)

Insurance Requirement. Effective August 1, 1995, as a condition of receiving an I-20 or IAP-66 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 Information Agency (USIA) and NAFSA: Association of International Educators. The campus president or designee shall determine which insurance policies meet these criteria. Further information may be obtained from the International Student Services and Programs Office at 278.2782

Determination of 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 68000-68090, 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 California State University's website at *www.calstate.edu/GC/resources.shtml*

Each campus's 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 one full year 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 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 dependence on parents or others who do not meet university requirements for classification as residents for tuition purposes. Financial independence is required, along with physical presence and intent, to be eligible for reclassification.

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.

Exceptions to the general residency requirements are contained in California Education Code sections 68070-68084 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906-41906.5, 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 years of high school in California and graduated or attained the equivalent. 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 adviser.

Residency determination dates are set each term. They are as follows:

Quarter Term Campuses

Fall ..... September 20
Winter ..... January 5
Spring ..... April 1
Summer ..... July 1

Semester Term Campuses

Fall ..... September 20
Spring ..... January 25
Summer ..... June 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

There are exceptions from nonresident tuition, including the following:

1. A student below the age of 19 whose parents were residents of California and left the state while the student, who remained, was still a minor. When the minor reaches age 18, the exception continues until the student has resided in the state the minimum time necessary to become a resident.
2. Minors who have been present in California with the intent of acquiring residence for more than a year before the residence determination date and have been entirely self-supporting for that period of time. The exception continues until the student has resided in the state the minimum time necessary to become a resident.
3. Persons below the age of 19 who have lived with and been under the continuous direct care and control of an adult or adults, not a parent, for the two years immediately preceding the residence determination date. Such adult must have been a California resident for the most recent year. The exception continues until the student has resided in the state the minimum time necessary to become a resident.
4. Dependent children and spouse of a person in active military service stationed in California on the residence determination date. There is no time limitation on this exception unless the military person transfers out of California or retires from military service. If either of those events happen, the student's eligibility for this exception continues until the student resides in the state the minimum time necessary to become a resident.
5. Military personnel in active service stationed in California on the residence determination date for purposes other than education at state-supported institutions of higher education. This exception continues until the military personnel has resided in the state the minimum time necessary to become a resident.
6. Military personnel in active service in California for more than one year immediately prior to being discharged from the military. Eligibility for this exception runs from the date the student is discharged from the military until the student has resided in the state the minimum time necessary to become a resident.
7. Dependent children of a parent who has been a California resident for the most recent year. This exception continues until the student has resided in the state the minimum time necessary to become a resident, so long as continuous attendance is maintained at an institution.
8. Graduates of any school located in California that is operated by the United States Bureau of Indian Affairs, including, but not limited to, the Sherman Indian High School. The exception continues so long as continuous attendance is maintained by the student at an institution.
9. Certain credentialed, full-time employees of California school districts and students who have attended high school in California and graduated or attained the equivalent.
10. Full-time state university employees and their children and spouses; state employees assigned to work outside the state and their children and spouses. This exception continues until the student has resided in the state the minimum time necessary to become a California resident.
11. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties.
12. Certain amateur student athletes in training at the United States Olympic Training Center in Chula Vista, California. This exception continues until the student has resided in the state the minimum time necessary to become a resident.
13. Federal civil service employees and their natural or adopted dependent children if the employee has moved to California as a result of a military mission realignment action that involves the relocation of at least 100 employees. This exception continues until the student has resided in the state the minimum time necessary to become a resident.
14. State government legislative or executive fellowship program enrollees. The student ceases to be eligible for this exception when the student is no longer enrolled in the qualifying fellowship.

Students classified as nonresidents may appeal a final campus decision within 120 days of notification by the campus. A campus residency classification appeal must be in writing and submitted to the following address: **The California State University, Office of General Counsel, 401 Golden Shore, 4th Floor, Long Beach, CA 90802-4210.**

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 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.

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.

Registration Process

Program Planning and Registration

Freshmen should plan their programs early, beginning, when practical, with the selection of a major. Degree requirements in each major are listed under the appropriate department. Major information sheets are available for most of our majors. If you are undecided about a major, indicate *Undeclared* on the appropriate forms until a definite decision is reached. For general information, see *Degree Requirements.*

Regular advising is key to the successful and timely completion of a degree. Depending on the major department's procedure, an academic adviser is assigned to each student, or selected by the student. The Office of Advising Services (Joyal Administration Building, Room 224) advises undeclared majors and can advise all students on General Education and non-major related degree requirements. (See *Advising*.) At a minimum, all undergraduate students are expected to review their "roadmap" to graduation with an adviser from their major department by the end of the term in which they complete 75 units. Some departments require advising earlier and more often.

Undergraduate students entering the university without a major are strongly encouraged to declare a major before the end of the term in which 45 units are completed toward a degree. Students *must* declare a major no later than the term in which 60 units are completed. Undergraduate transfer students with 60 or more units must declare a major upon entry or before course registration begins for their second semester at the university. Students may contact the Office of Advising Services for further information (Joyal Administration Building, Room 224, or call 278.1787).

It is recommended that all students meet with a faculty adviser once each semester before registering for classes. A faculty adviser assists the student in planning an academic program, but the primary responsibility for meeting all graduation requirements is the student's.

Recommended Preparation

Freshmen. Overall excellence of performance in high school subjects and evidence of academic potential provide the basis for admission at California State University, Fresno.

Since certain academic majors require high school preparation in definite subjects, the student should consult the requirements indicated in the field of his or her choice.

In university majors, such as engineering, natural science, mathematics, social science and humanities, a maximum number of high school credits should be obtained in appropriate preparatory subjects.

Transfer Students. Students intending to transfer to California State University, Fresno should plan their transfer programs to meet our General Education and major degree requirements. Students transferring from a California community college should complete as many of the CSU General Education requirements of that college as possible while keeping in mind that a maximum of 70 transferable units is allowed from two-year institutions (community/junior colleges). A General Education Certification (requested only from California public community/junior colleges and California State University campuses) should be sent to California State University, Fresno along with the final transcripts. Earning an A.A. or A.S. degree does not necessarily mean one has fulfilled CSU admission and/or General Education requirements.

After admission to California State University, Fresno, transfer students with a declared major, entering with 40 or more units will receive a copy of their advanced standing evaluation, indicating how previous college units have been applied toward degree requirements at California State University, Fresno. Questions about one's evaluation should be directed to the student's adviser or the Evaluations Office. It is recommended that transfer students bring with them an unofficial copy of all previous college transcripts and their CSU General Education Certification when attending New Student Orientation - Dog Days to ensure accurate advising.

Registration

Registration is open to new and returning students who have been admitted and to eligible continuing students in good standing. A continuing student is eligible to register for two subsequent semesters if he/she was enrolled by the eleventh day of instruction and had paid registration fees for the previous semester. Therefore, a continuing student can "stop out" for one semester and still maintain registration eligibility and priority without the need to reapply for admission or without the need to request and educational leave of absence. Students must make progress toward fulfillment of degree requirements to remain in good standing. Students who enroll and withdraw and do not complete coursework for two or more consecutive semesters may lose their continuing student status. Former California State University, Fresno students returning after an absence of two or more semesters must apply for readmission, subject to university enrollment limitations and filing deadlines, and they are required to pay the $55 application fee when applying. The *Academic Calendar* lists dates of registration.

Registration is complete only when all class selection through registration is finalized and all fees are paid. See the *Academic Calendar* for all deadline dates.

Registration appointment date and time for all students is determined by the number of academic units completed with limited exceptions. After a priority group is processed, then assignments are made based on the highest number of completed units.

Registration in courses offered by some colleges/schools or departments may be restricted to students officially enrolled in certain majors and/or class levels. It is essential that each student's current major be correctly recorded in the university's records. Failure to do so may result in enrollment difficulties. It is the student's responsibility to be sure his or her major is correct. Undergraduate major changes can be made at the Admissions/Records service windows, Joyal Administration Building, North Lobby; postbaccalaureate

and graduate changes at the Division of Graduate Studies Office.

Class Schedule. The Class Schedule is available online each semester with registration procedures, courses offered, class hours and locations, and other important deadlines and updated policy changes as applicable. The schedule is available at *my.csufresno.edu*.

Full-time/Part-time Students. Students taking at least 75 percent of the normal academic load are considered full-time students. Since the normal academic load is 15 semester hours, students carrying 12 or more semester hours are full-time students. For purposes of financial aid, graduate (200-level) courses are weighted for graduate students. Each graduate unit attempted by a graduate student is considered as 1.5 units.

Full-time ..... 12 or more units
Three-quarter time ..... 9 to 11.5
Half-time ..... 6 to 8.5

Veterans Certification. The Registrar's Office acts as liaison to the Veterans Administration, the State Department of Veterans Affairs, and other related agencies for veterans, dependents, or reservists eligible to receive educational benefits. A student may obtain information and assistance regarding certification of benefits, V.A. Work Study, advance pay, and processing of tutorial assistance paperwork by visiting the Admissions and Records Office, North Lobby, Joyal Administration Building, Room 121, or by calling 559.278.7030.

Concurrent Registration at a Non-CSU College or University. While enrolled at California State University, Fresno, students may enroll for additional courses at another institution outside the CSU system. The courseload in the combined enrollment program may not exceed the maximum unit load restrictions for California State University, Fresno.

Concurrent Registration at Another CSU Campus. A continuing undergraduate student who has completed a minimum of one semester of 12 units on the Fresno campus and is in good standing with a grade point average of 2.0 or better in all work completed at Fresno State; or a graduate student who has been and is in an authorized graduate program in good standing may enroll concurrently at another CSU campus without any additional fees. Complete information is available in the Office of the Registrar.

Visitor Registration at Another CSU Campus. A continuing undergraduate student who has completed a minimum of one semester of 12 units and has attained a grade point average of 2.0 or better in all work completed at Fresno State, or a continuing graduate student who has completed one semester and is admitted to an authorized graduate program, may register and pay fees at another CSU campus for one semester without applying for admission to that campus. Complete information is available in the Office of the Registrar.

Excess Unit/Enrollment Restrictions — Undergraduate. Undergraduate students are cautioned against registering for more than 18 units without consulting with an adviser, since more than 18 units is generally considered to be an academic overload. A limit of 16 units applies to graduate students. See the *Class Schedule* for details.

To register for 19 units, an undergraduate student must have an overall grade point average of 2.5; for 20 to 22 units, a student must have an overall grade point average of 3.0. Exceptions to these limits must be approved by the chair of the student's major department. An absolute limit of 22 units (excluding credit by examination units) is enforced and may be waived only with the approval of the dean of the college/school of the student's major and the dean of Undergraduate Studies.

An academic department may restrict enrollment by requiring students to drop a class if the student has been disqualified from the major or the student has not achieved a ***C*** average in the major or has not met the stated course prerequisites. This is especially true in academic areas that are impacted or are in high demand.

Enrollment in upper-division courses is normally restricted to students with junior, senior, or graduate standing or who have the necessary prerequisites. Exceptions are subject to the approval of the instructor and department chair. Only students who have been fully approved for admission to credential programs may enroll in certain education courses and qualify for a school service credential on the basis of the university's recommendation.

Credit in any course is also subject to all restrictions that may appear in our *General Catalog*.

Excess Units/Enrollment Restrictions — Postbaccalaureate/Graduate. To enroll in 17 or more units, master's degree students must demonstrate a cumulative GPA of 3.0 or better; credential students must demonstrate a minimum GPA equivalent to the admission standards of their individual credential program. However, if the credential program requires enrollment in graduate-level (200-series) coursework, the students must demonstrate a 3.0 GPA or better. Second baccalaureate/second undergraduate major/nonobjective students may enroll in 19 units if they possess a GPA of 2.5; 3.0 for 20-22 units. Graduate-level (200-series) courses are unavailable to second baccalaureate/major and nonobjective students.

Change of Major. Each undergraduate student who wishes to change his or her major must do so at the Admissions/Records service windows, Joyal Administration Building, North Lobby, to initiate the procedure. New graduate and postbaccalaureate students should report to the Graduate Admissions Office and continuing graduate and postbaccalaureate students should report to the Division of Graduate Studies Office.

Adding/Dropping Courses. After initial registration, a student may continue to ***add classes*** up through the tenth day of instruction without permission. After the tenth day of instruction and through the 20th day of instruction, all adds require permission from the instructor or the department. After the official census date (20th day of instruction) adding is no longer allowed.

A student may ***drop a course*** without permission up through the 20th day of instruction. After the 20th day of instruction, a student may drop a course for a serious and compelling reason that makes it impossible for the student to complete course requirements. A serious and compelling reason is defined as an unexpected condition that is not present prior to enrollment in the course that unexpectedly arises and interferes with a

student's ability to attend class meetings and/or complete course requirements. The reason must be acceptable to and verified by the instructor of record and the department chair in which the course is offered. The condition must be stated in writing on the appropriate form. The student must provide documentation that substantiates the condition. Failing or performing poorly in a class is not an acceptable serious and compelling reason within the university policy, nor is dissatisfaction with the subject matter, class or instructor. During the final three weeks of instruction, dropping an individual course is not permitted unless special approval is given by the dean of Undergraduate Studies in cases such as accident or illness where the cause of the drop is due to circumstances beyond the student's control. If the student has completed a significant portion of the required coursework, incomplete grades are often assigned.

Complete Withdrawal. A student may totally (completely) withdraw from all courses up through the fourth week of instruction without any restriction or penalty. Complete withdrawal after the fourth week of instruction and up to the last three weeks of instruction, are only approved for a documented serious and compelling reason. Permission to withdraw during this time shall be granted only with the approval of each individual instructor(s) and the department chair(s) of the department in which each course is offered. ***Undergraduate students will not be allowed to withdraw from more than a total of 18 semester units during their undergraduate career at Fresno State***. Complete withdrawal during the last three weeks of instruction is not permitted. Exceptions are only allowed where the cause of the withdrawal is due to circumstances clearly beyond the student's control and the assignment of incomplete grades in all classes is not practical. Students are responsible for obtaining the approval of the instructors of each of their courses, the department chairs for the department in which the courses are offered, and the Dean of Undergraduate Studies or the Dean of Graduate Studies, as appropriate. ***The 18 units limit, described above, does not apply when the withdrawal is approved during the last three weeks of the semester***.

If a student withdraws through the first four weeks of instruction, only the date of withdrawal is posted on the permanent record. If the student withdraws after the first four weeks, a *W* is posted for each class as well as the official date of withdrawal. For purposes of subsequent registration and catalog determination, students are considered as having been enrolled for that semester.

A student who withdraws from the university after the tenth day of instruction and who is in good academic standing (not disqualified) is eligible to enroll the following two semesters without reapplying for admission. A student not enrolled for two or more consecutive semesters must reapply and pay the application fee. Contact the Evaluations Office regarding possible consequences if you remain away from California State University, Fresno more than one calendar year.

Consult the Admissions, Records, and Evaluations Web site at *www.fresnostate.edu/are* for specific withdrawal instructions, procedures and deadlines.

Request for Record Adjustment. The university recognizes that on rare occasions students will experience exceptional situations that prohibit them from completing some procedures in a timely manner. A student may petition for a record adjustment if a documented hardship occurred during the term for which the adjustment is requested, or in instances where the student will suffer a significant academic hardship if the request is not granted. Contact the Admissions and Records Office for further information.

Nonattendance. During the first week of classes, it is the responsibility of students to attend each class meeting of courses in which they are enrolled. Students absent from any class meeting during this period are responsible for personally contacting their instructor by the next class meeting to request being retained in the class.

In addition, as a courtesy to other students attempting to add and as a courtesy to the faculty, students who decide to drop a class should do so immediately. Students must not assume that instructors will exercise their option to submit an Administrative Withdrawal. In short, it still is the responsibility of the student to withdraw properly from any class he/she does not intend to complete. Failure to withdraw will result in the assignment of the appropriate failing grade, *WU* or *NC*.

Further, in order to permit students on waiting lists to enroll in a class, instructors may administratively withdraw from their classes students who are absent from any class session during the first week of classes and do not personally notify the instructors by the next class meeting of their intent to remain in the course.

Repetition of Courses. An undergraduate student can repeat only 28 total units during their undergraduate career. Of those 28 units, 16 units can be used toward grade substitution and 12 units can be used toward grade averaging. Grade substitution is the circumstance in which the new grade replaces the former grade (see policy on grade substitution). Grade substitution is not applicable to courses for which the original grade was the result of a finding of academic dishonesty. Grade averaging is when the repeat grade shall not replace the original grade; instead both grades shall be calculated into the student's overall grade point average. Undergraduate students can only repeat courses for which the original grade earned is lower than a *C*.

Preprofessional Preparation

Preprofessional Preparation

Preprofessional programs are available for students who plan to transfer to other institutions for the completion of professional curricula in such fields as law, medicine, veterinary medicine, pharmacy, dentistry, optometry, architecture, theology, librarianship, chiropractic therapy, osteopathic medicine, and podiatric medicine. Some of these programs are described here.

Students planning to complete a preprofessional program and degree at California State University, Fresno must complete a major offered at this university. They should include their preprofessional area plus their university major on all registration forms; for example, premedical-chemistry, premedical-biology, prelaw-history, prelaw-political science. There are no preprofessional majors per se. Instead, preprofessional students work toward various university degrees and while doing so, incorporate into their college programs courses required for entry into professional schools.

Careful program planning is important in order to select proper classes and complete requirements in a timely way. Regular advising is essential since professional schools change their requirements occasionally. Preprofessional students should contact their respective major and preprofessional advisers before enrolling in classes each semester to stay abreast of changes.

Students considering a preprofessional program and degree in a major within the College of Science and Mathematics may contact the Science and Health Careers Information Center at 559.278.4150, Science I, Room 136, *www.fresnostate.edu/shcic*, for more information.

A current list of preprofessional advisers is available in the Office of Advising Services, Joyal Administration Building, Room 224. For more information, call Advising Services, **559.278.1787** or fax **559.278.1895.**

Preclinical laboratory sciences. Students interested in a medical career in clinical laboratory science (CLS) can satisfy their pre-CLS requirements at California State University, Fresno. Successful completion of the following is required: CHEM 1A-B, CHEM 105, CHEM 128A-B, CHEM 129A, CHEM 150, BIOL 1A-1B, BIOL 120, BIOL 121, BIOL 157 and 157L, BIOL 164, and PHYS 2A-B. Several other upper-level BIOL and CHEM courses are highly recommended; for details, consult a pre-CLS adviser and consult education coordinators at hospitals with one-year CLS training programs.

Dr. Fred Schreiber, Biology Department
559.278.8756; FAX: 559.278.3963
e-mail: fred_schreiber@csufresno.edu

Predental. The minimum training for dentistry is a seven-year course — the first three years (90 units) of predental training in a college or university and the remaining four years (dental training) at a school of dentistry.

However, most students are not accepted by dental schools until four years of college are completed. Due to the large number of applicants, students who do not have better than a 3.5 GPA should earn a bachelor's degree before applying to a dental school. Majors that are most compatible with required classes are in the sciences, particularly biology and chemistry. However, as long as the required preprofessional courses are completed, any major is acceptable.

The minimum predental program required by accredited dental schools is one year each of English, general chemistry, physics, and biology, plus one semester (and often one year) of organic chemistry. Check with each dental school for specific additional requirements like psychology. The Dental Admission Test (DAT) is required. Many dental schools also require a personal interview; some schools administer additional tests. For other information, contact a predental adviser and consult dental school catalogs or the American Dental Education Association at *www.adea.org*

Dr. Fred Schreiber, Biology Department
559.278.8756; FAX: 559.278.3963
e-mail: fred_schreiber@csufresno.edu

Dr. Saeed Attar, Chemistry Department
559.278.2639; FAX: 559.278.4402
e-mail: sattar@csufresno.edu

Dr. Laurent Dejean,
Chemistry Department
559.278.2008; FAX: 559.278.4402
e-mail: ldejean@csufresno.edu

Prehealth careers. Advisement is available for students interested in preparing for health careers in occupational therapy, chiropractic medicine, radiological technology, related areas, or as a physician's assistant. While these programs are not offered at California State University, Fresno, most, if not all, prerequisites are. Students should seek academic and career advisement early in their academic programs.

For preoccupational therapy and other prehealth careers, see the Interdisciplinary Health and Rehabilitation Sciences (IHRS) major, under the Physical Therapy Department, or contact the **IHRS undergraduate adviser, Dr. Cheryl Hickey, 559.278.3030.** Students seeking information on other undergraduate and graduate allied health programs not offered at this campus may contact the College of Health and Human Services:

Penny Lacy, Academic Adviser
College of Health and Human Services
McLane Hall, Room 194
559.278.4004; FAX: 559.278.6360

Prelegal. Most fully accredited law schools require a bachelor's degree for admission. Since a prelegal program providing a broad cultural background is recommended by the law schools, any baccalaureate major, depending on the student's interest, may be chosen from the university offerings. (See *Degree Programs, Majors and Minors.*) Law schools suggest courses, but not necessarily a major, in the following: written and oral English, American and English constitutional history, world history, accounting, business administration, elementary logic, mathematics, statistics, economics, political science, philosophy, science and foreign language. A score on the Law School Admission Test (LSAT) is required before students can be accepted into law school. It is recommended that the LSAT be taken no later than December of the student's senior year. In addition, most law schools require a personal statement and letters of recommendation that address academic skills and preparation for the study of law. For further information consult a prelaw adviser and law school catalogs.

For a list of prelaw advisers,
contact the Office of Advising Services
in Joyal Administration, Room 224.
559.278.1787; FAX: 559.278.2323

Prelibrarianship. Librarianship offers many career opportunities to people of different academic backgrounds, interests, and talents. Librarianship is the profession that collects, organizes, and preserves the records of society and provides access to them. Librarians work with a wide variety of people and materials (books, music, media, databases, maps, archives and more). Professional opportunities include service in academic, public, and school libraries as well as libraries and information centers in corporations, medical/research centers, law firms, and museums. Librarians also work in Web development, information systems, knowledge management, and publishing. Constantly changing technologies offer new opportunities such as the recent applications of digital media to archives and preservation. Education for entry level positions in library and information studies is the master's degree. Entrance requirements for these programs vary, but usually

require an understanding of computers and technology.

For additional information about library schools, their requirements and programs, and library career opportunities, contact the prelibrarianship adviser.

Kimberley Robles Smith,
Henry Madden Library
559.278.4578; FAX: 559.278.6952
e-mail: kimberle@csufresno.edu

Premedical. Requirements for admission to medical school vary somewhat from one medical school to another and change from time to time, but a well-balanced liberal education is usually specified. Any major will do; choose a major according to your interests. Some aptitude and university training in science and English are essential in medicine. The minimum requirements in these subjects specified by most medical schools can be satisfied by specific courses in biology (BIOL 1A-B), chemistry (CHEM 1A-B, 128A-B, 129A and often 129B), physics (PHYS 2A-B), and two semesters of English. A course in biochemistry is often required or strongly recommended. Courses in physiology, genetics, molecular biology, immunology, and cell biology may be helpful in preparation for the Medical College Admission Test (MCAT). Also, some facility with mathematical concepts is usually expected; one semester of calculus and one semester of statistics will meet the requirements for most medical schools. Because of competition for admission to medical schools, a grade point average of about 3.6 is highly desirable. The MCAT is required before students can be accepted into medical school. It is recommended that the MCAT be taken and application for medical school be made at least one year before anticipated matriculation into medical school.

Students considering a career in medicine should review the information at *www.fresnostate.edu/premed.* For consultation on a course of study and on becoming a competitive medical school applicant, contact a premedical adviser.

Dr. David Frank, Chemistry Department
559.278.2273; FAX: 559.278.4402
e-mail: davidf@csufresno.edu

Dr. Amir Huda, Physics Department
559.278.1766; FAX: 559.278.7741
e-mail: ahuda@csufresno.edu

Preoptometry. California State University, Fresno provides courses for the completion of preprofessional requirements of an optometry program. Most professional schools require junior standing and coursework which includes two years of biology and chemistry as well as one year of mathematics, physics and English, and one semester of psychology and statistics with above-average scholarship. The Optometry Admission Testing Program (OAT) exam is required before application can be made to optometry school.

Application should be made one year in advance of anticipated enrollment.

For further information, see optometry school catalogs and consult the preoptometry adviser.

Dr. Daqing Zhang, Physics Department
559.278.7096; FAX: 559.278.7741
e-mail: dzhang@csufresno.edu

Prepharmacy. California State University, Fresno provides prepharmacy coursework to prepare a student for admission into a four-year pharmacy program. All new and transfer students should indicate an interest in prepharmacy on application, admittance, and registration papers. Admission to most pharmacy schools now requires a ***B+*** average or better in a minimum of 60 semester units, including one year each of general chemistry, organic chemistry, physics, calculus, biology, and English composition. Certain schools may have additional specified requirements. Although some students gain admission to pharmacy school after two or three years of undergraduate study, most students are not accepted until they have completed four years of college. Students, especially those without a high cumulative grade point average, should plan to graduate with a bachelor's degree before entering a pharmacy program. Majors that are most compatible with required classes are in the sciences, particularly biology and chemistry. However, as long as the required preprofessional courses are completed, any major is acceptable. For further information, see a prepharmacy adviser and consult pharmacy school Web sites (*www.aacp.org*).

Dr. Paul Crosbie, Biology Department
559.278.2074; FAX: 559.278.3963
e-mail: pcrosbie@csufresno.edu

Dr. Shirley Kovacs, Biology Department
559.278.2001; FAX: 559.278.3963
e-mail: shirleyk@csufresno.edu

Dr. Joy Goto, Chemistry Department
559.278.2530; FAX: 559.278.4402
e-mail: jgoto@csufresno.edu

Dr. Santanu Maitra, Chemistry Department
559.278.2961; FAX: 559.278.4402
e-mail: smaitra@csufresno.edu

Dr. Prudence Lowe,
Computer Science Department
559.278.7074; FAX: 559.278.4197
e-mail: plowe@csufresno.edu

Preveterinary. Students preparing for the veterinary profession can satisfy their preveterinary curriculum requirements at California State University, Fresno. A minimum of 60 semester units of required courses must be taken prior to acceptance into a veterinary school program. Most students combine the required science courses with General Education and major requirements as they work toward a bachelor's degree in either animal sciences or biology. In addition to performance in required classes, prospective veterinary students are evaluated by their performance on the general portion of the Graduate Records Examination which is to be taken within five years of veterinary school application.

All students interested in veterinary medicine are encouraged to take ASCI 68, Preveterinary Orientation (taught each fall in the Department of Animal Sciences and Agricultural Education), for updated information regarding admission requirements and policies. Courses recommended by the Department of Animal Sciences and Agricultural Education for its majors preparing for veterinary school include ASCI 135, 155, 165; BIOL 1A, 1B, 20, 102, 104, 162 and 162L; CHEM 1A, 1B, 128A-B, 129A, 150; and PHYS 2A, 2B. Preveterinary students completing a degree in biology should take the following courses recommended by the Department of Biology: BIOL 1A, 1B; CHEM 1A, 1B; PHYS 2A, 2B; CHEM 128A-B, CHEM 129A-B; CHEM 150; BIOL 102, 104; and BIOL 162 and 162L, or BIOL 163. In addition, a statistics class, two writing classes, and a speech class are required by most veterinary schools.

The Jordan College of Agricultural Sciences and Technology is equipped to provide valuable experience with large animals through the labs and projects at the university farm laboratory. Admission to veterinary school in California requires a minimum of about 4.5 week equivalents (180 hours) of relevant veterinary experience in activities that specifically give the applicant an appreciation and understanding of the profession of veterinary medicine. For further information, contact the chair of the Animal Sciences Department, the campus veterinarian, and/or the adviser in the Biology Department.

Dr. Paul R. Crosbie, Biology Department
559.278.2074; FAX: 559.278.3963
e-mail: pcrosbie@csufresno.edu

Fees and Expenses

Tuition and other fees are subject to change without notice.

Student Fees*

Students are required to pay tuition and other fees (as indicated in the chart in this section), course fees, and nonresident/foreign tuition. General authority governing most fees is contained in the California Education Code, Sections 89700 and 89724.

Course Fees

Course fees are provided in the "class notes" after each subject listing in the *Class Schedule*. Fees may range from $4 to $1,000 depending on the course.

Nonresident and Foreign Tuition Fee[2]

Nonresidents and foreign students are required to pay the nonresident tuition fee in addition to tuition and other fees. The nonresident tuition fee is charged at **$372 per unit**. General authority of this fee may be found in the California Education Code, Section 89705. The total nonresident tuition fee paid per term will be determined by the number of units taken.

Professional Program Fee

A semester fee of $254 is paid on a per unit basis in addition to tuition and other fees for the following graduate business programs: Master of Business Administration (M.B.A) and a Master of Science (M.S.) in Accountancy, Business Administration, Health Care Management, Business and Technology, Information Systems, or Taxation. For exemptions, see fee waivers.

Doctorate Tuition Fees*

Education (all students)..... **$5,559**

Nursing Practice (all students)..... **$7,170**

Physical Therapy (all students) **$8,074**

* Applicable term fees apply for campuses with special terms, as determined by the campus.

Extension Program Fees

(subject to change by the Campus Fee Committee)

Extension, per unit
Lecture or discussion course ..... **$0-$300**

Open University, per unit **$295**

Special Sessions per unit .....**varies**

Miscellaneous Fees

Application Fee
Nonrefundable **$55**

Credential Fee (*collected for Commission on Teacher Credentialing*)
Amount varies. Contact the Credential Office, Kremen School of Education and Human Development .....**varies**

Diploma Reissue Fee **$20**

Graduation Application Fee
(bachelor's or master's) **$35**

Parking Permit Prices for Students
Automobile per semester.....**$93**
Motorcycle per semester **$17**
Automobile fall/spring.....**$186**
Motorcycle fall/spring.....**$34**
Automobile summer.....**$44**
Motorcycle summer.....**$11**

Penalty Fees
Check return fee **$20**
Late registration **$25**
Failure to meet administratively required appointment or time limit **$10**
Lost or broken items ..... **replacement cost**
Lost library items..... **replacement cost plus $10 service charge**
Damaged library items..... **replacement cost plus $10 service charge**

Programming Fee
Fee is assessed to corporate and governmental sponsors of international students for required additional services (not a state fee).....**$250**

Refund Processing Fee **$5**

Transcript of Record
$4 first copy.....**$4**
($2 each additional copy)

Credit Cards

Visa and MasterCard bank credit cards may be used for payment of student fees at the university Cashier's Office. In addition, American Express, Diners Club, Discover, and MasterCard may be used via SmartPay.

Refund of Mandatory Fees, including Nonresident Tuition

Regulations governing the refund of 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 California State University. Refunds of fees and tuition charges for self-support, special session, and extended education programs or courses at the California State University are governed by a separate policy established by the university.

In order to receive a full refund of mandatory fees (less an administrative charge established by the campus), including nonresident tuition, a student must cancel registration or drop all courses prior to the first day of instruction for the term. Information on procedures and deadlines for canceling registration, and dropping classes is available in the Schedule of Classes.

For state-supported semesters, quarters, and non-standard terms or courses of four weeks or more, a student who withdraws during the term in accordance with the university's established procedures will receive a refund of 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.

For state-supported non-standard terms or courses of less than four weeks, no refunds of mandatory fees and nonresident tuition

Business Office

Anthony Forestiere, *University Controller*

Joyal Administration, Room 152

559.278.2764

---

[1] This catalog copy reflects applicable systemwide tuition, nonresident tuition, and other fees. (Tuition and other fees are subject to change without notice.)

[2] A nonresident student is any person who has not been a bona fide resident of the state of California for more than one year immediately preceding enrollment. The exact determination date may be ascertained by contacting the Admissions/Records Office.

[3] The law governing the CSU provides that a student body fee may be established by student referendum with the approval of two-thirds of those students voting. The Student Body Fee was established at California State University, Fresno by student referendum on May 12, 1959. The same fee can be abolished by a similar two-thirds approval of students voting on a referendum called for by a petition signed by 10 percent of the regularly enrolled students. (*California Education Code*, Section 89300). The level of the fee is set by the chancellor. An increase in the student body fee may be approved by the chancellor only following a referendum on the fee increase approved by a majority of students voting. Student body fees support a variety of cultural and recreational programs, child care centers, and special student support programs.

[4] Mandatory systemwide fees are waived for those individuals who qualify for such exemption under the provisions of the California Education Code (see section on fee waivers).

[5] Students are charged campus fees in addition to tuition fees and other systemwide fees. Information on campus fees can be found by contacting the individual campus(es).

TUITION AND OTHER FEES PER SEMESTER (all students)						
	Undergraduate		Credential Program		Graduate/Postbaccalaureate	
	0-6 units	6.1 or more units	0-6 units	6.1 or more units	0-6 units	6.1 or more units
Facility Fee	$3	$3	$3	$3	$3	$3
Health Service Fee	$103	$103	$103	$103	$103	$103
Instructionally Related Activities Fee	$132	$132	$132	$132	$132	$132
Student Academic Service Fee	$18	$18	$18	$18	$18	$18
Student Body Fee	$34.50	$34.50	$34.50	$34.50	$34.50	$34.50
Bulldog Card Fee	$5	$5	$5	$5	$5	$5
University Student Union Fee	$112	$112	$112	$112	$112	$112
Tuition Fee	$1,587	$2,736	$1,842	$3,174	$1,953	$3,369
Total	**$1,994.50**	**$3,143.50**	**$2,249.50**	**$3,581.50**	**$2,360.50**	**$3,776.50**

- The CSU makes every effort to keep student costs to a minimum. Fees listed in published schedules or student accounts may need to be increased when public funding is inadequate. Therefore, CSU must reserve the right, even after initial fee payments are made, to increase or modify any listed fee, without notice, until the date when instruction for a particular semester or quarter has begun. All CSU listed fees should be regarded as ***estimates*** that are subject to change upon approval by the Board of Trustees. The following reflects applicable systemwide fees. ***These rates are subject to change.***
- Questions pertaining to your teacher credential classification may be directed to the campus Credential Office in the Kremen School of Education at 559.278.0300.
- Questions pertaining to your undergraduate/postbaccalaureate class level status may be directed to the Admissions and Records Office at 559.278.2261.

will be made unless a student cancels registration or drops all classes prior to the first day in accordance with the university's established procedures and deadlines.

Students will also receive a refund of mandatory fees, including nonresident tuition, under the following circumstances:

- the fees were assessed or collected in error;
- the course for which the 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 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 university for a refund demonstrating exceptional circumstances and the chief financial officer of the university or designee may authorize a refund if he or she determines that the fees and tuition were not earned by the university.

Information concerning any aspect of the refund of fees may be obtained from Accounting Services, 559.278.2876.

Tuition and Fee Decrease by Dropping from 7 or More Units to 6 or Fewer Units. Students who drop some but not all units resulting in a lower tuition and/or mandatory fee obligation during the first 10 days of instruction shall be eligible for a refund of the difference in fees.

As specified by Title V of the Education Code, and the Board of Trustees of the CSU, late tuition and other fees are not refundable.

Health Service Fee. The health service fee is required of all regularly enrolled students, regardless of the class level or the number of units enrolled. Fee waiver students, or students who will be physically absent from the campus for the entire semester (such as a study abroad semester), or students who will be taking classes only at sites 50 miles or more from campus, may apply for a refund in accordance with the refund procedures established by Student Financial Services. Refunds will only be made for fees paid within the current academic year. The Health Center will adjudicate the requests based upon records of **usage**; any use of the Health Center during the semester, or, for continuing students, during the summer or winter break prior to the semester, **will preclude a refund.** Students who receive a refund but later wish to avail themselves of health services will be charged a sum equivalent to the mandatory fee at the time of their first visit. Use of the Health Center will preclude a refund of the $98 mandatory fee.

Application Fees. Application fees shall be refunded only upon satisfactory proof that the applicant was unable to begin the term with respect to which application was made by reason of his or her death, physical disability, or compulsory military service (Title 5, Section 41802).

Parking Fees. A student is entitled to a refund of parking fees in the amount shown in the following schedule if on any one calendar day within the applicable period the student files with Student Financial Services a written application for refund and returns all documents issued (including parking permits). If the permit is affixed to a vehicle and the vehicle is presented to the university for removal of the item by or under the direction of the state, such presentation and removal shall constitute return of the item.

The refund application schedule is as follows:

- 1-30 calendar days 75% refund
- 31-60 calendar days 50% refund
- 61-90 calendar days 25% refund

Note: A copy of the University Refund Policy may be obtained from Student Financial Services in the Joyal Administration Building, Room 181.

Returned Checks. Writing a bad check is against the law. Recipients of bad checks may sue the payer in Small Claims court for three times the amount of the check or $100, whichever is more. In addition, suit may be made against the payer for the face value of the check and all court costs. (California Civil Code, Chapter 522, Section 1719.)

Writing a bad check will result in the following.

1. The student's university records will be attached and the student will be **denied all services.**
2. The student will be charged **$20** for processing in addition to the face value of the check.
3. Enrollment of classes may be subject to cancellation. If enrollment is cancelled, the student will not be reinstated.

SOURCE OF FUNDS AND AVERAGE COSTS FOR 2012-13 CSU BUDGET

	Amount	Average Cost Per FTE Student	Percent
State Appropriation[1]	2,010,652,000	6,061	52.7
Net Tuition Fee Revenue[2]	1,497,474,000	4,327	37.6
Other Fees Revenue[2]	386,604,000	1,117	9.7
Total Support Cost	**$3,894,730,000**	**$11,506**	**100**

[1] Represents state GF appropriation in the Budget Act of 2012/13; GF is divisible by resident students only (331,716 FTES).
[2] Represents CSU Operating Fund, Tuition Fee and other fees revenue amounts (net of tuition fee discounts) submitted in campus August 2012/13 final budgets (adjusted for rollback to 2011/12 tuition fee rates). Revenues are divisible by resident and nonresident students (346,044 FTES).

- Payment of returned checks must be made with a cashier's check or money order.
- Personal checks will not be accepted, including checks written by a friend or relative.
- Placing a "stop payment" or closing an account will not release the student from financial obligation. (Title 5, Section 42381)

Fees and Debts Owed to the Institution

Should a student or former student fail to pay a fee or a debt owed to the institution, 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 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 fees including any tuition for the reservation of space in the course.

The institution may withhold permission to register or to receive official transcripts of grades 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.

If a person believes he or she does not owe all or part of an asserted unpaid obligation, that person may contact Student Financial Services, 559.278.2876. Student Financial Services, or another office to which the person may be referred, will review all pertinent information provided by the person and available to the campus and will advise the person of its conclusions.

Refund Policy for Tuition and Other Fees. (*All refunds will be subject to a $5 administrative fee.*) It is the student's responsibility to drop courses, regardless of the reason, by all enrollment period deadlines to avoid charges or be eligible for a full or prorated refund. Failure to do so may result in charges and holds preventing university services. Students who decide not to attend should drop all courses before the first day of instruction to avoid enrollment charges.

Please note: The last day to be eligible for any refund of tuition and fees resulting from dropping from full-time to part-time is not the same day as the last day to add/drop a course. The last day to add/drop and still be eligible for any refund of tuition and fees is usually the 10th day of instruction. This is different from the last day to add/drop any course, which is usually the 20th day of instruction.

Estimate of Expenses

The basic expenses for attendance at California State University, Fresno for a year (two semesters) for full-time students who live away from home are approximately $21,000. This figure is exclusive of the Nonresident Tuition but includes an estimate of such personal items as clothes, laundry, and incidental expenditures. Students who live at home or share apartments with other students and commute to the campus are able to reduce their expenses considerably below the estimated figure. *Note*: tuition and other fees estimate is for California residents.

Room and Board (average)..... $8,000*
Tuition and Other Fees .. $4,265-$16,951
Books and Supplies (approx.) $1,300

* Estimate for on-campus housing only.

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 2012/13 budget amounts were $2,010,652,000 from state General Fund (GF) appropriations (not including capital outlay funding) and before adding $51.4 million CalPERS retirement adjustment, $1,497,474,000 from tuition fee revenue after rollback to 2011/12 tuition fee rates and after tuition fee discounts (forgone revenue), and $386,604,000 from other fee revenues for a total of $3,894,730,000. The number of 2012/13 FTES is 331,716 resident target and 14,328 non-resident students for a total of 346,044 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 by 15 units per term (the figure used here to define a full-time student's academic load).

The 2012/13 average support cost per FTES based on GF appropriation and net tuition fee revenue only is $10,389 and when including all sources as indicated below is $11,506, which includes all fee revenue in the CSU Operating Fund (e.g. tuition fees, application fees, and other campus mandatory fees). Of this amount, the average net tuition fee revenue per FTES is $6,061.

The average CSU 2012/13 academic year, resident, undergraduate student basic tuition fee and other mandatory fees required to apply to, enroll in, or attend the university after rollback to 2011/12 tuition fee rates is $6,602 ($5,472 2011/12 AY tuition fee plus 2012/13 $1,130 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.

VIP Bike Registration. The Volunteer Identification Program is available free of charge on our campus. With this service your bike is engraved with your driver's license number or a serial number and is listed on a statewide computer system if stolen. Forms for VIP registration are available at the University Student Union information desk, the residence halls and the Commons #4 Office, and the Campus Security Office.

Financial Aid

Financial Aid Office

Student Affairs

Bernard Ogden, *Director*

Joyal Administration, Room 296

559.278.2182

www.fresnostate.edu/finaid

The Financial Aid Office

Financial aid is any resource available to students to offset the costs associated with attending California State University, Fresno. Aside from student and family resources, there are four basic programs of financial aid: grants, loans, work-study, and scholarships. About 95 percent of these programs are administered by the Financial Aid Office.

The majority are funded by the federal and state governments and are need-based. Eligibility for financial aid from need-based programs is determined through a formula mandated by Congress. Several programs administered by the Financial Aid Office are not need-based.

Need-Based Financial Aid Programs

For the following need-based aid programs, students are required to submit the Free Application for Federal Student Aid (FAFSA). Students are encouraged to submit the FAFSA through the Internet at *www.fafsa.ed.gov*. Paper applications are also available at high schools and college financial aid offices in late December and should be completed after January 1st for the next academic year.

The official priority filing date is March 2 for the next academic year.

*Federal Pell Grant
Federal Perkins Loan
Federal Supplemental Educational Opportunity Grant
Teacher Education Assistance for College and Higher Education (TEACH) Grant Program.

*Federal Direct Stafford Student Loan
Federal Work-Study
Nursing Student Loan
Bureau of Indian Affairs Grant

**California Graduate Equity Fellowship Program for Underrepresented Students
California State Educational Opportunity Grant (EOP)
California State University Grant
Cal Grants A, B, T, and AB540
State Graduate Fellowship

For assistance in completing the FAFSA, please contact the Financial Aid Office.

Details about these programs are listed on pages 66-67 under the heading *Program Specifications*.

Additional Financial Aid Sources

Alan Pattee Scholarships. Pursuant to the Alan Pattee Scholarship Act, *Education Code* Section 68120, children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, are not charged mandatory systemwide fees or tuition of any kind at any California State University campus. Students who may qualify for these benefits should contact the Registrar's Office for an eligibility determination.

Air Force Reserve Officer Training Corps Scholarships. The Air Force ROTC program at California State University, Fresno offers full two-year, three-year, and four-year, scholarships for both technical and non-technical majors. These scholarships cover a tuition of up to $4,500 per semester for undergraduate students working toward their prospective degree.

Fresno State is one of AFROTC's six Hispanic Serving Institutions and Fresno State students are eligible for AFROTC HSI Scholarships. Eligible students need not be Hispanic to qualify, but may compete for the scholarship (after one semester in our program) on the spring scholarship board after nomination by the AFROTC Det 035 commander.

These scholarships also include a yearly textbook payment of up to $900. This total does not include a monthly stipend pay for all cadets who are contracted, whether under a scholarship or not. Stipend pay is tax free money given to students who are contracted with the Air Force ROTC program and are enrolled as full-time students (12 or more units). Stipend pay depends on your academic year as follows: freshmen $300, sophomores $350, juniors $450, and seniors $500. To qualify for the scholarships, you must graduate before turning age 31 and have at least a 2.50 cumulative GPA. Applications should be submitted to the Department of Aerospace Studies. For additional information, contact our unit admission officer at 559.278.2593. For more on AFROTC, see *Aerospace Studies.*

Army Training Corps Officer. The Army ROTC program at California State University, Fresno has the following options available for fully qualified students to fund undergraduate and in some cases graduate degrees.

1. High School: The Army ROTC Four-Year Scholarship program is available to students who have graduated from high school or possess an equivalent certificate before September of the year they enter college. Scholarships pay up to $20,000 a year for college tuition and education fees, or up to $10,000 room and board, whichever is chosen by the student. Additional scholarship benefits are also available.
2. On-Campus Scholarships: For fully qualified students already attending Fresno State, we offer three- and two-year scholarships. These scholarships are limited and are awarded on a competitive bases.
3. On-Campus Non-Scholarships: All contracted students enrolled in the ROTC program receive an annual allowance of as much as $5,000 and can earn as much as $23,000 during their college careers.
4. Simultaneous Membership Program: The California National Guard and Reserve provides 100% tuition assistance to qualified students.

These scholarships also include a yearly textbook payment of up to $1,200. Monthly stipend pay depends on a student's academic year as follows: freshmen $300, sophomores $350, juniors $450, seniors $500. To qualify for the scholarships, you must graduate before turning age 31 and have at least a 2.50 cumulative GPA.

For additional information contact our scholarship assistance officer at 559.278.5460 or see *Department of Military Science.*

Graduate Assistantships. A number of graduate assistantships and teaching associateships are available to students who are enrolled in a master's degree program. For additional information, see the *Division of Graduate Studies* at *www.fresnostate.edu/gradstudies.*

Division of Graduate Studies Student Research Awards and Travel Grants. For additional information, see the *Division of Graduate Studies* at *www.fresnostate.edu/gradstudies.*

Nonresident Tuition Waivers. A select number of non-resident tuition waivers are available for outstanding graduate students who demonstrate the potential to make significant academic and professional contributions in

* Even though the March 2 deadline does not apply to the Pell or Stafford Student Loan Programs, you should be aware that Pell and Stafford applications submitted after May 30 cannot be assured of receiving funds at the beginning of the fall semester.

** Graduate Equity Fellowship application deadlines may vary.

their disciplines and the graduate program. Recipients are expected to work with the K-12 system in giving lectures/presentations. For additional information, contact the department.

Resident Advisers and Public Safety Assistants. University Courtyard employs up to 17 students to work as resident advisers (RAs) and eight students to work as public safety assistants (PSAs) in the residence halls. RAs act as effective role models, develop a cohesive community of students, organize and conduct programs, and serve as a resource to students living on-campus. PSAs patrol the buildings and grounds, and provide escort services. Applications are available from the University Courtyard Housing Office at the beginning of November.

University Association and Foundation Loan Funds. The university operates an Emergency Loan Fund to assist students who need up to a maximum of $600 for *educationally related emergency expenses only.* These loans must be repaid within 90 days or before the end of the semester, as designated by Student Loan Collection Services. Loans are granted on the basis of the students' need and ability to repay. The funds for these programs have been provided by gifts to the university. Applications for loans are processed through *Perkins and Nursing Loan Counseling Services, Joyal Administration Building, Room 156.*

Waivers of Nonresident Fees. Upon written waiver by the dean of student affairs or the director of admissions and records, children or spouses of California State University full-time employees, who are not yet legal residents of California, may be exempted from the nonresident fee. Also, with verification by the dean of the Kremen School of Education and Human Development, certificated California school district employees who are not yet legal residents of California may be exempted from the nonresident fee, if they are provisionally credentialed and working toward regular credentials, completing postponed requirements, or completing the fifth year required under the *Teacher Preparation and Licensing Law of 1970 (Ryan Act).*

Program Specifications

Satisfactory academic progress requirements. To conform with the regulations that govern state and federal student financial aid programs, the university is required to define and enforce standards of satisfactory academic progress for all students.

All funds administered by the Financial Aid Office are subject to these standards.

The intent of these standards is to encourage students to make steady progress toward the completion of all degree or credential requirements within a reasonable period of time.

To maintain satisfactory progress, students must successfully complete a minimum percentage of the total units they have taken. (See *www.fresnostate.edu/finaid,* then go to Online Forms, SAP forms.)

All recipients of financial aid **must** notify the Financial Aid Office prior to dropping below the units identified as *units funded* on their award notification. Aid recipients who fail to comply with these requirements may be subject to cancellation of their financial aid award and/or repayment of aid received.

The regulations also address the issue of time-to-degree. An undergraduate student's funding will be suspended once a student exceeds 180 total units taken. (Some exceptions are granted.) A postbaccalaureate student's funding will be suspended once a student in a 30-unit degree program exceeds 38 total units taken. (Some exceptions are granted.) Graduate students enrolled in programs requiring 60 units will be granted an exception upon **request**.

All prior academic activity at the college level is considered in determining total units taken. Total units taken includes all transfer credit recorded, whether or not applicable to the degree, in addition to units taken at California State University, Fresno.

All financial aid recipients are reviewed for satisfactory academic progress at the end of each semester. The following criteria are used for determination of satisfactory progress: (1) ***A, B, C, D,*** and ***CR*** are acceptable indicators of satisfactory academic progress; (2) ***F, I, W, WU, NC, RP, RD, AU*** are not acceptable.

A more detailed explanation of satisfactory academic progress requirements at California State University, Fresno is available on the website at *www.fresnostate.edu/finaid* or in the Financial Aid Office, Joyal Administration Building, Room 296.

Federal Perkins Loan. Authorized by the Higher Education Act, this program provides a limited amount of low-interest loans to students who demonstrate an exceptional financial need. Currently students may borrow $27,500 during the course of their undergraduate degree. Graduate students may borrow up to $60,000 (including any amount borrowed as an undergraduate). New borrowers begin repayment nine months after they graduate, leave school, or cease attending at least half-time. (Students who received funding under the National Direct Student Loan Program have a six-month grace period.) A repayment period of up to 10 years has been established by the federal government. The Higher Education Act also authorized certain conditions under which part or all of the loan may be canceled. Details are available in Student Loan Collections Services, Joyal Administration Building, Room 156.

Federal Supplemental Educational Opportunity Grant (FSEOG). FSEOG is a grant program and, thus, does not require repayment. Awards are restricted to those undergraduates who demonstrate the greatest need and who are also Federal Pell Grant recipients. Funding for the program is limited to the allocation received from the federal government.

Federal Work-Study (FWS). FWS is a federally funded employment program. Awards are based on financial need. Both undergraduate and postbaccalaureate students are eligible to participate. Students receiving FWS awards are placed in jobs on-campus and with selected off-campus agencies, including community service programs such as America READS.

Nursing Student Loans. Under this program, a student who can show that a loan is needed to enter or continue in the nursing program may borrow up to $2,500 an academic year for the first two years; $4,000 for the final two academic years, up to a $13,000 maximum. No interest is charged while the borrower pursues at least a half-time course of study, or for a period of nine months after leaving school. Interest then starts at 5 percent simple interest and the loan is repaid at not less than $15 per month. Interest and payments are deferred for a period of time while the borrower is a member of the uniformed service or is a volunteer under the Peace Corps Act.

Bureau of Indian Affairs (BIA) Grants. If you are an eligible American Indian, Eskimo or Aleut student, or a certified member of a tribal group that is served by the Bureau of Indian Affairs, you may apply for a BIA grant. The amount is based on financial need and availability of funds from your area agency. You must first submit an application for financial aid (FAFSA) and supportive documents. Obtain the BIA application from your area agency, then see the BIA adviser in the Financial Aid Office to complete the BIA Need Analysis section of the application. Be sure to check with your Tribal Agency Office for BIA deadlines. Deadlines vary from

one agency to another. BIA applications are normally available January through June of each year.

California Graduate Equity Fellowship Program. For additional information, see the *Division of Graduate Studies* at *www.fresnostate.edu/gradstudies.*

California State Educational Opportunity Grant Program (State EOP). Educational Opportunity Program Grants are provided by the state of California for students admitted to one of the campuses of The California State University under the Educational Opportunity Program. Eligibility for this grant is determined by criteria similar to that which governs federal financial aid programs. Admission to the university through the EOP does not automatically mean that the student is awarded a State EOP Grant. Grants provide aid to undergraduate students who, for lack of such assistance, would be unable to enter or remain in an institution of higher education. Funds are limited and range from $250 to $1,000 for the academic year.

California State University Grant. This is a need-based program for California residents, providing financial support to students. Eligibility for this grant is determined by criteria similar but not limited to that which governs federal financial aid programs.

Federal Pell Grant. The Federal Pell Grant Program is a program of student financial aid authorized by Title IV, Part A, of the Education Amendments of 1972. This program provides grants for some credential programs and for all eligible undergraduate students to assist them in meeting educational costs. Program regulations change from year to year.

Cal Grants A, B, and AB540 Entitlement Competitive Awards. The California Student Aid Commission offers Cal Grants A, B, and AB540 to undergraduate students on the basis of demonstrated need and specific program requirements. To apply, complete the FAFSA, Cal ISIR, and GPA Verification Form. The deadline for new applicants is March 2 for the next academic year. Renewal applicants may continue to apply after March 2. Recipients who complete a baccalaureate degree and who are accepted and enrolled in a teaching credential program at an institution approved by the California Commission on Teacher Credentialing will be eligible to apply for renewal of their Cal Grant award for an additional year of grant eligibility, provided financial need continues to exist. All students who are planning to enroll in an approved credential program and wish to continue receiving Cal Grant benefits will be required to submit a supplemental request. Forms are available in the Financial Aid Office.**Law Enforcement Personnel Dependents Grants (LEPD).** Law Enforcement Personnel Dependents Grants range from $1,259 to $12,192 per year for up to four years for dependents and spouses of law enforcement officers killed or totally disabled in the line of duty. Applicants should write to the California Student Aid Commission for a special application.

Federal Direct Subsidized Student Loan. The Federal Direct Subsidized Loan Program enables students with financial need to secure loans for the payment of educational expenses. Available to undergraduates and graduates, the Federal Direct Loan is a federally subsidized program where students borrow directly from the U.S. Department of Education. Undergraduates who qualify may borrow up to $3,500 per year as freshman, $4,500 for second-year students, $5,500 per year as juniors, seniors, or credential students, up to $23,000 maximum. Graduate students who qualify may borrow up to $8,500 per year to a $65,000 maximum (includes indebtedness as an undergraduate). Simple interest at 4.05% is charged when students begin repayment. Repayment begins six months after students graduate, leave school, or cease attending at least half- time. The federal government pays the interest until the student borrower enters the loan repayment period.

Teacher Education Assistance for College and Higher Education (TEACH) Grant Program. This program provides up to $4,000 a year in grant assistance to students who plan on becoming teachers and who meet certain specified requirements. If a student who receives a TEACH Grant does not complete the required teaching, the grant must be repaid as a Direct Unsubsidized Loan under the William D. Ford Federal Direct Loan Programs.

Non-Need-Based Financial Aid Programs. The following non-need-based programs are administered by our Financial Aid Office.

Federal Direct Parent Plus Loans for Undergraduate Students (PLUS). The PLUS Program was initiated to provide assistance to parents who do not demonstrate financial need as determined by the government formula. Parents may borrow up to the cost of attendance minus other aid for each dependent child enrolled at least half-time. Applications and information are available at the Financial Aid Office and at the website at *www.fresnostate.edu/finaid.*

Federal Direct Unsubsidized Student Loan. This program is open to students who may not meet need-based requirements of the Federal Direct Subsidized Loan or who may qualify for only a partial Federal Direct Subsidized Loan. Terms and conditions are similar to the Federal Direct Subsidized Loan, except the simple interest rate is 6.8% and the borrower is responsible for interest which accrues during the in school period.

CSU Chancellor's Doctoral Incentive Program. The largest program of its kind in the nation, the CSU Chancellor's Doctoral Incentive Program is designed to increase the pool of individuals who show promise of becoming strong candidates for California State University instructional faculty positions. The program provides loans of up to $10,000 per year up to a total of $30,000 within five years. For each year of full-time postdoctoral teaching at a CSU campus, individuals are granted loan forgiveness at a rate of 20% per year. Information is available through the Division of Graduate Studies, 559.278.2448 or visit *www.calstate.edu/HR/FLP.*

California Pre-Doctoral Program for Undergraduate and Graduate Students. For additional information, see the *Division of Graduate Studies* at *www.fresnostate.edu/gradstudies.*

Scholarships

University Scholarship Program

Fresno State awards more than a thousand scholarships totaling more than $3.8 million to incoming and continuing students. Institutional scholarships range from $100 to almost $12,000 and are awarded to both undergraduate and graduate students.

Factors for Consideration Scholastic Achievement

- Academic major or career interests
- Involvement in school organizations
- Leadership and participation in community activities
- Full-time enrollment

Depending on specific donor criteria these factors can vary, so regardless of accomplishments, interests, or background, we encourage all students to apply online for consideration of general and departmental scholarships.

Scholarship Application Procedures

The 2014/2015 scholarship application for Fresno State will be available online starting **October 1, 2013**. The "priority" application deadline is **February 28, 2014**. However, several scholarship opportunities will remain open beyond that deadline for specific majors, programs, or student groups. Therefore, we encourage all students to occasionally log-in to check their application status and to see if there are any new scholarship opportunities available.

The University Scholarship website provides a one-stop opportunity to apply for hundreds of institutional scholarships by submitting just one application. Simply log on to ***http://www.fresnostate.edu/studentaffairs/scholarships/index.html*** to complete and submit the online scholarship application.

Additional On-Campus Scholarship Opportunities Requiring a Separate Application

Air Force Reserve Officer Training Corps Scholarships. Air Force ROTC three-year, four-year, and graduate degree scholarships are available in many technical and non-technical majors to cover the costs of fees and tuition, book allowance, lab fees, and a monthly stipend. For additional information log on to ***www.fresnostate.edu/afrotc/*** or see *Aerospace Studies* in this catalog.

Army Reserve Officer Training Corps Scholarships. The U.S. Army offers two-, three-, and four-year scholarships at different monetary levels to qualified students in a variety of academic disciplines. For additional information log on to ***www.fresnostate.edu/craig/depts-programs/army/index.html*** or see *Military Science* in this catalog.

Fee Waivers. The California Education Code includes provisions for the waiver of mandatory systemwide fees as follows:

The California Education Code includes provisions for the waiver of mandatory systemwide fees as follows:

Section 66025.3 – Qualifying children, spouses/registered domestic partners, or unmarried surviving spouses/registered domestic partners of a war period veteran of the U.S. military who is totally service-connected disabled or who died as a result of service-related causes; children of any veteran of the U.S. military who has a service-connected disability, was killed in action, or died of a service-connected disability and meets specified income provisions; any dependents or surviving spouse/registered domestic partner who has not remarried of a member of the California National Guard who in the line of duty and in active service of the state was killed or became permanently disabled or died of a disability as a result of an event while in active service of the state; and undergraduate students who are the recipient of or the child of a recipient of a Congressional Medal of Honor and meet certain age and income restrictions;

Section 68120 – Qualifying children and surviving spouses/registered domestic partners of deceased public law enforcement or fire suppression employees who were California residents and who were killed in the course of active law enforcement or fire suppression duties (referred to as Alan Pattee Scholarships); and

Section 68121 – Qualifying students enrolled in an undergraduate program who are 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 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. Students who may qualify for these benefits should contact the Admissions/Registrar's Office for further information and/or an eligibility determination.

Section 68122 – Students who are victims of trafficking, domestic violence, and other serious crimes who have been granted T or U visa status are exempt from paying nonresident tuition if they (1) attended high school in California for three or more years, (2) graduated from a California high school or attained the equivalent, and (3) registered as an entering student or are currently enrolled at a CSU campus.

Section 68130.5 – Students who are not residents of California are exempt from paying nonresident tuition if they (1) attended high school in California for three or more years, (2) graduated from a California high school or attained the equivalent, and (3) registered as an entering student or are currently enrolled at a CSU campus. In addition, students without lawful immigration status will be required to file an affidavit stating that they have filed an application to legalize their immigration status, or will file an application as soon as they are eligible to do so. This exemption from paying nonresident tuition does not apply to students who are nonimmigrant aliens within the meaning of 8 U.S.C. 1101(a)(15), except as provided by Section 68122 above.

University Scholarships and Student Affairs Development

Greg Varela, *Program Coordinator*

Joyal Administration, Room 274

559.278.6572

www.fresnostate.edu/studentaffairs/scholarships/

Students who may qualify for any of these benefits should contact the Admissions/Registrar's Office for further information on the specific requirements and/or an eligibility determination.

Athletics. The department of Athletics complements the academic mission of the university by offering students an athletic experience of high quality through broad-based, competitive sports programs for both men and women. To provide such an experience, the department is committed to integrity and excellence in both athletics and academics through a comprehensive academic support system. For additional information see *Athletics* in this catalog.

Craig Scholarships and Fresno Merchants Scholarship Program. These are awarded to incoming freshmen who certify their intention of obtaining a B.S. in business administration. Renewal each year is based on continued eligibility and proper progress toward the business degree.

For additional information log on to ***www.fresnostate.edu/craig/scholarships/scholars.html*** or contact the Craig School of Business at 559.278.2482.

The Community Service Scholarship Program provides scholarships of up to $1000 to students who are selected to complete 150 hours of community service. Positions are available to Fresno State students during the academic year and summer months. For more information, contact the office of Career Services at 559.278.2381.

Smittcamp Family Honors College. California State University, Fresno also offers the President's Honors Scholarships through the Smittcamp Family Honors College. Admission to this prestigious program provides a four-year scholarship to high achieving, incoming freshmen. Each student receives a grant equivalent to full tuition, fees, and costs to cover housing on campus for all four years of study. For additional information log on to ***www.fresnostate.edu/academics/honors/index.html*** or contact the Honors College at 559.278.8160.

For a comprehensive listing of these and other scholarship opportunities at California State University, Fresno, visit our website at ***www.fresnostate.edu/studentaffairs/scholarships/.***

Institutional Information

Availability of Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from the Financial Aid Office, Joyal Administration Building, Room 296, 559.278.2182:

1. A description of the federal, state, institutional, local, and private student financial assistance programs available to students who enroll at Fresno State;
2. 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;
3. 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;
4. 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;
5. The method by which financial assistance disbursements will be made to students and the frequency of those disbursements;
6. The way the school provides for Pell-eligible students to obtain or purchase required books and supplies by the seventh day of a payment period and how the student may opt out;
7. 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;
8. The general conditions and terms applicable to any employment provided as part of the student's financial aid package;
9. The terms and conditions of the loans students receive under the Direct Loan and Perkins Loan Programs;
10. The exit counseling information the school provides and collects for student borrowers; and
11. Contact information for ombuds offices available for disputes concerning federal, institutional and private loans.

Information concerning the cost of attending California State University, Fresno is available from the Financial Aid Office, Joyal Administration Building, Room 296, 559.278.2182. The Financial Aid Office provides information on tuition and fees; estimated costs of books and supplies; estimated costs of typical student room, board, and transportation; and (if requested) additional costs for specific programs.

Information concerning refund policies of California State University, Fresno may be obtained from the Office of Accounting Services, Joyal Administration Building, Room 181, 559.278.2876. The listing of complete policy and procedures is available online at *www.fresnostate.edu/accountingservices/refund-offees.htm*.

Information concerning the undergraduate academic programs of California State University, Fresno may be obtained from the Office of the Dean of Undergraduate Studies, Henry Madden Library, Harold H. Haak Administrative Center, Fourth Floor, 559.278.4468.

Information concerning the graduate degree programs of California State University, Fresno may be obtained from the Division of Graduate Studies, Henry Madden Library, Harold H. Haak Administrative Center. You may call 559.278.2448. Additional information is available at *www.fresnostate.edu/grad-studies*.

Information regarding services available to students with disabilities may be obtained from the Office of Services for Students with Disabilities, Henry Madden Library, 559.278.2811.

Information concerning California State University, Fresno policies, procedures, and facilities for students and others to report criminal actions or other emergencies occurring on campus may be obtained from the Police Department, Public Safety Building, 559.278.8400.

Information concerning California State University, Fresno annual campus security report and annual fire safety report may be obtained from the Police Department, Public Safety Building, 559.278.8400 or see information on the Clery Act on the University Police Department website at *www.fresnostate.edu/police/clery*.

Information concerning the prevention of drug and alcohol abuse and rehabilitation programs may be obtained from Health and Psychological Services in the Student Health Center, 559.278.6738.

Information regarding student retention and graduation rates at California State University, Fresno and 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 Institutional Effectiveness, Henry Madden Library, Harold H. Haak Administrative Center, Fourth Floor, 559.278.3906. Additional information is available at *www.fresnostate.edu/irap*.

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) is available from the Office of the Vice President for Student Affairs, Joyal Building, Room 262, 559.278.2541.

Information concerning athletic opportunities available to male and female students and the financial resources and personnel that Fresno State dedicates to its men's and women's teams may be obtained from the Athletics Department, 559.278.2643.

Information concerning teacher preparation programs may be obtained from the Kremen School of Education and Human Development, Student Services, Education Building, Room 100, 559.278.0300.

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*.

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 the Admissions and Records Office, 559.278.2261.

Prior to withdrawing from the university, students who receive financial aid funds must consult with Financial Aid Office 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.

Academic Regulations

Academic Regulations

Academic Regulations

California State University, Fresno is authorized to grant the Bachelor of Arts, Bachelor of Science, Master of Arts, Master of Science, Master of Business Administration, Master of Fine Arts, Master of Physical Therapy, Master of Public Administration, Master of Public Health, and Master of Social Work degrees. California State University, Fresno offers an Educational Specialist degree (Ed.S.) in School Psychology and a doctoral degree (D.P.T.) in Physical Therapy (jointly conferred with the University of California. California State University, Fresno also offers a doctoral degree (Ed.D.) in Educational Leadership. See *Kremen School of Education and Human Development* for public school credentials for which the university is authorized to recommend candidates.

Definition of Key Terms

Additional Requirements. Courses from one or more departments or programs that are required in support of the major. Such courses are not included in the minimum 2.0 grade point average required in the major for graduation and may be waived or substituted at the discretion of the major department or program. Additional requirements normally may be applied toward a minor. Additional requirements may also be applied toward General Education unless specifically prohibited by the major department.

Certificate. A set of interdisciplinary courses comprised of a minimum of 12 units focusing on a special area of study. Students are not required to be matriculated or be undergraduates. Certificates are awarded upon completion of the program regardless of catalog year or degree status. The university awards three types of certificates. They include the Certificate of Completion, the Certificate of Special Study, and the Certificate of Advanced Study. Consult the index for a complete list of certificates available.

Certificate of Advanced Study. A certificate program of special study at the postbaccalaureate level.

Concentration. A specialized area of study within a major. The concentration does not appear on the diploma. Concentrations may or may not appear within majors that have also approved formal options. The term concentration is often used interchangeably with the terms emphasis, specialization, or track.

Concurrent Enrollment. The term *concurrent enrollment* is used to describe several different types of enrollment:

1. **Open University Enrollment.** Nonmatriculated students may enroll in regular California State University, Fresno classes through the Continuing and Global Education.
2. **Concurrent Enrollment at Other CSU Campuses.** CSU students may attend two CSU campuses simultaneously. This type of enrollment is not often used by California State University, Fresno students because of the distance to other CSU campuses. (See the registrar for details.)
3. **Concurrent Enrollment at a Non-CSU College or University.** While enrolled at California State University, Fresno, students may enroll for additional courses at another institution outside the CSU system. The courseload in the combined enrollment program may not exceed the maximum unit load restrictions for California State University, Fresno.

See also *Intrasystem and Intrasystem Enrollment Programs*.

Core. A common set of courses within a major or minor that all students are required to complete.

Degree Audit Reporting System (DARS). DARS is a tool that assists in the advising process. Students can print their own DARS report through self-service. The DARS report shows the student's progress in a chosen degree program, using courses taken at California State University, Fresno and transfer institutions. The DARS report displays how courses apply toward the student's declared major, General Education, and degree requirements. It also displays a list of approved courses for each requirement to be completed.

Double-Counting. Allowing one course to fulfill two separate requirements concurrently; e.g., allowing one course to fulfill both a major requirement and the upper-division writing skills requirement, or allowing one course to fulfill both a major requirement and General Education requirement.

Electives. Courses/units a student selects to complete the total unit requirement for the baccalaureate degree and/or to complete requirements for the major.

Grade Point Average (GPA). The grade point average is a measure of academic scholarship and performance which is computed by dividing units registered into grade points earned. Three separate GPAs are computed:

1. Cumulative GPA for all baccalaureate or postbaccalaureate units by degree objective
2. Cumulative GPA for total California State University, Fresno units
3. GPA for that semester only

A minimum of a ***C*** average (2.0 GPA) for units in the major, all California State University, Fresno units, and total units is required for a baccalaureate degree. (See *Grade Symbols and Grade Points, Degree Requirements.*) Master's degree students have a higher minimum GPA requirement. (See *Graduate Studies — Advancement to Candidacy, Grade Requirements.*)

Major. Set of required courses from one or more departments designed to provide students with the knowledge, skills, and experiences necessary to pursue a specific career and/or advanced study. A student must earn a 2.0 grade point average in all courses required for the major, except "additional requirements," in order to graduate. Some majors are subject to more stringent grading requirements. (Minimum Title 5 requirements: *B.A.* — 24 units of which 12 must be upper division exclusive of General Education; *B.S.* — 36 units of which 18 must be upper division exclusive of General Education.)

Minor. In addition to academic majors, the university offers a number of minors. A minor is a formal set of courses in a designated subject area distinct from a student's major. The intent of a minor is to provide a condensed and cohesive academic experience, in addition to a major. Minors consist of a minimum of 12 semester units, at least 6 of which must be upper-division residence units. Minors must be completed with a minimum GPA of 2.0. Minors offered by academic departments and programs are listed on the *Degree Programs* page. Detailed

descriptions are found in the listings of the particular departments and programs. Courses in the minor may not also count toward a student's major except as Additional Requirements to that major. However, courses fulfilling requirements for a minor usually may be counted toward General Education. Refer to the description of the specific minor for exceptions.

A student may earn one or more minors provided that the requirements above are met for each and that at least 12 units in each of the two minors are distinct and include at least 6 upper-division units in residence.

Option. Set of required courses within a major in addition to the major core courses that emphasizes one important aspect of that school, department, or program.

Prerequisite Requirements. Prerequisite courses must be completed prior to enrollment in the listed course; corequisite courses must be completed prior to or concurrently with the listed course. Students who do not meet these requirements may be disenrolled by the instructor or by the university.

Recommended Courses. Courses that the department faculty believe would be beneficial for a student to take but are not mandated or required as part of the major.

Units. A credit or semester unit represents one hour of class work per week for one semester. It is assumed that two hours of preparation are required for each hour in class. Three hours of laboratory per week are the equivalent of one unit. In a limited number of courses two hours of laboratory per week are the equivalent of one unit. Also, two hours of activity or studio (art, dance, music, physical education) are normally equivalent to one unit of credit. One quarter unit of credit is equivalent to two-thirds of a semester unit.

Units attempted and units earned are terms that appear on the student's transcript and evaluation. Units attempted is the column used for GPA calculation. The units earned column is used to determine units completed toward the total unit requirement for the degree.

Choice of Catalog

Election of Regulations. An undergraduate student or postbaccalaureate student pursuing a second bachelor's degree or second major must fulfill degree requirements from one catalog, not the most favorable requirements from two or more catalogs. As long as a student maintains "continuous attendance,"* he or she may elect, for purposes of fulfilling graduation requirements, one of the following:

1. The catalog in effect at the time a student enters a California community college or a campus of the California State University system.
2. The catalog in effect at the time a student enters California State University, Fresno.
3. The catalog in effect at the time the student applies to graduate from California State University, Fresno.

Continuous attendance is defined as being officially enrolled at least one semester or two quarters during a calendar year. Students must demonstrate progress toward fulfillment of degree requirements to maintain registration eligibility as a continuing student. Students who enroll and withdraw from courses for two or more consecutive semesters may not be eligible for registration as a continuing student.

Once a student establishes catalog rights in the CSU or California Community College system, he or she may attend any accredited college or university for no more than two years and maintain catalog rights. A planned educational leave maintains a student's continuous attendance status. (See *Planned Educational Leave of Absence.*)

Any break in attendance of one calendar year or longer ends a student's continuous attendance status. This results in the loss of catalog rights to all catalog choices prior to the break in attendance. It should be noted that enrollment in Open University, extension, and correspondence courses does not establish catalog rights nor contribute toward continuous attendance to maintain catalog rights. A loss of catalog rights could result in one or more additional semesters to meet new catalog requirements especially in the major and/or General Education. Once a student graduates, however, all rights to the original catalog are terminated.

Graduate (master's) students fulfill requirements based on an approved advancement to candidacy petition. These requirements are based on departmental and university requirements as published in the current catalog at the time of advancement. Continuous enrollment is likewise defined differently for master's students. (See *Graduate Studies.*)

Transcript Evaluation

Undergraduate transfer students are generally evaluated under the degree requirements listed in the *General Catalog* at the time they enter California State University, Fresno.

During the first semester of enrollment, transfer students should receive a copy of a computerized evaluation (DARS Report) detailing how prior coursework has transferred into the university and indicating remaining degree requirements. It is recommended that students request an updated DARS Report through self-service at least once a year for review with their academic adviser. A degree evaluation is completed during the semester a student files for graduation. (See *Graduation and Commencement.*) Students should keep their personal copy current.

All transcripts submitted in support of an application for admission become the property of the Records Office and are not returnable. Students are encouraged to obtain duplicate copies of their records from high school and prior college attendance for their personal file.

Grade Symbols and Grade Points

A — Excellent. Performance of the student has demonstrated the highest level of competence, showing sustained superiority in meeting all stated course objectives and responsibilities, and exhibiting a very high degree of intellectual initiative. (**4 grade points per unit.**)

B — Very Good.[1] Performance of the student has demonstrated a high level of competence, showing sustained superiority in meeting all stated course objectives and responsibilities and exhibiting a high degree of intellectual initiative. (**3 grade points per unit.**)

C — Satisfactory.[2] Performance of the student has demonstrated a satisfactory level of competence, showing an adequate level of understanding of course objectives, responsibilities, and comprehension of course content. (**2 grade points per unit.**)

D — Unsatisfactory.[2, 3] Performance of the student has been unsatisfactory, show-

* A student may not begin "continuous attendance" while still enrolled in high school.

ing inadequacy in meeting basic course objectives, responsibilities, and comprehension of course content. (**1 grade point per unit.**)

F — Failure. Fails to meet course objectives. Work at this level does not meet requirements for credit toward a degree. (**0 grade points per unit.**)

WU — Failure — Withdrawal Unauthorized.[4] The symbol *WU* indicates that an enrolled student did not complete course requirements and did not properly withdraw from the course. It is assigned when, in the opinion of the instructor, completed assignments or course activities, or both were insufficient to make normal evaluation of academic performance possible. (**0 grade points per unit.**)

CR — Credit for units allowed, work of *A*, *B*, or *C* quality in undergraduate courses and *A* or *B* quality in 200-level courses. (**0 grade points per unit; units allowed for the degree.**)

NC — No credit for units registered for, work of *D* or *F* quality in undergraduate courses and *C*, *D*, or *F* quality in 200-level courses. Replaces *I* grade in courses where *CR/NC* grading is used if required work is not completed within required time. (**0 grade points per unit; no units allowed.**)

W — Withdrawal after the fourth week of instruction. (Not used in grade point calculation.)

I — Incomplete Authorized. Required coursework has not been completed and evaluated yet. (**Not used in grade point calculation.**) See *Incomplete Grade — Explanation*.

IC — Incomplete Charged. Student who received an authorized Incomplete (*I*) has not completed the required coursework within the allowed time limit (**0 grade points per unit**).

RD — Report delayed. Grade must be cleared before a degree is awarded. (Not used in grade point calculation.)

RP — Report in Progress. Continuing work in progress. (**No units allowed and not included in grade point calculation until grade is assigned.**)

AU — Audit. Grade indicates student's status as auditor and does not earn degree credit.

Explanation of Grades

Audit Status (AU). Persons wishing to attend classes without matriculating or receiving college credit may register as auditors. Auditors register during the first week of instruction. Students enrolled in audit status only may not transfer to credit status without completing admission procedures.

Enrollment as an auditor is subject to permission of the instructor provided that enrollment in a course as an auditor shall be permitted only after students otherwise eligible to enroll on a credit basis have had an opportunity to do so. 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 fourth week of instruction.

Regular class attendance is expected and the student may be required to participate in any or all classroom activities at the discretion of the instructor. An audited course is not listed on the student's permanent record if the requirements for auditing the class are not met.

Credit for courses audited will not subsequently be granted on the basis of the audit. (See the current *Class Schedule*.)

Credit/No Credit Grading (*CR/NC*). The credit/no credit grading policy at California State University, Fresno is designed to encourage academic exploration outside the major field of study. The policy also recognizes that in certain types of courses, student performance is best evaluated in terms of credit/no credit grading rather than through the traditional letter grades.

Neither the *CR* nor *NC* grade is included in the calculation of the grade point average. The grade of *CR* is assigned if the student's work is judged to be equivalent to an *A*, *B*, or *C* grade as applicable to regular enrollment in an undergraduate course or equivalent to an *A* or *B* grade in a 200-level course.

The *NC* grade is assigned if the student's work is not equivalent to these standards:

1. **General conditions and limitations.** Some courses are not available for *CR/NC* grading (see individual course description), while others are designated as available for *CR/NC grading only*. All other courses are available for *CR/NC* grading; however, a student may not enroll in more than 6 units of *CR/NC* graded coursework per semester. The decision to enroll for *CR/NC* grading must be made prior to the end of the fourth week of instruction and the decision must be recorded by the student by using the Web registration system.
2. **Undergraduate Students.** A student may not elect *CR/NC* graded coursework to satisfy requirements for the major unless the courses have been designated *CR/NC only*. A maximum of 24 semester units at California State University, Fresno of *CR/NC* evaluated credit, including all coursework taken *CR/NC only*, may be applied toward the degree.
3. **Graduate Students.** Credit for coursework earned through *CR/NC* in fall 1978 and in subsequent semesters may not be applied toward the master's degree unless the course has been designated as available for *CR/NC only* by the Graduate Committee. A maximum of 6 units of *CR/NC only* credit may be applied to a 30-unit master's degree program and a maximum of 12 units of *CR/NC only* credit may be applied to a 60-unit program.

See the current *Class Schedule* for further information.

Incomplete (I). The symbol *I* (Incomplete Authorized) indicates that a portion of required coursework has not been completed and evaluated in the prescribed time period due to unforeseen — but fully justified — reasons, and that

---

[1] Master's degree candidates are reminded that a *B* (3.0) average is required in the master's degree program and for all courses (related and unrelated; lower division, upper division, and graduate) taken concurrently with the master's degree program.

[2] Undergraduate students are reminded that a *C* (2.0) average is required for all college coursework completed, all courses taken at California State University, Fresno, and all courses in the major in order to graduate with a baccalaureate degree. Some majors are subject to more stringent grading requirements.

[3] Master's degree candidates are reminded that a *D* is not accepted toward any master's degree program.

[4] A *WU* is assigned only for courses graded *A* through *F*. The course can be repeated and the new grade may be substituted for the *WU* by petition, except for master's degree students. (See *Repeating Courses*.)

there is still a possibility of earning credit. Such reasons must meet the criteria of serious and compelling and occur late in the semester. The grade of *I* is only appropriate when the student requesting it has completed a minimum of two-thirds of the work for the course with a passing grade. The instructor of record retains the right to decide whether or not an *I* grade is appropriate. It is the responsibility of the student to bring pertinent information to the attention of the instructor and to determine from the instructor the remaining course requirements that must be satisfied to remove the incomplete. The faculty member should complete the online incomplete contract detailing the work that needs to be completed. A final grade is assigned when the work agreed upon has been completed and evaluated. Students may not enroll in a course for which they have an *I* grade.

Normally it is expected that the student will make up an *I* grade during the next semester; however, it must be made up within one calendar year immediately following the last day of the semester/session 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 the *I* being counted as an *IC*, or failing grade for grade point average computation. An *I* grade not made up within one calendar year after the grade has been recorded is changed to an *IC* (or an *NC* if *CR/NC* grading was approved).

Incomplete grades must be cleared before a degree is awarded. In the absence of the instructor who has assigned the incomplete, a student seeking to make up this grade should consult the department chair.

A short-term extension of time may be granted with justification by contacting the Office of the Registrar prior to the last day of the second semester/session.

Report in Progress (*RP*). The *RP* symbol is used in connection with courses that extend beyond one academic term. It indicates that work in progress has been evaluated as satisfactory to date but that assignment of a final grade must await completion of additional work. The *RP* may be used only in courses designated on the approved *RP* grade course list published by the Office of the Provost and Vice President for Academic Affairs. Cumulative enrollment in units attempted may not exceed the total number applicable to the student's educational objective.

While completing work on an *RP* or an *I*, graduate students are required to be continuously enrolled at California State University, Fresno, every semester until the awarding of the degree. Graduate students enrolled in Project (298) or Thesis (299) receive *RP* grades at the end of the first semester of enrollment and are advised to complete work on the culminating experience during four additional semesters, subject to the five-year overall time limit for completion of all master's degree requirements. In addition, if an *RP* in 298 or 299 is not replaced by a final grade within two years as recommended, the student's major department may require him or her to reregister for the course. (See *Graduate Studies*.)

Withdrawal Unauthorized (WU). The symbol *WU* indicates that an enrolled student did not complete course requirements and did not properly withdraw from the course. 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 computation this symbol is equivalent to an *F*. The *WU* will not revert to any other grade.

Withdrawal (W). The *W* symbol indicates that the student was permitted to drop the course after the fourth week of instruction for serious and compelling reasons with the approval of the instructor and appropriate campus officials. It carries no connotation of quality of student performance and is not used in calculating grade point average. Undergraduate students may withdraw from no more than 18 semester units.

Grading Policies and Practices

Grading. Students are expected to complete all requirements for a class by the end of the semester unless an incomplete is permitted by the instructor in accordance with university policy. Students shall not be assigned additional work or be allowed to revise previous assignments in order to improve a final grade.

College Syllabus and Record Keeping. All faculty members shall provide students at the beginning of each semester a syllabus or outline stating course goals and objectives including grading methodology, types and number of projects, written assignments, tests, experiments, etc.

Dean's List and President's List. Undergraduate students enrolled in at least 12 units during a regular matriculated term, earning no grade lower than a *C*, and earning at least a 3.5 grade point average (GPA) for the term are placed on the Dean's List for that term and a note is added to their transcript. Students meeting these requirements and having a 4.0 GPA for the term are placed on the President's List.

Grade Substitution by Repetition of Courses. An undergraduate student may grade substitute up to 16 semester units of undergraduate coursework at California State University, Fresno. If the original grade was *D*, *F*, *WU*, or *IC*, and the subsequent grade is the same or higher, the new grade will be substituted for the original grade. Only the substituted grade will be used in determining the student's grade point average. Grade substitution can be used only once for an individual course. If the original grade was *C*, *CR*, or better, the course cannot be repeated. A student may repeat a total of 28 units, 16 of which may be used for grade substitution, as described above, and 12 units of which can be averaged.

A course in which a grade of *NC* was earned may be repeated but since the *NC* grade does not affect the grade point average, no substitution is necessary; however, the repeat will count toward the 12 unit limitation of averaged units.

A course attempted at another institution may be repeated by enrolling in a regular California State University, Fresno course determined by the Evaluations Office to be equivalent. A course for which grade substitution has been granted at another institution may not be repeated for grade substitution at California State University, Fresno. ***In addition, a course taken at California State University, Fresno may not be repeated for grade substitution at another institution.***

Postbaccalaureate students pursuing (1) a second baccalaureate degree, (2) a second undergraduate major, (3) a teaching credential, or (4) no specific objective, are also free to repeat a course and request grade substitution on the same basis as undergraduates provided the original

course was completed when the student had postbaccalaureate standing.

Postbaccalaureate students pursuing a doctoral degree, master's degree, or certificate of advanced study may, with approval of an adviser, repeat a course for academic credit, regardless of what grade was originally earned in the course. However, the student is not eligible to petition for grade substitution. All course work taken, beginning with the first term of the student's doctoral or master's degree program is used in determining the student's grade point average and graduation eligibility.

All appropriate grade substitutions will automatically be posted to the student's records at the end of each semester except in cases in which the first attempt was at another institution. For these cases, a Grade Substitution Petition form must be filed with the Admissions, Records, and Evaluations Office by the last day of the semester.

For further information, contact the Admissions, Records, and Evaluations Office located in the North Lobby, Joyal Administration Building.

Academic Renewal. Under certain circumstances, the university may disregard up to two semesters (three quarters) of previous undergraduate coursework taken at California State University, Fresno or at any other college from all considerations associated with requirements for the baccalaureate degree. When such action is approved, the student's permanent academic record is marked to indicate that *no* work taken during the disregarded term(s), even if satisfactory, may apply toward baccalaureate requirements. However, all work must remain legible on the record ensuring a true and complete academic history.

In order to qualify for renewal, **all** of the following conditions must be met:

1. Five years must have elapsed since the most recent work to be disregarded was completed.
2. It must be evident that the poor level of work represented by the term(s) under consideration is not representative (see No. 3) of the student's usual academic performance and was due to extenuating circumstances.
3. The student must have completed the following in residence at California State University, Fresno since the most recent work to be disregarded was completed:
   a. 15 semester units with at least a 3.0 GPA or
   b. 30 semester units with at least a 2.5 GPA or
   c. 45 semester units with a 2.0 GPA

   Work completed at another institution cannot be used to satisfy this request.
4. It must be evident that it would be necessary for the student to complete one or more additional terms in order to qualify for the baccalaureate degree if the request were not approved, i.e., that the student would have less than a 2.0 grade point average in one or more of the following:
   a. Cumulative collegiate coursework
   b. All California State University, Fresno coursework
   c. Coursework required for the major
5. This policy may not be used in concert with any other academic forgiveness policy impacting particular academic term(s).

For further information or to apply for academic renewal, contact the Evaluations Office, **559.278.4076**.

Planned Educational Leave of Absence. A planned educational leave of absence is defined as a planned interruption or pause in a student's regular education of more than one semester during which the student temporarily ceases formal studies at California State University, Fresno, while pursuing other activities that may assist in clarifying the student's educational goals. The intent of the policy is to make it possible for a student to suspend his or her academic work and later resume studies with a minimum of procedural difficulty.

A student who is approved for a planned leave will be considered a continuing California State University, Fresno student. A student may enroll for classes at the end of an approved leave without reapplying for admission and may continue at California State University, Fresno without changing graduation requirements.

A planned educational leave must be recommended by a faculty adviser and approved by the department chair (or program coordinator).

Planned educational leaves may be granted for a variety of reasons or projects but certain characteristics must be contained in any request for a leave:

1. The student must have a definite objective, which in the judgment of the faculty adviser and the chair, contributes to his or her educational goals and objectives.
2. A medical condition is not considered grounds for a planned educational leave of absence.
3. The request must be for a specific period of time which shall not exceed four consecutive semesters.
4. The student must plan to return to California State University, Fresno at the conclusion of his or her leave.

The following regulations apply to the planned educational leave:

1. A student currently enrolled in a fully matriculated session may be considered for a planned educational leave.
2. A student may be granted only one leave as an undergraduate student and one leave as a graduate student. Planned educational leaves are granted for up to four consecutive semesters.
3. In addition to recommendation by a faculty adviser and a chair, international students must be recommended by the director of international student services and programs, and educational opportunity program students by an EOP counselor.
4. Petitions for planned educational leaves must be filed (with the appropriate recommendation) at the Registrar's Office before the first day of classes for the semester during which the leave is to begin.
5. Leaves are not approved for students in disqualified status or on contract to remove academic deficiencies.
6. It is expected that a student will devote his or her leave primarily to nonclassroom activities. A leave is not approved if the student plans to attend another institution, unless the coursework the student seeks is not available at California State University, Fresno. Any academic credit earned while on a planned educational leave is accredited by California State University, Fresno only if permission is granted for that credit in advance.
7. Students who do not return to the university at the conclusion of their planned educational leave and those who enroll

elsewhere will be considered to have withdrawn from the university at the end of their last semester of regular enrollment at California State University, Fresno and will have to reapply for admission upon their return.

Students wishing to apply for a planned educational leave should obtain a request form from the Admissions, Records, and Evaluations Office, North Lobby, Joyal Administration Building, 559.278.2261.

Student Academic Petitions. The Student Academic Petitions Committee has the authority to permit exceptions to university baccalaureate degree requirements when fulfilling the degree requirement would prove to be an undue hardship for the student and/or such an exception can be demonstrated to be educationally justifiable. The committee will take action only upon the submission of a formal petition by the student that sets forth the facts and circumstances that may warrant special consideration.

The Petitions Committee does *not* make decisions pertaining to substitutions for undergraduate and graduate major requirements. Such requests are initiated through the student's department. Requests to waive established university policy governing graduate study may be addressed to the dean, Division of Graduate Studies. If a request cannot be accommodated, it is forwarded to the Graduate Committee.

Contact Advising Services for further assistance with student academic petitions.

Grade Protests. The Student Academic Petitions Committee also has the responsibility of handling grade protests for all students, undergraduate and postbaccalaureate. Students who believe they have been graded unfairly or incorrectly by an instructor must consult first with the faculty member concerned within the first 15 working days of the following semester and make every effort to resolve the issue. The instructor has five working days to respond. For cases in which an incorrect grade was assigned due to a recording error, the instructor will submit a Grade Correction Request form to the Admissions and Records Office.

If the issue is not resolved, a student must immediately consult with the department chair, who will give the student an answer within 10 working days. If a student still believes that the grade was assigned unfairly or incorrectly after completing this process, the student then may request that the Student Academic Petitions Committee review the issue. To request review, students must immediately make an appointment with an academic counselor in the Office of Advising Services (Joyal, Rm. 224; 559.278.1787) to discuss their particular situation and to receive a copy of the university's grade protest policy as well as additional procedural instructions.

Students then must submit a written statement no later than midsemester setting forth all pertinent details to the chair of the Petitions Committee.

Scholarship Status

Satisfactory Scholarship. Satisfactory scholarship means at least a ***C*** average (2.0 grade point average or twice as many grade points as units attempted) in both campus and cumulative GPAs and satisfactory progress toward a degree for undergraduate and postbaccalaureate students without a master's degree objective. Graduate (master's degree) students must maintain at least a ***B*** average.

A student (undergraduate, postbaccalaureate or graduate) whose campus or cumulative grade point average falls below the satisfactory scholarship level is placed on probation and is disqualified if the grade point average falls below probation levels. (For details see next page.) Only the most recent probation or disqualification action appears on the student's transcript.

Probation. Undergraduate students are placed on academic probation, a type of academic warning, for the following:

1. Their grade point average (GPA) based on total units attempted at all colleges is below a 2.0 (***C*** average) or
2. Their GPA based on all units attempted at California State University, Fresno is below a 2.0 average.

Students remain on academic probation until both overall and California State University, Fresno grade point averages are 2.0 or better, or until they are disqualified under one of the provisions of the disqualification regulations.

These regulations also apply to all postbaccalaureate students except those enrolled in master's programs. The latter are expected to maintain a cumulative GPA of at least 3.0 in all units attempted subsequent to admission to the master's program. Master's students who fall below the required GPA are placed on probation.

Students enrolled in master's programs are required to maintain a minimum 3.0 postbaccalaureate cumulative grade point average (GPA) prior to advancement to candidacy. See *Graduate Studies*.

A student may be placed on administrative-academic probation for withdrawal from a substantial portion of a program in two successive terms or in any three terms; for repeated failure to progress toward a degree; or for failure to comply with an academic requirement or regulation that is routine for all students or for a defined group of students.

Disqualification. Students are disqualified if either their campus or cumulative GPA falls within the disqualified range on either the overall or California State University, Fresno record equal to or greater than that indicated below.

A student becomes disqualified when the campus or cumulative grade point average in college work attempted falls below 1.50 for freshmen, 1.70 for sophomores, 1.85 for juniors, and 1.95 for seniors.

- As a freshman (fewer than 30 semester hours of college work completed) the student falls below a grade point average of 1.50 in all units attempted or in all units attempted at the campus where enrolled
- As a sophomore (30 through 59 semester hours of college work completed) the student falls below a grade point average of 1.70 in all units attempted or in all units attempted at the campus where enrolled
- As a junior (60 through 89 semester hours of college work completed) the student falls below a grade point average of 1.85 in all units attempted or in all units attempted at the campus where enrolled

- As a senior (90 or more semester hours of college work completed) the student falls below a grade point average of 1.95 in all units attempted or in all units attempted at the campus where enrolled
- Postbaccalaureate students who fall below a grade point average of 1.95 in all postbaccalaureate units

The best way to regain satisfactory scholarship status is to repeat classes at California State University, Fresno in which the student previously earned ***D***, ***F***, ***IC***, or ***WU*** grades. Undergraduate students are limited to 16 units of grade substitution. Disqualified students who are readmitted are advised to take no more than 13 units, to attend a Maximizing Academic Potential (MAP) workshop, and to obtain a minimum of 2.00 in the semester GPA.

Graduate (master's) students are disqualified if their cumulative California State University, Fresno grade point average falls below 2.0.

Students placed on administrative-academic probation may be disqualified for the following reasons:

1. If they fail to meet the conditions for removal of probation,
2. Become subject to academic probation while on administrative-academic probation, or
3. Again become subject to administrative-academic probation for the same or similar reasons.

Readmission of Disqualified Students — Undergraduate and Graduate

Students placed on academic disqualification at the end of a semester may be placed on disqualified readmitted status or may not be allowed to attend the subsequent semester.

Undergraduate. Disqualified California State University, Fresno students who have been away one semester or longer or were academically disenrolled must submit an application for readmission to the university and the appropriate readmission petition signed by a major academic adviser. Students readmitted under a special disqualification contract must fulfill the terms of that contract or again face disqualification. Contact 559.278.2191 for more information.

Postbaccalaureate/Graduate. To be considered for readmission to the university after disqualification, graduate and advanced certificate students must submit a "Petition for Readmission of Disqualified Graduate or Advanced Certificate Student" form to their graduate (or advanced certificate) program coordinator. Petitions are available online at *www.fresnostate.edu/gradstudies*. Disqualified graduate (or advanced certificate) students who have been away for more than one semester must also submit an application for readmission to the university. Additionally, students who seek a second baccalaureate or credential are asked to obtain the recommendation of the department/program to which they seek readmission. Students who are undeclared must have the approval of the dean of Graduate Studies to be readmitted to the university.

Transcripts and Reports

Transcript of Record. Students may request transcripts of their academic records at California State University, Fresno by accessing the online form and payment at *www.fresnostate.edu/transcripts*. The fee is $4 for the first copy and $2 for each additional copy, plus a $2 processing fee. ordered at the same time. California State University, Fresno transcripts are not provided to students with unpaid financial obligations and other administrative holds as determined by university officials. Transcripts of records from other institutions submitted to California State University, Fresno are not returned to students.

Reports to Students. Students may obtain their grades via the Student Center systems at the end of each regular semester.

Enrollment in Graduate-level (200-297) Courses

Enrollment in graduate-level (200-297) courses is limited to those who have been officially admitted to a graduate degree, advanced certificate, or credential program. However, there is a special program for last-semester undergraduate seniors who want to enroll in 200-level courses. All criteria listed on the *Undergraduate Petition to Enroll in Graduate (200-level) Courses* must be met. This petition, available from the Division of Graduate Studies, should be filed prior to the semester in which the student desires enrollment in 200-level course(s).

Academic Placement

Classification of Students

Freshmen — Students who have earned a total of fewer than 30 semester units.

Sophomores — Students who have earned a total of 30 to 59 semester units inclusive.

Juniors — Students who have earned a total of 60 to 89 semester units inclusive.

Seniors — Students who have earned 90 semester units or more.

Postbaccalaureate/Graduates — Students who have at least one bachelor's degree from an accredited institution.

Advanced Placement. The Advanced Placement Program of the College Entrance Examination Board permits able high school students to take college-equivalent courses while in high school, and, based upon comprehensive qualifying examinations, receive advanced placement and credit at participating universities and colleges. This university 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 are granted up to 6 semester units of college credit for each examination. In order to receive credit for these examinations from this university, students must request an official copy of their test results directly from the College Board.

Credits earned through advanced placement are not included among the maximum of 30 units of credit by examination that may be credited toward a bachelor's degree.

International Baccalaureate. Credit is granted for International Baccalaureate Higher Level examination passed with a score of 4 or higher. Contact the Evaluations Office, Joyal Administration Building, Room 115, for further information.

English Placement Test. The English Placement Test (EPT) is designed to assess the level of reading and writing skills of students entering the California State University. The CSU EPT must be completed by all non-exempt entering undergraduates prior to enrollment in any course, including remedial courses. Students who score 147 or above on the EPT will be placed in college-level composition classes.

Exemptions from the EPT are granted only to those who present proof of one of the following:

- A score of 500 or above on the critical reading section of the College Board SAT Reasoning Test
- A score of 22 or above on the American College Testing (ACT) English Test
- A score of 3 or above on either the Language and Composition or Composition and Literature examination of the College Board Scholastic Advanced Placement Program
- Completion and transfer to CSU of the credits for a college course that satisfies the CSU General Education requirement in English Composition, provided such a course was completed with a grade of *C* or better
- A score of "Exempt" or "Ready for college-level English courses" on the CSU Early Assessment Program (EAP) taken along with the English Language Arts California Standard Test in grade 11
- A score of "Conditionally ready for college-level English courses" or "Conditional" on the CSU Early Assessment Program (EAP) taken on grade 11, provided successful completion of the Expository Reading and Writing Course (ERWC), AP English, 1B English or an English course approved for extra honors weight on the University of California "a-g" Doorways course list.

Students who cannot demonstrate basic competence on the EPT exam are required to enroll in ENGL 1L in conjunction with ENGL 5B or 10, or if they are nonnative speakers of English, in LING 6. ENGL 1L must be completed with a credit grade by the end of the first year of enrollment.

Entry-level Mathematics Exam. The Entry Level Mathematics (ELM) Examination is designed to assess and measure the level of mathematics skills acquired through three years of rigorous college preparatory mathematics coursework (Algebra I and II, and Geometry) of students entering the California State University (CSU). The CSU ELM must be completed by all non-exempt entering undergraduates prior to enrollment in any course, including remedial courses. Students who score 50 or above on the ELM will be placed in college-level mathematics classes.

Exemptions from the ELM are granted only to those who present proof of one of the following:

- A score of 550 or above on the mathematics section of the College Board SAT Reasoning Test
- A score of 550 or above on a College Board SAT Subject Test in Mathematics (level 1 or level 2)
- A score of 23 or above on the American College Testing (ACT) Mathematics Test
- A score of 3 or above on the College Board Advanced Placement Calculus AB or Calculus BC exam

Beginning in May 1998, SAT II: Writing Test scores were increased about 10 to 20 points. The adjustment was made to make writing test scores more comparable to scores on other SAT II subject tests. Although scores are higher, their relative rank compared to scores for tests taken before May 1998 remain the same.

ADVANCED PLACEMENT TESTS

The most commonly passed Advanced Placement Tests and equivalent courses are as follows:

Test	Score	Units	Subjects
American History	3,4,5	6	HIST 11, 12
Computer Science AB	3,4,5	6	CSCI 40*
English Lit/Comp	3,4,5	6**	ENGL 5B and 10, 20
English Lang/Comp	3,4,5	6**	ENGL 5B and 10, 2
Math Calc AB	3,4,5	6	MATH 75***
Math Calc BC	3,4,5	6	MATH 75, 76
U.S. Gov't & Politics	3,4,5	3	Pol Sci Elective

* Remaining 2 units in lower-division Computer Science electives.
** If English Lit/Comp and English Lang/Comp are passed, then a maximum of 9 units is allowed for ENGL 5B or 10, 2, and 20.
*** Remaining 2 units in lower-division Mathematics electives.

Official scores may be obtained from:
Advanced Placement Examination
P.O. Box 6671
Princeton, NJ
08541-6671

For more information, contact the Evaluations Office, Joyal Administration Building, Room 115.

- A score of 3 or above on the College Board Advanced Placement Statistics examination
- Completion and transfer to CSU of a college course that satisfies the requirement in Quantitative Reasoning, provided such a course was completed with a grade of ***C*** or better
- A score of "Exempt" or "Ready for college-level Mathematics courses" on the CSU Early Assessment Program (EAP), taken in grade 11 in conjunction with the CST in Summative High School Mathematics or Algebra II
- A score of "Conditionally ready for college-level Mathematics courses" or "Conditional" on the CSU Early Assessment Program (EAP) taken in grade 11 along with the California Standards Test in Summative High School Mathematics or Algebra II, provided successful completion of a CSU-approved 12th grade math course that require Algebra II as a prerequisite

EPT and ELM. These tests must be taken and scores must be received prior to enrollment.

It is the students' responsibility to confirm exemption from either the EPT or ELM exam by contacting the Admissions/Records Office, North Lobby, Joyal Administration Building.

Information bulletins and registration materials for the EPT and ELM may be obtained from the Office of Testing Services.

Credit by Examination. Students may challenge courses by taking examinations developed at California State University, Fresno. Credit shall be awarded to those who pass them successfully.

Fresno State grants undergraduate degree credit for successful completion of noncollegiate instruction, either military or civilian, appropriate to the baccalaureate degree, which has been recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The number 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*.

Credit by examination is designed to encourage regularly enrolled students to seek college credit in courses in which they have competence but for which credit has not been earned by the usual academic processes. This permits students to accelerate their progress and provides an opportunity for wider selection of coursework. The following procedures should be followed:

1. With the concurrence of the department, students may apply for credit by examination in any course in our current *General Catalog* for which they appear to be reasonably qualified by training or experience and for which college credit has not been previously allowed. Credit by examination is not awarded if credit has been granted for previous coursework more advanced than the level represented by the examination in question. Credit by examination is not allowed in courses in which students have been permitted to register as auditors during the same semester, in which students have received a failing or no credit grade, or in which they have unsuccessfully sought credit by examination.
2. Students enroll for credit by examination at any time during the first two weeks of classes. Students must be regularly enrolled in other courses before they are granted permission to earn credit by examination. Units of credit by examination are counted as part of the total units registered for a given semester or term. Applications for credit by examination must be completed by students and approved by the respective departments.
3. The examination must be administered by the end of the fourth week of instruction, and the instructor must report the grade prior to the close of the sixth week.
4. The course in which students request credit by examination is so designated on their record. Students will receive a credit (***CR***) grade if the examination is passed with a ***C*** or higher grade. If they are unsuccessful, a no credit (***NC***) grade is reported. Units earned count toward all appropriate requirements but are not used in computing their GPA.
5. The number of units earned by credit by examination in any semester or term may not exceed the number of units completed in regular enrollment. A maximum of 30 units earned by examination may be counted toward a bachelor's degree.

Credit earned by examination *does not meet the residence requirement of the university.* For further information, consult the department concerned. See also *Advanced Placement*.

Graduate Students. Credit by examination for coursework may be used to fulfill prerequisites only and may not be applied toward the total units required for a master's degree.

Independent Study. Independent study is offered to give students experience in planning and outlining a course of study on their own initiative under departmental supervision. Independent study should deal with a special interest not covered in a regular course or with the exploration in greater depth of a subject presented in a regular course. Each department has an independent study upper-division course (190). In addition, some departments have a lower-division course (90) and/or a graduate-level course (290).

To be eligible for independent study, students should have an overall grade point average of 3.0 or higher. This requirement may be waived in exceptional cases, when approved by the department chair. Maximum credit of 6 units in independent study courses is allowed toward the bachelor's degree, and maximum credit of 6 units in independent study courses may be approved for use toward a 30-unit master's degree. Such credit is limited to a maximum of 3 units per semester. Under extraordinary circumstances more than 3 units per semester may be allowed on petition to the department chair.

Eligible students desiring to register for independent study must first obtain the consent of an instructor, who will guide the project, and the chair of the department in which the course is given. Students must register for independent study courses during the regular registration period in the same manner as they register for any other course at the time of registration.

An independent study course normally includes an oral examination by a committee set up by the supervising instructor, a formal report that is filed in the department office, and an abstract of the study that is filed with the department chair. Approval forms and copies of the current regulations may be obtained from department or school offices. The entry on the permanent record shows the discipline

and course number only; the title does not appear.

Credit for Noncollegiate Instruction. This university grants undergraduate degree credit appropriate to the baccalaureate degree for successful completion of noncollegiate instruction, either military or civilian, that has been recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The number of units allowed are those recommended in *A Guide to the Evaluation of Educational Experience in the Armed Services* and the *National Guide to Educational Credit for Training Programs.*

Credit for Military Service Coursework. A lower-division elective credit is given for recruit training for initial entry into the service providing the student was on active duty for at least one year and one day. Credit given varies depending on the branch of service and date of entry. An applicant for credit must submit a copy of *Notice of Separation* (DD214) to the Evaluations Office.

DANTES (Defense Activity for Non-Traditional Educational Support) maintains the educational records of the servicemen and women who have completed SSTs (Subject Standardized Tests), CLEP (College Level Examination Program) examinations and GED tests. DANTES has also maintained USAFI (United States Armed Forces Institute) transcripts since that organization ceased to exist in 1974.

College credit is awarded for acceptable SST scores as recommended by DANTES. Equivalency for SST credit is determined by our departments. Other credits recommended by DANTES (CLEP, etc.) must meet university guidelines for the awarding of credit for those examinations. DANTES/USAFI correspondence credit is combined with other extension or correspondence coursework to a maximum of 24 semester units.

Additional credit is granted for military courses listed on pages 223 and 243 as recommended in *A Guide to the Evaluation of Educational Experiences in the Armed Services*. A maximum of 30 units is allowed for military credit.

College Level Examination Program. The College Level Examination Program (CLEP) is designed to be a means through which recognition, academic credit, and placement may be given for less conventional forms of educational experience. Those who may have reached a college level of education through home or correspondence study, on-the-job training, television courses, or by other means may take the CLEP examinations, which are offered by the College Entrance Examination Board. They are now offered only as computer-based tests and are available through Testing Services on campus.

Within the restrictions of systemwide policy, this university awards up to 6 units of credit for successfully completed CLEP examinations. Such credit is applied to the total units required for the baccalaureate degree, but it is not applied to the General Education requirement. Not all CLEP examinations are acceptable under system policy. It is the responsibility of the student to check with the appropriate department to determine whether it accepts CLEP credit. This should be done prior to taking the CLEP exam.

Credits earned through CLEP are included among the maximum of 30 units of Credit by Examination that may be credited toward a bachelor's degree. For additional information, call Testing Services, **559.278.2457**.

Upper-Division Writing Examination. The UDWE is administered by the university and may be used to satisfy the upper-division writing skills requirement. One unit of credit may be granted (ENGL 100W) to registered undergraduate students upon request. This unit may be applied toward the 40 upper-division unit degree requirement and total units for the baccalaureate degree but cannot be applied toward the 30 residence unit degree requirement or for postbaccalaureate credit. For details, call Testing Services, **559.278.2457**.

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 or programs are impacted. 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 degree programs before enrolling at the host campus.

There are two 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 Enrollment Services **559.278.2191**.

- **CSU Concurrent Enrollment** – matriculated students in good standing may enroll 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.
- **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.

Degree Requirements

Baccalaureate Degree Requirements

A student must complete the following requirements in order to earn a Bachelor of Arts or Science degree. Requirements are described in detail in the latter part of this section. Most students accumulate a combination of units in the major, General Education, and nondesignated electives in order to fulfill the requirements of a baccalaureate degree. These requirements are fulfilled when a student successfully completes:

1. a minimum of 120 semester units for the Bachelor of Arts and the Bachelor of Science degree programs
2. an academic major
3. General Education requirements
4. specific course/skill requirements:
   a. English Composition (English 5A-B, 10, or equivalent)
   b. United States History (History 11 or 12)
   c. United States and California Constitution (Political Science 2 or 101)
   d. Upper-division writing skills
5. a minimum of 30 residence units, of which 24 must be upper-division, 12 in the major, and 9 in General Education
6. a minimum of 40 upper-division units
7. a minimum of a *C* average for units in the major, all California State University, Fresno units, and total units

To receive the degree, a student files an application for graduation obtained from the Office of Evaluations after paying the graduation fee at the cashier's window in the Joyal Administration Building by one of the published deadlines.

Double (Concurrent) Major Requirements

Undergraduate students may desire to complete the requirements for more than one major at the time of completion of the baccalaureate degree (i.e., graduate with a double major). All requirements for each degree must be met. When students apply for graduation, they must designate which is the primary degree major. Minimum requirements and exceptions for double majors are as follows:

- Double B.A. majors must include a minimum of 24 units exclusive of the other major, 12 of which must be upper-division.
- Double B.S. majors must include a minimum of 36 units exclusive of the other major, 18 of which must be upper-division.
- Units may be double-counted for both majors above 24 mutually exclusive units (12 upper-division) in B.A. programs and 36 units (18 upper-division) in B.S. programs.
- Courses in General Education may be used to fulfill secondary major requirements.
- Students may not earn a special major as a double major.

One Degree with Multiple Majors and/or Minors. Two or more majors leading to the same baccalaureate degree (B.A. or B.S.) do not constitute separate baccalaureate degrees. Only one degree and one diploma will be awarded. Only one application fee is required for one degree, regardless of the number of majors and minors. The student transcript will reflect a maximum of three majors and two minors for each baccalaureate degree.

Graduating with Multiple Degrees. A student may be awarded more than one baccalaureate degree (such as a B.A. and B.S.) at the same time provided that requirements of all degree programs have been completed. Students who complete two or more different baccalaureate degrees may apply for all degrees in a single degree period by submitting separate applications simultaneously. A fee is required for each application submitted. Students who concurrently complete the requirements for two or more baccalaureate degrees will be acknowledged on separate diplomas for each degree earned.

Note: Students may not pursue a baccalaureate and master's degree concurrently.

Special Major for the Bachelor's Degree

The special major for a bachelor's degree (either a Bachelor of Arts or a Bachelor of Science) provides an opportunity for students to engage in an individualized course of study leading to a degree when legitimate academic and professional goals are not accommodated by standard degree majors. The special major consists of correlated studies in two or more fields. It is not intended as a means of bypassing normal graduation requirements or a means by which students may graduate who fail to complete the degree major in which they are enrolled. Also, students may not earn a special major as a double major, and postbaccalaureate students are not eligible to earn a special major at the baccalaureate level.

The special major must be approved in the Office of the Provost and Vice President for Academic Affairs, with approval based upon a case-by-case justification. Candidates must have one full year of academic work (at least 30 units) still to be completed to meet minimum degree requirements. The minimum total unit requirement for a special major is 120 units. The minimum requirement for the special major is an approved program of 45 units, at least 30 units of which must be upper-division work. Units applied to General Education requirements may not be counted. Also, a maximum of 6 independent study units may be included in the special major program. Any exception to this limit must be approved in writing by the Office of the Provost and Vice President for Academic Affairs upon written recommendation by the special major adviser prior to registration for the additional units.

Students requesting a special major must obtain application forms from the Office of Advising Services. On these forms students must do the following:

1. prepare a statement giving their reasons for desiring a special major in terms of academic and professional goals and why these goals cannot be met through a standard major
2. develop a specific list of courses which would, in their opinions, lead to the stated academic and professional goals
3. secure the signed approval from the Office of Advising Services, as well as from the special major adviser and department chair in the areas from which the special major courses are drawn

Students must submit the foregoing material to the Office of the Provost and Vice President for Academic Affairs for final approval. All established campus requirements and procedures for awarding bachelor's degrees will apply, including residence units, the upper-division writing requirement and number of acceptable transfer units.

B.S. Program Requirements: At least 25 units of the B.S. Special Major must be from campus colleges offering a broad range of instructional programs in science- or technology-based disciplines. These colleges include the following: Agricultural Sciences and Technology, Craig School of Business, Engineering, Health and Human Services, Science and Mathematics, and Social Sciences. Coursework must be taken in at least two different subject areas or fields of study, with no less than 9 units each from a minimum of two areas.

Residence Requirements

The residence requirement for the baccalaureate degree specifies that 30 units shall be earned in residence at the campus granting the degree. Twenty-four of these units shall be earned in upper-division courses, 12 of the units shall be in the major, and 9 units shall be in General Education. The residence requirement for graduate students is 21 units.

Extension credit and credit by evaluation, including credit by examination, may not be used to fulfill the residence requirements.

Specific Course/Skill Requirements

English Requirement. English 1, Composition, or its equivalent is a university graduation requirement that should be completed before the end of the fourth semester of university attendance. (A grade of ***C*** or ***CR*** is the minimum acceptable grade to satisfy this requirement.) The English Placement Test does not substitute for English 1. See *English Placement Test* for test scores prerequisite to enrollment in English 1.

U.S. History and Government Requirements. Undergraduate and second baccalaureate degree candidates must demonstrate competence with respect to the Constitution of the United States, American history, and in the principles of state and local government of California in order to graduate. This may be done by passing examinations or by completing History 11 or 12 and Political Science 2 or 101. (In cases in which students have completed the federal government requirement, Political Science 102 [1 unit] will fulfill the California government requirement.) (*See History Department — American History Requirement*, *Political Science Department — United States Constitution Requirement,* and *General Education* .)

Upper-Division Writing Skills (UDWS) Requirement. All undergraduate and second baccalaureate degree candidates must demonstrate competency in writing skills at the upper-division (junior-senior) level as a requirement for graduation. After completing 60 units and English Composition (ENGL 5A, 5B or 10) or its equivalent with a ***C*** or better, students may meet this requirement in one of two ways:

either

1. Pass the Upper-Division Writing Examination (UDWE) composed of two essays. This examination is given five times each year, including once before the beginning of each semester. Students are permitted to take the examination a maximum of two times. Upon successful completion of the UDWE, undergraduate students may request 1 unit of credit (ENGL 100W), which will be posted to their transcripts the semester following the date the UDWE was passed. For details, call Testing Services, 559.278.2457.

or

2. Obtain a ***C***, ***CR***, or letter grade of ***C*** or better in an approved upper-division writing course at this university. Approved writing courses can be identified in the catalog and *Class Schedule* by the letter ***W*** (e.g., ENGL 160W, BA 105W).

It is imperative that the UDWS requirement be met within two semesters after completing 60 units. The UDWS requirement cannot be fulfilled by a class or test taken outside of The California State University system and cannot be satisfied at a CSU campus at which the student has not matriculated.

The UDWS requirement is not part of the General Education requirement. Passing the UDWE does not exempt students from taking a ***W*** course if it is required in their major, e.g., BA 105W for business majors.

Graduate students should consult *Graduate Studies* regarding the graduate-level writing proficiency requirement.

Remedial Courses. Students admitted to a CSU campus are expected to possess basic competence in the English language and mathematical computation. Students who require remediation should be placed in remedial classes during their first term of enrollment and should demonstrate proficiency by the end of the first academic year. Such remedial courses are usually designated by the letter ***R*** following the course number. Credits earned in remedial courses cannot be used to satisfy degree requirements. (See *Learning Center*.)

Unit Limitations

The following unit limitations apply to all bachelor's degrees:

1. A maximum of 70 transferable semester units (105 quarter) is allowed from two-year institutions (community/junior colleges).
2. A maximum of 8 semester units of Kinesiology (P.E.)/Dance Techniques/Athletics activity is allowed. (Kinesiology and dance majors may have credit for 12 semester units.)
3. A maximum of 12 semester units is allowed for work experience/internship/agricultural projects. (A maximum of 6 semester units may transfer into the university. A maximum of 6 semester units of the 12 is allowed in agricultural projects.) All *work experience* and *internships* are graded on a credit/no credit basis.
4. A maximum of 24 semester units at California State University, Fresno is allowed for ***CR/NC*** grading, excluding Credit by Examination. (See *Credit/No Credit Grading* for other limitations.)
5. A maximum of 30 semester units is allowed for Credit by Examination (excluding Credit for Advanced Placement Examination).
6. A maximum of 24 semester units is allowed for credit through Extension and/or correspondence coursework.
7. A maximum of 6 semester units is allowed for independent study coursework.
8. A maximum of 6 semester units is allowed for coursework in typing/keyboarding.
9. A maximum of 30 semester units is allowed for military service and/or education.

Second Baccalaureate Degree or Undergraduate Major Requirements

Postbaccalaureate students (i.e., those who already hold a bachelor's degree) may pursue a program leading to an additional baccalaureate *degree* or undergraduate *major*. Students are urged to consult with a departmental adviser and with the Division of Graduate Studies to determine whether a second baccalaureate or graduate program better meets their needs.

1. Postbaccalaureate students seeking an additional undergraduate *degree* must complete the following requirements:
   a. a minimum of 30 units in residence at California State University, Fresno since completion of the most recent degree, including 24 upper-division units
   b. at least 12 units in the major in residence at this university since the last baccalaureate degree. (Departments may set higher requirements.)
   c. all state and university requirements for that degree, including English 1, General Education, United States

Constitution and California state and local government, American history, and the upper-division writing skills requirement. (These requirements may be met by courses taken in the students' undergraduate programs.)

d. all units required in the major. **No credit may be applied from courses taken for an earlier degree. If required major courses were previously taken, the student must substitute, with the approval of the department, additional major courses.** Graduate-level courses (200 series) may not be applied toward the requirements for a second baccalaureate degree or additional undergraduate major.

e. completion of 40 upper-division units taken since the most recent degree was granted

f. filing of an undergraduate degree application and payment of graduation fee. (See *Graduation*.)

2. Postbaccalaureate students seeking an additional undergraduate major must complete items *b* and *d*. The transcript will indicate that all coursework for the additional major has been completed. Students pursuing a second baccalaureate *degree* or additional undergraduate *major* cannot select the catalog used for the initial undergraduate degree. If students do not remain in continuous attendance, the requirements will be those in effect at the time they reenter the university or complete their programs. (See *Choice of Catalog*.)
3. Postbaccalaureate students may not earn a minor or a second minor.
4. Second baccalaureate students are not considered for university honors.

Postbaccalaureate Credit

Upper-division and/or graduate-level units earned at Fresno State in the semester or summer session in which the bachelor's degree is granted are automatically listed on the student's permanent record as postbaccalaureate credit as long as

1. the courses are not needed for the bachelor's degree.
2. the student is neither on academic probation nor academic disqualification at the beginning of the final term.
3. the units are not in excess of stated maximum limitations (e.g., 6 units of independent study.)

In addition, only credit for courses in which grades *A*, *B*, *C*, or *CR* are earned may be counted. No course may have its credit divided between baccalaureate and postbaccalaureate programs; use of such credit for graduate degrees at California State University, Fresno requires special approval and is limited to one-third of the total units required in a graduate degree program. (See *Graduate Studies — Advancement to Candidacy*.) Only students with graduate standing may enroll in the following courses: 290, 298, 299. (See *Graduate Studies — Criteria for Thesis and Project*.) Use of postbaccalaureate credit for other purposes is to be determined by the appropriate authority.

Graduation

Students who anticipate meeting bachelor's degree requirements by the end of a term should obtain and file a completed application for a degree (with appropriate fees) with the Evaluations Office within the first two weeks of that term. The Graduate Office processes graduate degree applications. See *Academic Calendar* for filing dates and deadlines. Failure to apply before the final deadline will delay the granting of the degree.

The Evaluations Office checks students' applications for bachelor's degrees and reports to them regarding eligibility for the degrees. Degrees are not awarded to students with *I* or *RD* grades remaining on their records. Students receiving *I* grades during the final year that have not been completed (or changed to *F* grades) by the appropriate clearance deadline will not be considered for graduation that semester and must reapply for the degree. (See *Incomplete*.)

In order to be eligible for graduation, students must:

1. Submit an application for the degree and pay the graduation fee
2. Have been approved for graduation by the faculty
3. Have completed with appropriate scholastic standing all courses required for the degree. (Graduates receive their official diplomas by mail.)
4. Have filed official transcripts for all coursework attempted prior to graduation

It is the responsibility of students to be sure that all requirements have been met and that documentation has been filed with the Evaluations Office, or Graduate Office, by the appropriate deadlines. No additions, deletions, or changes to students' records are permitted after the degree has been recorded.

Honors at Graduation. Honors at the time of graduation from the university are awarded to undergraduate students based on the following criteria:

1. Students must have an overall minimum grade point average of 3.5 on all work attempted.
2. Students must have a minimum grade point average of 3.5 on all work taken at the university.
3. Students must have completed 45 units in residence at California State University, Fresno.

The grade point average earned at California State University, Fresno determines which honors the student receives:

Summa Cum Laude (highest honors)..... 3.90 to 4.00

Magna Cum Laude (high honors) ..... 3.70 to 3.89

Cum Laude (honors) ..... 3.50 to 3.69

Since the requirement for honors could change, students are requested to check the current *General Catalog* for the criteria in effect at the time of graduation.

A Four-Year Graduation Plan

California State University, Fresno pledges that a first-time freshman student may attain the baccalaureate degree in four years when a student follows the provisions and regulations outlined in the copy that follows.

To facilitate students' graduation goals, California State University, Fresno extends to qualified students the opportunity to engage in a formal partnership that assures timely completion of a degree. Students enrolling in the university's Degree Guarantee Program are pledged certain advantages that will facilitate progress toward the degree. Among these advantages are the following:

1. **Guaranteed Course Availability.** Students enrolled in the Degree Guarantee Program will be provided all courses specifically required for completion of their degree and major as described in the *General Catalog* and as articulated in the "Four-Year Program of Study" developed with their Degree Guarantee Program advisers.
2. **Specialized Advising.** Students will be eligible for advising every semester from specially designated Degree Guarantee Program advisers in their respective major departments (or, for

undeclared majors, in the Office of Advising Services).

3. **Highest Level Priority Registration.** Students will not have their academic progress or graduation impaired by a lack of space in essential courses.

The Degree Guarantee Program is a partnership. Students share in the responsibility for timely graduation. To obtain a degree in four years, students must fulfill the following conditions:

1. **Advisers.** Students must meet with their designated Degree Guarantee Program adviser every semester beginning in the first semester of their freshman year for the purpose of
   a. reaching agreement on/or updating their Four-Year Program of Study,
   b. considering available course offerings in relation to pertinent graduation requirements, and
   c. confirming academic progress toward timely graduation.
2. **Four-Year Program of Study.** The program is a plan designed in consultation with a designated Degree Guarantee Program adviser to ensure completion of all degree requirements within four years. The Four-Year Program of Study form must be signed jointly by the student and the adviser and placed on file in the department that offers the student's major (or temporarily, for undeclared majors, in the Office of Advising Services).
3. **Entry Level Math (ELM) and English Placement (EPT) Tests.** Unless exempted, students must have taken these exams during the senior year of high school or the summer prior to enrollment as a freshman. Scores must be at a level that allows the student to enroll in college level coursework. Students who require remedial and/or developmental courses prior to enrollment in college level courses will require independent assessment as to eligibility for Degree Guarantee Program enrollment.
4. **General Education and University Requirements.** Students must fulfill in a timely manner all General Education and university requirements articulated in the *General Catalog* for their year of entry. Students not able to obtain their preferred course and/or their preferred section (days and hours) must be flexible in selecting available alternatives to maintain degree progress.
5. **Major.** Students should select a major during the freshman year (unless advised otherwise) and must seek advising from the designated California State University, Fresno Degree Guarantee Program adviser in their major department so that degree obligations can be met. In many instances, changes of major will delay the completion of a degree. Students entering with an undeclared major should seek advising from the Office of Advising Services. Students must be sure all prerequisite courses, including "Additional Requirements to the Major" are accounted for in the student's academic plan for graduation (see *Four-Year Graduation Plan*, number 2, *Specialized Advising*).
6. **Minor.** Minors can be highly desirable and must be carefully planned in close cooperation with a Degree Guarantee Program adviser. Pursuit of a minor may require an increased total unit load.
7. **Unit Load.** Students must take a minimum of 12 units per semester (the minimum required to be a full time student) and complete an annual average of units appropriate for their degree program.
   a. **120 Unit Programs**. Students must complete an average of 30 units per year (which could include summer sessions) to finish in four years.
   b. **124-128 Unit Programs**. Students must complete an average of 32 units per year (which could include summer sessions) to finish in four years.
   c. **Programs Exceeding 128 units**. In addition to an annual average of 32 units, students in these majors will be required to complete 3 to 9 additional units sometime during their four years of study.
8. **Grade Point Average (GPA).** The cumulative GPA, the cumulative California State University, Fresno GPA, and the GPA in a student's major all must be at or above 2.0. Students electing to repeat courses for purposes of grade substitution to improve their GPA must do so over and above the minimum articulated annual unit requirements if they expect to complete their Degree Guarantee Program within the originally planned time. *Academically disqualified students may not be able to complete their Degree Guarantee Program in four years.*
9. **Registration and Fees.** Students will register during the appropriate time and will pay fees by the required deadlines.
10. **Course Enrollment.** Students will enroll and attend California State University, Fresno at those times (including evenings and weekends) when courses are offered and available. Prior approval by the student's designated Degree Guarantee Program adviser is required before registering at another institution for courses intended for transfer to California State University, Fresno.
11. **Financial Aid**. If eligible for assistance, students must meet the appropriate deadlines each year and meet all academic progress requirements.
12. **Degree Filing**. Students must file their application for graduation and pay the related fees by the university deadline.
13. **Accountability**. Students must comply with all administrative, judicial, and academic policies and procedures as well as all aforementioned conditions of the Degree Guarantee Program.

Noncompliance with any of the conditions 1 through 13 may result in voiding the student's enrollment in the Degree Guarantee Program and the university's pledge to award the student a degree within four years. Nonetheless, it is understood that all degree requirements still must be met before the university is able to award a degree.

Enrollment in the California State University, Fresno Degree Guarantee Program is initiated by a student filing an application. Signing of this application by a student and his or her designated Degree Guarantee Program adviser confirms their mutual understanding of the respective obligations of the student/university partnership required for the achievement of a degree in four years.

Additional information about the Degree Guarantee Program may be obtained by contacting the coordinator of the Four-Year Degree Guarantee Program in the Office of Advising Services at 559.278.1787.

Commencement

Commencement is held annually at the end of spring semester. Students who have

completed degree requirements in the summer or in the fall semester immediately preceding commencement are eligible to participate with those who complete their work in the spring semester. For additional information, see *Kennel Bookstore*, *Student Life,* and/or *the Office of the Vice President for Student Affairs and Dean of Students*.

Certificates

Many students want to study areas not covered by traditional degree programs to increase professional competence, to acquire paraprofessional training, to change careers or to promote personal enrichment. A baccalaureate or master's degree, or second baccalaureate or second major may be inappropriate for them, yet they may still deserve recognition for their work. To meet the needs of these students the university has established three kinds of certificates:

1. *The Certificate of Completion* is awarded for successfully completing a planned educational experience (workshop, conference, short course, or seminar) designed for specific academic objectives.
2. *The Certificate of Special Study* is awarded for successfully completing a structured program of educational experiences, at least 12 semester units, determined in advance by a department or college/school, and consisting of upper-division (100-199) courses, professional (300-399) courses, and related activities.
3. *The Certificate of Advanced Study* is awarded for successfully completing an established, approved program of at least 12 semester units of graduate (200-299) courses, upper-division (100-199) courses, and professional (300-399) courses, as recommended by a department and approved by the Division of Graduate Studies.

Public School Teacher and Services Credentials

California State University, Fresno offers basic — Multiple Subject, Single Subject, and Special Education — teaching credentials as well as advanced — Specialist and Services — credentials required for employment in K-12 public schools. The Kremen School of Education and Human Development is the primary unit responsible for professional preparation and credential authorization. However, subject matter preparation required for basic credential programs and professional preparation required in some advanced credentials — school nursing, psychology, school social work, agriculture, speech-language pathology, and deaf and hard-of-hearing — are provided by various academic departments. For information about credential programs, refer to the Education section of this catalog or to the appropriate academic department.

Basic Teaching

Basic Teaching Credentials, Elementary

Multiple Subject:

Multiple Subject, BCLAD

Multiple Subject, with emphasis in Early Childhood Education

Multiple Subject — Internship

CalState TEACH

Basic Teaching Credentials, Secondary

Single Subject:

Agriculture
Art
Business
English; English-Drama; English-Speech
Foreign Languages - Spanish, French
Industrial Technology
Mathematics
Music
Physical Education
Science - Biology, Chemistry, Physics, Earth Science
Social Science

Single Subject Internship

Basic Teaching Credentials, Special Education

Preliminary Education Specialist (formerly Preliminary Level I Education Specialist):

- Mild/Moderate Disabilities (including internship)
- Moderate/Severe Disabilities (including internship)
- Deaf and Hard of Hearing (including internship)

Advanced Specialist and Services Credentials

Specialist Teaching Credentials

Agriculture

Early Childhood

Reading/Language Arts

Professional Level II Education Specialist:

- Mild/Moderate Disabilities
- Moderate/Severe Disabilities
- Deaf and Hard of Hearing

Services Credentials

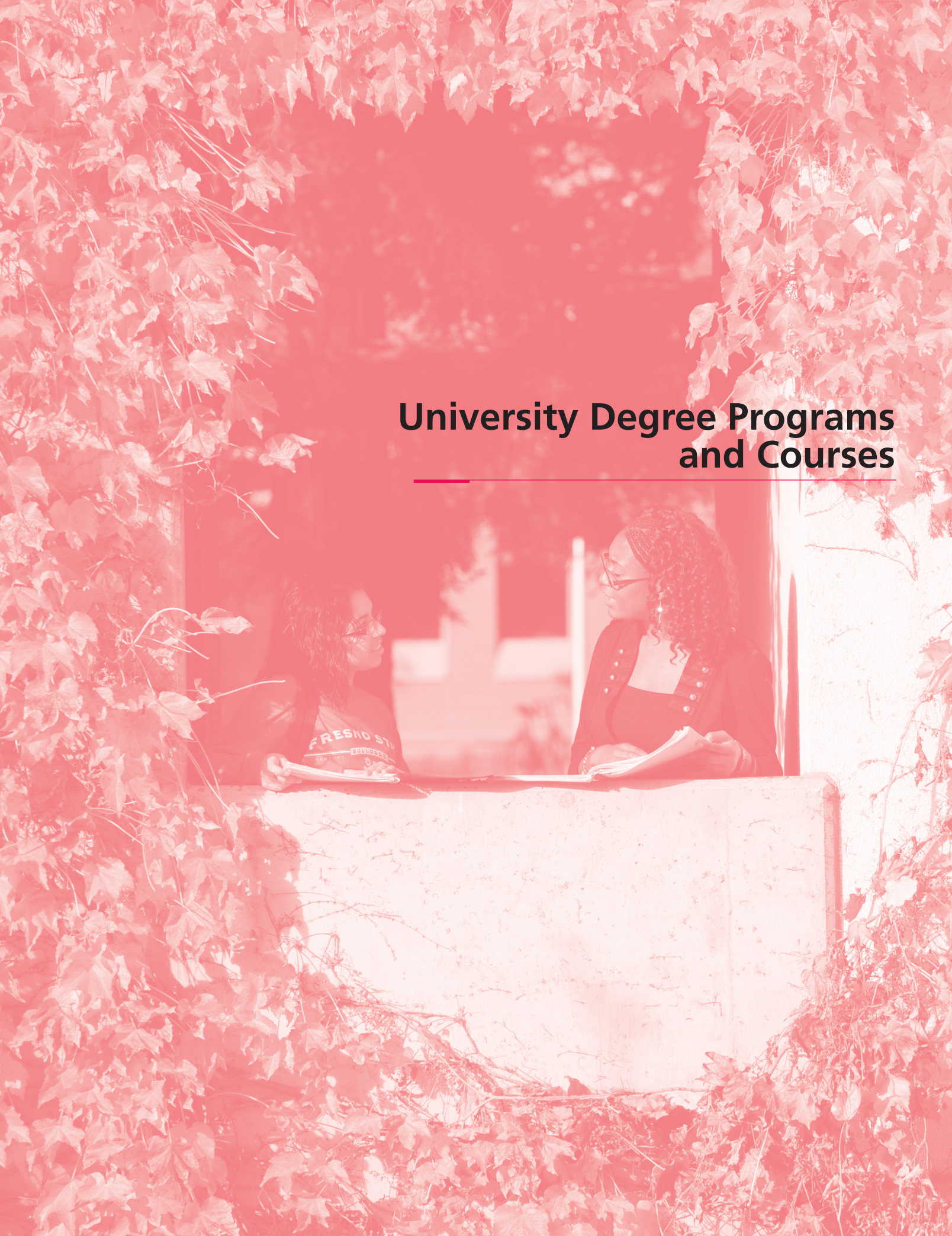
- Preliminary Administrative
- Professional Administrative

Speech-Language Pathology

School Nurse Services

Pupil Personnel in

- School Counseling
- School Psychology
- School Social Work, Child Welfare and Attendance



University Degree Programs and Courses

Degree Programs, Majors, and Minors

California State University, Fresno offers majors for the baccalaureate degrees, minors, and graduate degree programs as indicated on this page. Undergraduate and graduate options are listed under the programs. Requirements for approved undergraduate majors and minors, as well as graduate degrees, are listed in the appropriate college/school and department sections in this catalog. Graduate degree information is available in the *Division of Graduate Studies* section.

Accountancy: M.S.*

Aerospace Studies: Minor

Africana Studies: B.A., Minor

Agricultural Business: B.S.; Minor

Agricultural Education: B.S. (options: Agricultural Communications, Teacher Preparation)

American Indian Studies: Minor

Animal Sciences: B.S. (options: Production Management, Science); Minor

Animal Science: M.S.

Anthropology: B.A., Minor

Armenian Studies: Minor

Art: B.A. (option: Graphic Design); M.A.; Minor

Asian American Studies: Minor

Asian Studies: Minor

Astronomy: Minor

Athletic Training: B.S.

Biology: B.S.; M.S.; Minor

Biomedical Physics: B.S.

Biotechnology: M.Bt.

Business: Minors (Entrepreneurship, General Business, Graduate Business Preparation)

Business Administration: B.S. (options: Accountancy, Entrepreneurship, Finance, Human Resource Management, Computer Information Systems, International Business, Logistics and Supply Chain Strategies, Management, Marketing, Real Estate and Urban Land Economics, Special, Sports Marketing); online M.B.A., M.B.A., E.M.B.A.

Chemistry: B.A., B.S.; M.S.; Minor

Chicano/Latino Studies: Minor

Chicano Studies: B.A.

Child Development: B.S. (options: Child Development Pre-Credential, Child Development Practitioner*)

Chinese: Minor

Classical Studies: Minor

Cognitive Science: B.S., Minor

Communication: B.A., M.A.; Minor

Communicative Disorders: B.A. (options: Audiology, Deaf Education, Interpreting, Speech-Language); M.A. (options: Deaf Education, Speech-Language Pathology); Minor

Computational Linguistics: Minor

Computer Engineering: Minor

Computer Science: B.S.; M.S.; Minor

Construction Management: B.S.; Minor

Counseling: M.S. (options: Marriage and Family Therapy, School Counseling, Student Affairs and College Counseling)

Creative Writing: M.F.A.; Minor

Criminology: B.S. (options: Corrections, Law Enforcement, Victimology, Forensic Behavioral Sciences); M.S.; Minor

Economics: B.A., Minor

Education: M.A. (options: Curriculum and Instruction, Early Childhood Education, Educational Leadership and Administration, Reading/Language Arts)

Educational Leadership: Ed.D.

Electrical Engineering: Minor

Engineering: M.S. (options: Computer Engineering, Electrical Engineering, Mechanical Engineering)

Civil: B.S.; M.S.

Computer: B.S.

Electrical: B.S.

Geomatics: B.S.

Mechanical: B.S.

English: B.A. (options: English Major, English Education); M.A. (options: Composition Theory, Literature); Minor

Enology: B.S.

Environmental Sciences: B.S.

Ethnic Studies: Minor

Family and Consumer Sciences: B.A., M.S.*; Minor

Fashion Merchandising: Minor

Food and Nutritional Sciences: B.S. (options: Culinology, Dietetics and Food Administration, Food Science); M.S.*; Minor

French: B.A., Minor

Geography: B.A., Minor

Geology: B.S.; M.S.; Minor

German: Minor

Gerontology: Minor

Graphic Design: B.F.A.

Health Science: B.S. (options: Community Health, Environmental/Occupational Health and Safety, Health Administration); Minor

History: B.A., M.A. (option: Teaching); Minor

Humanities: Minor

Industrial Technology: B.S.; M.S.; Minor

Interdisciplinary Studies: M.A., M.S.

Interior Design: B.A.

International Political Economy: Minor

International Relations: M.A.*

Japanese: Minor

Kinesiology: B.S. (options: Exercise Science, Physical Education Teacher Education, Sport Administration); M.A. (options: Exercise Science, Sport Administration, Sport Psychology)

Latin American Studies: B.A., Minor

Liberal Studies: B.A.

Linguistics: B.A. (options: Teaching English as a Second Language, General Linguistics, Computational Linguistics, Interdisciplinary Language Studies); M.A. (option: Teaching English as a Second Language); Minor

Marine Science: M.S.

Mass Communication and Journalism: B.A. (options: Advertising, Journalism, Multimedia, Public Relations); M.A.; Minor

Mathematics: B.A., M.A. (option: Teaching); Minor

Media Arts: Minor

Medical Physics: Minor

Meteorology: Minor

Middle East Studies: Minor

Military Science: Minor

Music: B.A. (options: Music as a Liberal Art, Music Education, Instrumental Performance, Vocal Performance, Composition, Jazz Studies); M.A. (options: Music Education, Performance); Minor

Natural Sciences: B.A. (options: Biology, Chemistry, Earth Science, Physics)

Nursing: B.S.; M.S. (options: Clinical Nurse Specialist/Nurse Educator, Primary Care/Nurse Practitioner)

Nursing Practice: D.N.P.

Peace and Conflict Studies: Minor

Philosophy: B.A. (options: Prelaw, Religious Studies); Minor

Physical Science: Minor

Physical Therapy: D.P.T., Joint D.P.T.**

Physics: B.S.; M.S.; Minor

Plant Science: B.S. (options: Plant Health, Crop Production Management); M.S.; Minor

Political Science: B.A., Minor

Psychology: B.A. (option: pre-M.B.A.); M.A. (option: Applied Behavior Analysis); Minor

Public Administration: B.A., M.P.A.; Minor

Public Health: M.P.H. (options: Health Policy and Management, Health Promotion), Minor

Reading: M.A.

Recreation Administration: B.S.; Minor

Rehabilitation Counseling: M.S.

School Psychology: Ed.S.

Social Work: B.A., M.S.W.

Sociology: B.A., Minor

Southeast Asian Studies: Minor

Spanish: B.A., M.A.; Minor

Special Education: M.A.

Special Major: B.A., B.S.

Sports Coaching: Minor

Teaching: M.A.

Teaching English as a Second Language: Minor

Theatre Arts: B.A. (option: Dance); Minor

Urban Civic Education: Minor

Urban Studies: Minor

Viticulture: B.S.

Viticulture and Enology: M.S.

Women's Studies: B.A., Minor

---

* Admission to the program is currently suspended.

** This post-professional D.P.T. is jointly conferred with UC San Francisco.

General Education

Developed by both faculty and students, the university's General Education Program is an introduction to the breadth and depth of the dynamics of human experience. It provides students with a foundation in the liberal arts and sciences and prepares them for specialized study in a particular discipline or program.

The overall objective of General Education is to create a context wherein basic skills are developed and strengthened, scholarship and disciplined thinking emerge, awareness and reflection occur, and ultimately — the *integration* of knowledge begins.

In the 1999-2000 academic year, the university introduced a major revision of the General Education program that the faculty believes is improved in content and which facilitates transfer to the university. All students enrolling in the university as first-time freshmen beginning fall 1999 and after, and all transfer students entering fall 1999 or after who elect to adopt the 1999-2000 catalog will be required to complete this new General Education Program.

Foundation, Breadth, Integration, and Multicultural/ International

The General Education Program is an integrated curriculum of courses organized into four groups:

Foundation, the basic foundation of one's university education, consists of courses in fundamental skills and knowledge.

Breadth exposes students to a variety of disciplines within a structured framework that develops knowledge in four basic areas of human endeavor.

Integration ties together the Program by providing an integrative experience at the upper-division level in three of the four areas of breadth.

Multicultural/International completes the General Education Program with an upper-division experience as preparation for an international, multicultural world.

Requirements

The General Education Program requires students to complete a minimum of 51 semester units. All requirements must be met with courses of at least three semester units. The requirements include: four courses in **Foundation**, nine courses in **Breadth**, and four upper-division courses - three **Integration** courses and one **Multicultural/International** course. These four upper-division courses should be taken no sooner than the term in which 60 units of college coursework are completed. A minimum of 9 units of course work for General Education must be taken *in residence* (see *Residence Requirements*) at California State University, Fresno.

Because the goal of General Education is to provide a solid foundation with a broad scope and the goal of the major is to provide depth in a specific discipline or program, the following stipulations apply:

1. **Foundation** courses must be completed with a grade of ***C*** or better to satisfy the General Education requirement.
2. A maximum of two General Education courses from one department or program may be applied to satisfy **Breadth** requirements. (However, a department or program may prohibit any General Education course from simultaneously satisfying its own departmental or programmatic requirements.)
3. **Integration** and **Multicultural/International** courses must be taken outside the department of the student's major to satisfy G.E. requirements.

Writing in General Education Courses

The university's General Education Program requires that almost all courses in the program have substantial iterative writing assignments.

All Foundation courses except those in Quantitative Methods (B4) and all Breadth courses will require iterative writing assignments totaling at least 1,000 words.

All upper-division courses (IB, IC, ID, and MI) will require iterative writing assignments totaling at least 2,000 words.

Foundation

Purpose: *An educated person must be able to read critically, communicate effectively, and think clearly.*

Select one course from each of the following four categories for a minimum of 12 units.

- Oral Communication – One A1 course (Area A).
- Written Communication – One A2 course (Area A).
- Critical Thinking – One A3 course (Area A).
- Quantitative Reasoning – One B4 course (Area B).

Breadth

The **Breadth** component of the General Education Program exposes students to a variety of disciplines within the structured framework of Areas B, C, D, and E.

Area B – Physical Universe and Its Life Forms.

Required: one lower-division course in each sub-area. All courses in this area include a laboratory component.

- Physical Science, Sub-Area B1 – one B1 course. (Completion of the **Foundation** Quantitative Reasoning requirement – a G.E. B4 course – is prerequisite to enrollment in all G.E. B1 courses.)

  Purpose*: To understand and actively explore fundamental principles in the Physical Sciences and the methods of developing and testing hypotheses used in the analysis of the physical universe.*

- Life Science, Sub-Area B2 – one B2 course.

  Purpose*: To understand basic concepts of living things, the nature of scientific knowledge, and the relevance of biological knowledge to human affairs.*

Notice to students enrolled under the 1998-99 or earlier catalogs:

The revised program presented in this section is different from the program which you are expected to satisfy. Please refer to the catalog under which you are enrolled for information about the requirements and the courses appropriate to those requirements.

Area C – Arts and Humanities.

Required: three lower-division courses, at least one in each sub-area.

- Arts, Sub-area C1 – at least one C1 course.

  Purpose: To develop an appreciation and understanding of and to stimulate imagination and creativity through study and participation in art, dance, music, and theatre.

- Humanities, Sub-area C2 - at least one C2 course. (Completion of an A2 course satisfying the **Foundation** Written Communication requirement is required for enrollment in any **Breadth** Area C2 course.)

  Purpose: Through the study of the humanities, to understand, appreciate, and analyze the meaning of our civilization, its cultural background, and the nature and role of language. To study the humanities from a variety of historical perspectives and cultures by analyzing individual works.

A third course is required in either C1 or C2.

Area D – Social, Political, and Economic Institutions and Behavior, Historical Background.

Required: Three courses: one lower-division course in each of the three sub-areas. (Completion of an A2 course satisfying the **Foundation** Written Communication requirement is required for enrollment in any **Breadth** Area D course.)

Purpose: To understand and analyze the basic principles underlying human social behavior.

- American History, Sub-area D1 – one D1 course.
- American Government, Sub-area D2 – one D2 course.
- Social Science, Sub-area D3 – one D3 course.

Area E – Lifelong Understanding and Self-Development.

Required: One E1 course.
Purpose: To equip human beings for lifelong understanding and development of themselves as integrated physiological and psychological entities.

Integration

Requirement: Three upper-division courses: one course in each of three **Breadth** areas.

- B1, B2 are prerequisite to IB
- C1, C2 and an additional Breadth course in either is prerequisite to IC
- D1, D2, D3 are prerequisite to ID and MI

Purpose: The **Integration** *component of General Education is included to provide instruction at the upper-division level that integrates material from each of the Breadth areas B, C, and D.*

- Physical Universe and Its Life Forms - one IB course.
- Arts and Humanities - one IC course.
- Social, Political, and Economic Institutions and Behavior, Historical Background - one ID course.

Multicultural/International

Required: One upper-division MI course. (Completion of the **Foundation** requirement and the **Breadth** Area D requirement are prerequisite to enrollment in **Multicultural/International** courses.)

Purpose: The **Multicultural/International** *component of General Education is included to prepare students to live in an international multicultural world.*

G.E. Prerequisites

- A2 is prerequisite to C2, D1, D2, and D3
- B4 is prerequisite to B1
- A1, A2, A3 and B4 are prerequisite to IB, IC, ID, and MI

Notice to Smittcamp honors, child development, liberal studies, and engineering students:
Smittcamp honors, child development precredential option, liberal studies, and engineering students follow a distinct G.E. pattern.

General Education in A-E Format

While the revised General Education Program is presented here in terms of FOUNDATION, BREADTH, INTEGRATION, and MULTICULTURAL/INTERNATIONAL, it relates simply to the A-E format widely used throughout the state as indicated by the course subjects in the table. The following list reflects those courses accepted into the G.E. program as of December 15, 2003.

Foundation

Oral Communication

(Area A1)

- COMM 3 - Fundamentals of Public Communication
- COMM 7 - Persuasion
- COMM 8 - Group Discussion

Written Communication

(Area A2)

- ENGL 5B - Academic Literacy II
- ENGL 10 - Accelerated Academic Literacy

Critical Thinking

(Area A3)

- AFRS 20 - Critical Thinking about Race
- ANTH 30 - Critical Thinking in Anthropology
- CLAS 30 - Critical Thinking in Chicano and Latin American Studies
- COMM 5 - Argumentation
- CSCI 1 - Critical Thinking and Computer Science
- GEOG 25 - Critical Thinking in Geography
- GME 5 - Critical Reasoning
- NSCI 4 - Science and Nonsense: Facts, Fads, and Critical Thinking
- PHIL 25 - Methods of Reasoning
- PHIL 45 - Introduction to Logic
- SOC 3 - Critical Thinking about Society
- WS 12 - Critical Thinking: Gender Issues

Quantitative Reasoning

(Area B4)

- DS 71 - Quantitative Analysis
- MATH 45 - What Is Mathematics?
- MATH 75 - Calculus I
- MATH 75A - Calculus with Review IA

Breadth

Physical Universe and Its Life Forms

Physical Sciences (Area B1)

- CHEM 1A - General Chemistry 1A
- CHEM 3A - Introductory General Chemistry

	Foundation	Breadth	Integration & Multicultural/ International
Area A	A1, A2, A3		
Area B	B4	B1, B2	IB
Area C		C1, C2, C1 or C2	IC
Area D		D1, D2, D3	ID, MI
Area E		E1	

- CHEM 10 - Chemistry and Society
- EES 1 - Natural Disasters and Earth Resources
- EES 4 - Environmental Science
- PSCI 21 - Elementary Astronomy
- PHYS 2A - General Physics
- PHYS 4A & 4AL - Mechanics and Wave Motion
- PHYS 10 - Conceptual Physics

Life Sciences (Area B2)

- BIOL 1A - Introductory Biology
- BIOL 10 - Life Science
- BIOL 11 - Plant Biology
- BIOL 12 - Animal Biology

Arts and Humanities

Arts (Area C1)

- ARMS 20 - Arts of Armenia
- ART 1 - Art Forms
- ART 20 - Drawing
- ART 40 - Painting
- ART 50 - Beginning Sculpture
- ARTH 10 - The Ancient and Medieval Worlds
- ARTH 11 - The Early Modern World
- CLAS 9 - Chicano Artistic Expression
- DRAMA 22 - Oral Interpretation of Literature
- DRAMA 62 - Theatre Today
- ENGL 41 - Poetry Writing
- ENGL 43 - Fiction Writing
- ENGL 44 - Creative Nonfiction Writing
- MUSIC 9 - Introduction to Music
- MUSIC 74 - Listener's Guide to Music
- MUSIC 75 - History of Rock and Roll

Humanities (Area C2)

- ARAB 1A - Elementary Arabic A
- ARAB 1B - Elementary Arabic B
- ARM 1B - Elementary Armenian
- ARM 2A - Intermediate Armenian
- ARM 2B - Intermediate Armenian
- CHIN 1A - Elementary Chinese
- CHIN 1B - Elementary Chinese
- CDDS 90 - Deaf American Literature
- CDDS 92 - American Sign Language II
- ENGL 20 - Introduction to Literature
- ENGL 30 - Masterpieces
- FREN 1B - Elementary French
- FREN 2A - French for Communication
- FREN 2B - French for Communication
- GERM 1B - Elementary German
- GERM 2A - Intermediate German
- GERM 2B - Intermediate German
- GRK 1A - Elementary Greek
- GRK 1B - Elementary Greek
- HMONG 1B - Basic Hmong
- HUM 10 - Humanities from Antiquity to the Renaissance
- HUM 11 - Humanities from the Baroque to the Modern
- HUM 15 - Classical Myth and World Humanities
- HUM 20 - Introduction to Hispanic Literature
- ITAL 1A - Elementary Italian
- ITAL 1B - Elementary Italian
- ITAL 2A - Intermediate Italian
- ITAL 2B - Intermediate Italian
- JAPN 1A - Elementary Japanese A
- JAPN 1B - Elementary Japanese B
- LATIN 1A - Elementary Latin
- LATIN 1B - Elementary Latin
- LING 10 - Introduction to Language
- PERS 1A - Elementary Modern Persian A
- PERS 1B - Elementary Modern Persian B
- PHIL 1 - Introduction to Philosophy
- PHIL 2 - Exploring Religious Meaning
- PHIL 10 - Self, Religion, and Society
- PHIL 20 - Moral Questions
- PORT 1A - Elementary Portuguese
- PORT 1B - Elementary Portuguese
- SPAN 1B - Elementary Spanish
- SPAN 2A - Spanish for Communication
- SPAN 2B - Spanish for Communication
- SPAN 3 - Reading and Writing
- SPAN 4A - Spanish for the Bilingual Student
- SPAN 4B - Spanish for the Bilingual Student

Social, Political, and Economic Institutions and Behavior, Historical Background

American History (Area D1)

- HIST 11 - American History to 1877
- HIST 12 - American History from 1877

American Government (Area D2)

- PLSI 2 - American Government and Institutions

Social Science (Area D3)

- AFRS 1 - Ethnic Experience
- AFRS 10 - Introduction to Africana Studies
- AFRS 15 - Slavery and the American Experience
- AFRS 27 - Africana Cultures and Images
- AFRS 36 - Contemporary African Societies
- AIS 50 - Contemporary Life of the American Indian
- AGBS 1 - Introductory Agricultural Economics
- ANTH 2 - Introduction to Cultural Anthropology
- ANTH 3 - Introduction to Prehistory and Physical Anthropology
- ARMS 10 - Introduction to Armenian Studies
- ASAM 15 - Introduction to Asian Americans
- CFS 31 - The Family in America
- CLAS 3 - Introduction to Chicano/Latino Studies
- CLAS 5 - Chicano Culture
- CRIM 10 - Crime, Criminology, and Justice
- CDDS 98 - Introduction to Hard of Hearing and Deaf People
- ECON 25 - Introduction to Economics
- ECON 40 - Principles Microeconomics
- ECON 50 - Principles Macroeconomics
- GEOG 2 - Introduction to Cultural Geography
- GEOG 4 - World Geography
- HIST 20 - World History I
- HIST 21 - World History II
- IT 20 - Technology and Society
- MCJ 1 - Mass Communication and Society
- MES 10 - Introduction to the Middle East
- PLSI 1 - Modern Politics
- PLSI 71 - Introduction to Environmental Politics
- PSYCH 10 - Introduction to Psychology
- SOC 1 or 1S - Principles of Sociology
- WS 10 - Introduction to Women's Studies

Lifelong Understanding and Self-Development

(Area E1)

- ASCI 67 - Animals and Society
- ART 13 - Design
- CFS 38 - Life Span Development
- CFS 39 - Introduction to Child and Adolescent Development
- DANCE 16 - Introduction to Dance
- DANCE 70 - Balance BodyMind
- DRAMA 32 - Introduction to Acting
- FIN 30 - Personal Financial Planning
- GERON 10S - The Journey of Adulthood: Planning a Meaningful Life
- GERON 18 - Women and Aging (same as WS 18)
- GERON 111 - Heritage and Aging
- KINES 32 - Lifetime Fitness and Wellness *taken concurrently with KAC 6, 21, 24, 31, 33, 39, or 103*

- LING 30 - Language through the Lifespan
- NUTR 53 - Nutrition and Health: Realities and Controversies
- PAX 100 - Peace and Conflict
- PH 90 - Contemporary Health Issues
- PH 91 - Introduction to Human Sexuality
- PH 110 - Drugs, Society, and Health
- PSYCH 61 - Personal Adjustment
- RA 80 - Lifelong Learning in the Natural Environment
- UNIV 1 - An Introduction to the University
- WS 18 - Women and Aging (same as GERON 18)

Integration

Physical Universe and Its Life Forms

(Area IB)

- ANTH 161 - Bio/Behavioral Evolution of the Human Species
- CHEM 170 - Chemistry in the Marketplace
- CSCI 100 - Introduction to Computational Science
- GEOG 115 - Violent Weather/ Climatic Hazards
- GEOG 128 - Environmental Pollution
- EES 112 - Planet Earth through Time
- EES 167 - Oceans, Atmosphere, and Climate Change
- EES 168 - California's Earth System
- NSCI 115 - Environmental Earth and Life Science
- NSCI 120 - Biotechnology and Its Impact on Society
- NSCI 121 - Blood: Science, Art, and Folklore
- NSCI 125 - Revenge of the Killer Microbes
- PH 161 - Environment and Human Health
- PSCI 131 - Concepts of Classical Physics from Babylon to Maxwell
- PSCI 168 - Energy and the Environment
- PHYS 100 - Concepts of Quantum Physics
- PLANT 105 - Food, Society, and Environment
- PSYCH 126 - Cognitive Neuroscience

Arts and Humanities

(Area IC)

- AFRS 129 - African American Literary Classics
- ARM 148 - Masterpieces of Armenian Culture
- ART 102 - Ideas of Visual Culture: Art, Media, and the Computer
- DANCE 171 - Philosophical Bases and Trends in Dance
- DRAMA 163 - Dramatic Literature
- ENGL 101 - Masterpieces of World Literature
- ENGL 102 - Masterpieces of English Literature
- ENGL 103 - Masterpieces of American Literature
- ENGL 112 - World Literature: Ancient
- ENGL 113- World Literature: Medieval and Renaissance
- ENGL 114 - World Literature: Modern
- ENGL 174 - Popular Fiction
- FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today *(taught in French)*
- FREN 149 - Voices of Africa *(taught in English)*
- HUM 104 - Humanities in the Middle Ages and Renaissance
- HUM 108 - Humanities in Classical Athens
- HUM 110 - Humanities in Republican and Imperial Rome
- HUM 118 - Folklore in Contemporary Life
- IAS 108 - Interdisciplinary Arts Studies
- LING 115 - Language, Culture, and Society
- LING 130 - Language and Gender
- MUSIC 170A - Music of the Americas: Latin American
- MUSIC 171 - Introduction to the World's Music
- MUSIC 187 - Pop Music: Jazz and Rock
- PHIL 120 - Contemporary Conflicts of Morals (same as AETH 100)
- PHIL 150 - Foundations of Knowledge
- PHIL 151 - Cognitive Science: Mind
- SPAN 125 - Hispanic Cultural Productions *(taught in Spanish)*
- SPAN 129 - Mexican Culture *(taught in Spanish)*

Social, Political, and Economic Institutions and Behavior, Historical Background

(Area ID)

- AIS 103 - Indians of California
- AFRS 144 - Race Relations
- AGBS 155 - Environmental and Natural Resource Policy
- ANTH 116W - Anthropology of Religion
- ANTH 145 - Cultural Resources Management
- CLAS 114 - Mexico and the Southwest 1810-1910
- CRIM 101 - Crime and Violence in America
- CRIM 120 & 120S - Juvenile Delinquency
- CRIM 153 - Psychology of Crime
- ECON 146 - Economics of Crime
- ECON 176 - Economic Themes in Film
- ECON 183 - Political Economy of the Middle East
- GEOG 173 - The American West
- GERON 100 - Images of Aging in Contemporary Society
- HIST 101 - Women in History (same as WS 101)
- KINES 111 - The Olympic Games
- MCJ 178 - New Information Technologies
- SSCI 110 - California Studies
- SOC 131 - Sociology of Sex and Gender
- SOC 143 - Deviance and Control
- SOC 163 - Urban Sociology
- WS 101 - Women in History (same as HIST 101)

Multicultural/International

(Area MI)

- AFRS 150 - South Africa
- AFRS 164 - African Cultural Perspectives
- ANTH 105W - Applied Anthropology
- ANTH 120 - Ethnic Relations and Cultures
- ANTH 123 - Peoples and Cultures of Southeast Asia
- ANTH 125 - Tradition and Change in China and Japan (same as HUM 140)
- ASAM 110 - Asian American Communities
- BA 104 - Global Business
- CLAS 160 - Sex, Race, and Class in American Society
- CLAS 170 - Latin American Studies
- COMM 164 - Intercultural Communication
- CDDS 139 - Deaf Culture
- ECON 181 - Political Economy of Latin America
- GEOG 167 - People and Places — A Global Perspective
- GERON 161 - Multiculture/Aging
- HIST 186 - American Immigration and Ethnic History
- HUM 140 - Tradition and Change in China and Japan (same as ANTH 125)
- LING 147 - Bilingualism
- MCJ 175 - Multicultural Mass Communication and Media Stereotypes
- MCJ 176 - International Mass Communication
- MCJ 179 - Cineculture
- NURS 141 - Concepts of Community Health Nursing
- NURS 141L - Practicum: Concepts of Community Health Nursing
- PH 104 - Global and Cultural Issues in Health
- PH 128 - Holistic Health and Alternative Medicine
- PHIL 131 - Comparative Religion
- PHIL 132 - Religion and the Margin
- PLSI 120 - International Politics
- RA 130 - International Tourism: Multicultural Issues and Impacts
- SOC 111 - Sociology of Race and Ethnicity
- SOC 142 - Sociology of Popular Culture
- SSCI 180 - Diversity in the U.S.
- SWRK 136 - Cultural Diversity and Oppression
- WS 110 - Representations of Women
- WS 120 - Women of Color in the United States
- WS 135 - Women in Cross-Cultural Perspective

Course Subjects, Symbols, and Terms

Course Subjects, Symbols, and Terms

The following chart is a guide to the appropriate subjects used in this catalog for the university's departments and programs of study.

AFRS	Africana Studies
AIS	American Indian Studies
ACCT	Accountancy
AETH	Applied Ethics
AGBS	Agricultural Business
AGED	Agricultural Education
AGRI	Agriculture; Graduate
AH	Arts and Humanities
ANTH	Anthropology
ARAB	Arabic
ARM	Armenian
ARMS	Armenian Studies
ART	Art
ARTDS	Art and Design
ARTH	Art History
ASAM	Asian American Studies
ASCI	Animal Sciences
ASP	Aerospace Studies
ATHL	Athletics
BA	Business Administration
BIOL	Biology
BIOTC	Biotechnology
BUS	Business
CDDS	Communicative Disorders and Deaf Studies
CE	Civil Engineering
CFS	Child and Family Sciences
CGSCI	Cognitive Science
CHEM	Chemistry
CHIN	Chinese
CI	Curriculum and Instruction
CLAS	Chicano and Latin American Studies
CM	Construction Management
COMM	Communication
COMS	Community Service
COUN	Counselor Education
CRIM	Criminology
CRSC	Crop Science — Agronomy and Vegetable Crops
CSB	Craig School of Business
CSCI	Computer Science
CSH	Consumer Science and Housing
CST	CalState TEACH
CULG	Culinology
DANCE	Theatre Arts
DRAMA	Theatre Arts
DS	Decision Sciences
EAD	Educational Administration
ECE	Electrical and Computer Engineering
ECON	Economics
EDL	Educational Leadership
EES	Earth and Environmental Sciences
EHD	Education and Human Development
ENGL	English
ENGR	Engineering
ENTR	Entrepreneurship
ERA	Educational Research and Administration
ESE	Early Start English
FCS	Family and Consumer Sciences
FIN	Finance
FL	Foreign Language
FM	Fashion Merchandising
FN	Food and Nutrition
FREN	French
FSC	Food Science
FSM	Food Systems Management
GD	Graphic Design
GEOG	Geography
GERM	German
GERON	Gerontology
GME	Geomatics Engineering
GRK	Greek
GS	Graduate Studies
GSCC	Graduate Studies - Community College
HEBR	Hebrew
HEC	Home Economics Education
HHS	Health and Human Services
HIST	History
HMONG	Hmong
HONOR	Honors
HORT	Horticulture
HRM	Human Resource Management
HUM	Humanities
IAS	Interdisciplinary Arts Studies
ID	Interior Design
IS	Information Systems
ISA	International Studies Abroad
ISC	International Studies Course
IT	Industrial Technology
ITAL	Italian
JAPN	Japanese
KAC	Kinesiology Activity
KINES	Kinesiology
LATIN	Latin
LEE	Literacy and Early Education
LING	Linguistics
MATH	Mathematics
MBA	Master of Business Administration
MCJ	Mass Communication and Journalism
ME	Mechanical Engineering
MEAG	Mechanized Agriculture
MES	Middle Eastern Studies
MGT	Management
MKTG	Marketing
MPA	Master of Public Administration
MS	Military Science
MSA	Master of Science in Accountancy
MSCI	Marine Science
MUSIC	Music
NSCI	Natural Science
NURS	Nursing
NUTR	Nutrition
OH	Ornamental Horticulture
PAX	Peace and Conflict Studies
PERS	Persian
PH	Public Health
PHIL	Philosophy
PHTH	Physical Therapy
PHYS	Physics
PLANT	Plant Science
PLSI	Political Science
PLTH	Plant Health
PORT	Portuguese
PSCI	Physical Science
PSYCH	Psychology
PT	Doctorate in Physical Therapy (Joint)
RA	Recreation Administration
REC	Recreation Activity
REHAB	Rehabilitation
RES	Revising and Editing Skills
SKT	Sanskrit
SOC	Sociology
SPAN	Spanish
SPED	Special Education
SSCI	Social Science
SW	Soil and Water
SWRK	Social Work
UNIV	University
VEN	Viticulture and Enology
VIT	Viticulture
WS	Women's Studies

General Education

A1	G.E. FOUNDATION
A2	G.E. FOUNDATION
A3	G.E. FOUNDATION
B1	G.E. BREADTH
B2	G.E. BREADTH
B4	G.E. FOUNDATION
C1	G.E. BREADTH
C2	G.E. BREADTH
D1	G.E. BREADTH
D2	G.E. BREADTH
D3	G.E. BREADTH
E1	G.E. BREADTH
IB	G.E. INTEGRATION
IC	G.E. INTEGRATION
ID	G.E. INTEGRATION
MI	G.E. MULTICULTURAL/ INTERNATIONAL

Catalog Numbering System

1-99
Lower-division courses are designed for first- and second-year students but open to other students.

100-199
Upper-division courses are designed for third-, fourth- and fifth-year students; counted as graduate work for students with graduate status; permitted for use on a master's degree program only with departmental approval.

190
Independent study, undergraduate

200-297
Graduate-level courses are designed for use in master's degree, credential, certificate of advanced study, and doctorate curricula. Access to these courses is limited to those who have been officially admitted to a graduate degree, advanced certificate, or credential program. Last-semester undergraduate seniors wanting to enroll in 200-level courses must meet all criteria listed on the Undergraduate Petition to Enroll in Graduate (200-level) Courses available from the Division of Graduate Studies or online at *www.fresnostate.edu/gradstudies* through the "Forms" link, then "Enrollment/Registration."

290
Independent study, graduate

298
Graduate Degree Project. Enrollment is restricted to graduate students having received official notification by the Division of Graduate Studies of approval for advancement to candidacy. For complete eligibility requirements, see *Criteria for Thesis and Project* under Graduate Studies. Project class numbers are obtainable through the student's department. Failure to meet the eligibility requirements may result in cancellation of such enrollment. Project enrollment is not available through Extension or Open University.

299
Graduate Degree Thesis/Dissertation. Registration in this course is restricted to graduate students who have officially been notified of their advancement to candidacy by the Division of Graduate Studies and who have filed an approved thesis committee assignment form with the Division of Graduate Studies. For complete eligibility requirements, see *Criteria for Thesis and Project* under Graduate Studies. Thesis class numbers are obtainable through the student's department. Failure to meet eligibility requirements may result in cancellation of such enrollment. Thesis enrollment is not available through Extension or Open University.

300-399
Designed to meet professional needs that cannot be served by regular established course offerings. These courses are offered only through Extension and summer sessions. They assume completion of the bachelor's degree and/or appropriate professional service and are focused upon the problems that enrolled students encounter in their professional service. Although these courses are designed primarily for purposes other than the partial fulfillment of degree and credential requirements, they may, with approval by the department, be applied toward the undergraduate major. They may be used as part of the 40-unit upper-division requirement for the B.A. and as electives in the fulfillment of the total requirements for a baccalaureate degree and/or credential. They may not be used to meet the requirements of a master's degree or a doctoral degree.

400-499 are upper-division courses in CSU system programs administered by California State University, Fresno. Enrollment provisions listed for courses numbered 100-199 apply to these courses as well.

500-599 are doctoral level courses. Enrollment provisions listed for courses numbered 200-299 apply to these courses as well.

600-699 are graduate courses in CSU system programs administered by California State University, Fresno. Enrollment provisions listed for courses numbered 200-299 apply to these courses as well.

Course Catalog Number Symbols

A-B	Two-semester course normally taken in sequence
A, B	Listed as separate courses; may be taken independently
F	Field course
G	For graduate students only; these courses are designed for use in the first year of two-year master's degree programs; they consist of an intensive combination of material normally offered at the undergraduate level.
H	Honors
L	Laboratory associated with another course
M	Multiple subject designation for education courses/methods designation for communication courses
N	Non-majors
R	Remedial course
S	Service Learning courses
T	Topics course, varied area subject matter, repeatable for credit with different title and description
W	Writing skills course, meets upper-division requirement (UDWS) for graduation
Z	Semester abroad program courses

Course Descriptions. Courses are listed by number, title, units, and maximum total credit. Each unit generally represents one hour per week in class and two hours of preparation. Courses involving laboratory, activity, or other application normally require additional hours of class attendance. Lecture-laboratory hours indicate deviation from the usual one class hour per week for one unit of credit. Prerequisites are listed at the beginning of the course description. Course offerings are listed each semester in the Class Schedule.

Prerequisites. Course prerequisites are designed to protect students by ensuring that they have the necessary background and preparation for success in the course. Transfer courses with equivalent content are accepted in lieu of stated prerequisites. Students should check the prerequisites carefully before registering in a course to be sure that they have been met. Students will not be able to register in courses when proper prerequisites have not been met. The instructor can also deny admission to a course if a student has not met the prerequisites.

Permission of Instructor. The instructor has the authority to waive the stated prerequisites for a course if it is in the interest of the student to do so and if in the instructor's judgment, the student has a background sufficiently adequate to permit satisfactory performance in the course.

Students will not receive credit for courses in foreign language or mathematics if credit has been awarded previously for a higher numbered course for which the lower numbered course is a prerequisite.

Course Semester Designations

The course semester designation appears at the end of a course description. This designation indicates what semester(s) the course(s) will be offered.

Note: While courses will be offered in the semesters indicated, they may not be taught if enrollments are insufficient.

Code	*Meaning*
F	Fall
S	Spring
SU	Summer
F odd	Fall of odd numbered years
F even	Fall of even numbered years
S odd	Spring of odd numbered years
S even	Spring of even numbered years
3RD	Every third semester
P	Periodically
PS	Periodically Summer

Smittcamp Family Honors College

The Smittcamp Family Honors College

The Smittcamp Family Honors College provides exceptional students with a distinctive course of study at Fresno State. Students in the Honors College take courses that challenge their abilities, perform service to the university and the community, and maintain high levels of academic achievement (as measured by grade point average). Honors students who meet these goals receive special distinction at graduation, including honors certification on their transcripts. Honors programs are offered at the university, college/school, and department levels. Selected students may participate in any or all of the following:

University Honors. A degree with university honors is based on General Education honors studies with a minimum of 24 lower-division and 12 upper-division units. All honors courses are specially designed and are available only to students in the Honors College. Students take these courses together as a special honors learning community. To maximize student-faculty interaction and to generate a unique learning experience, all honors courses have an average of 25 students.

College/School Honors. College or school honors are earned at the upper-division level. Students may pursue a special program of advanced study within their chosen discipline. The Craig School of Business, College of Arts and Humanities, and Lyles College of Engineering all offer honors programs at this level.

Department Honors. Some individual departments offer honors programs within their majors. Credit for department honors is earned at the upper-division level. Receiving department honors usually requires advanced study above the norm for the major, with credit earned as independent study connected to existing course requirements. Psychology, Armenian Studies, Criminology, and Chemistry currently offer department honors.

Honors Colloquium

All students participating in the Honors College are involved with the Honors Colloquium. Designed around the concept of the "town meeting," the colloquium presents a weekly opportunity for students to interact with experts and authorities on a wide range of topics. From student issues to presidential politics, the colloquium provides students with global perspectives and local solutions. The colloquium gives honors students the chance to interact with, question, and be inspired by leaders on campus, in the community, and around the world.

Scholarships

Every student in the Smittcamp Family Honors College receives a President's Honors Scholarship Grant, which provides registration fees and housing. Scholarships are available for up to eight semesters. Additional scholarship funds may be available for college/school and department honors programs. Complete scholarship information is available at *www.fresnostate.edu/scholarships/directory/index.shtml*

The Smittcamp Family Honors College

Honora Chapman, *Director*

McLane Building, Room 200
2345 East San Ramon Avenue,
M/S MH128
Fresno, CA 93740-8031

Phone: 559.278.8160
Toll Free: 877.323.2089
FAX: 559.278.8162

E-mail: *honors@csufresno.edu*

www.fresnostate.edu/honors

COURSES

Honors (HONOR)

HONOR 1. Honors Colloquium (1; max total 6)
Open to students in the honors program only. Colloquium for students in the Smittcamp Family Honors College. Overview of the university. Presentation and discussion of current topics. Special presentations by faculty, campus guests, and senior honors project students.

The Smittcamp Family Honors College was originally funded with a $1 million gift from Earl and Muriel Smittcamp and family. Earl Smittcamp, a prominent agribusiness leader, graduated from California State University, Fresno in 1939. Earl and Muriel, also a Fresno State graduate, have four children — all alumni of Fresno State — and 14 grandchildren. Earl Smittcamp and his family demonstrate the leadership excellence, innovative thinking, and personal daring honors graduates strive to achieve. The Smittcamps exemplify their belief that education is really dependent upon what an individual makes of it and that "excellence" is never accepting less than the best from yourself. The Honors College owes its existence to their generous support.

Smittcamp Family Honors College
Honora Chapman, Director
McLane Building, Room 200
2345 East San Ramon Avenue, M/S MH128
Fresno, CA 93740-8031
Phone: 559.278.8160
Toll Free: 877.323.2089
Fax: 559.278.8162
Email: *honors@csufresno.edu*
Web: *http://honors.csufresno.edu*

HONOR 101. Emerging Voices after Colonialism: Revolution in Theory, Revolution in Practice (4 units)
Open to students in the honors program only. Explores the field of postcolonial studies. Critically analyzes the dialectic between Western imperialism and resistance to colonialism in Africa, Asia, and the Caribbean. Readings will include primary sources, essays of criticism and theory, and literature from formerly colonized nations.*

HONOR 102. Revolutions in Natural and Social Sciences (4 units)
Open to students in the honors program only. Examines fundamental changes in natural and social sciences. Focuses on major shifts of theory and methodology in the natural sciences and addresses comparable changes in the social sciences. Compares these "revolutions" and looks at their implications for the science as a whole.*

HONOR 103. Ecological Social Effects (4 units)
Open to students in the honors program only. Explores the interactions of human affairs with their environments through the integration of the natural and social sciences. Examines issues affected by the intrinsic relationships between humans, the environments they evolved in, and their relationships with the modern world.*

HONOR 180. Special Projects in Honors (1-3; max total 9)
Open to students in the honors program only. Individual projects in the Smittcamp Family Honors College. Projects related to Honors College courses; for example, internships, research papers, community service projects, new classroom approaches, and learning communities.

Other Honors Courses

ARMS 20H. Arts of Armenia (3 units)
Open to students in the honors program only. Introduces Armenian architecture, painting, sculpture, ceramics, metal work and textiles. G.E. Breadth C1.

BIOL 10H. Life Science (3 units)
Open to students in the honors program only. Not open to students with credit BIOL 1A. Shows how living things work and why they work that way. Discusses biology from chemical and physical foundations through ecological and evolutionary processes. Examines biology and its relationship to human affairs. (2 lecture, 2 lab hours) G.E. Breadth Area B2.

CFS 38H. Honors Life Span Development (3 units)
Open to students in the honors program only. Basic theories, research, and principles of physical, cognitive, and psychological development from conception to death presented from the perspective of diverse families. Emphasizes reading original theoretical and empirical works by prominent developmentalists and requires a student-conducted research project. G.E. Breadth E1.

CHEM 10H. Chemistry and Society (4 units)
Open to students in the honors program only. Prerequisite: G.E. Foundation B4. Not open to students with credit in college chemistry; for non-science majors. Discusses significance of chemical principles in contemporary society; benefits and hazards relative to areas such as energy, health, diet, environment and agriculture. (3 lecture, 3 lab hours) G.E. Breadth B1.

COMM 6H. Rhetoric for Autonomy and Collaboration in the Marketplace of Ideas (3 units)
Open to students in the honors program only. Explores invitational rhetoric and its civic function in contemporary public discourse; experiences designed to enhance fundamental communication skills — research, organization, reasoning, empathic listening and problem-solving — through series of oral presentations. G.E. Foundation A1.

DRAMA 75H. Theatre in Contemporary American Culture (3 units)
Open to students in the honors program only. Introduction to the practice and scholarship of American theatre today. Application of critical methodology for four areas of theatrical production (1) theatre architecture, (2) acting, (3) directing, and (4) design. Attendance at two to three theatre performances is required. G.E. Breadth C1.

ENGL 10H. Honors Accelerated Academic Literacy (3 units)
Open to students in the honors college only. Reading and writing in academic and public genres; special attention to rhetorical decision-making and critical analysis. Guided instruction in reading and responding to texts. Participation in public and academic conversations via research in primary and

* For honors students, HONOR 101, 102, and 103 fulfill G.E. areas IB, IC, ID, and M/I. See honors adviser for prerequisites.

secondary sources. Portfolio assessment. A grade of *C* or better is required to satisfy the university's English composition requirement. G.E. Foundation A2.

ENGL 42H. Creative Writing (4 units)
Open to students in the honors program only. Prerequisite: G.E. Foundation A2. Beginning workshop in the writing of poetry and fiction; appropriate readings and analysis. G.E. Breadth C1.

EES 8H. Natural Disasters and Earth Resources (4 units)
Open to students in the honors program only. Prerequisite: G.E. Foundation B4. Processes and materials that produce the different geologic resources and hazards (earthquakes, volcanoes, floods, landslides.) Plate tectonic theory (including continental drift) as the unifying model to explain geologic phenomena. Emphasizes the relationship between geology and humans. G.E. Breadth B1. (3 lecture, 2 lab hours)

HIST 15H. Trials of the Century (3 units)
Open to students in the honors program only. Prerequisite: G.E. Foundation A2. Studies celebrated legal trials from 1896 to 2000 as windows for understanding larger historic context. Cases address issues such as racial discrimination, freedom of speech and religion, reproductive rights, consumer protection, war crimes, treason and capital punishment. G.E. Breadth D1. (Formerly HIST 12H, HIST 20H)

HUM 10H. Introduction to the Humanities of the Western World (3 units)
Open to students in the honors program only. Prerequisites: G.E. Foundation A2 . Accelerated survey of the relationships between the art, literature, and philosophy of classical antiquity, from classical Greece to the dawn of the Renaissance. G.E. Breadth C2.

LATIN 1AH. Honors Elementary Latin (3 units)
Not open to students outside the Smittcamp Family Honors College. An accelerated introduction to the Latin language and its relation to Romance languages and English, with study of Roman culture and its enduring influence. G.E. Breadth C2

MATH 45H. Exploring Mathematics (3 units)
Open to students in the honors program only. Prerequisite: Students must meet the ELM requirement. Covers topics from the following areas: (1) The Mathematics of Social Choice, (2) Management Science and Optimization, (3) The Mathematics of Growth and Symmetry, and (4) Statistics and Probability. G.E. Foundation B4, Quantitative Reasoning.

MUSIC 60H. Music in Social Context (3 units)
Open to students in the honors program only. Exploration of various settings in which music has been an important indicator of social class and class values. Emphasis on western classical music and American jazz. Attendance at 2-3 performances of music required. G.E. Breadth C1.

NSCI 4H. Science and Nonsense: Critical Thinking and the Philosophy of Science (3 units)
Open to students in the honors program only. Shows the use of language, rational inquiry, and logic in science, distinguishing science fact from science fiction. Inductive and deductive methods, judgement, opinion, origins of knowledge, belief and actions. A critical examination of contemporary pseudoscientific issues (creation science, UFOs, astrology, etc.). G.E. Foundation A3.

NUTR 53H. Nutrition and Health: Realities and Controversies (3 units)
Open to students in the honors program only. Optimal nutrition to reduce the risk of cancer, heart disease, allergies, hyperactivity, and other diseases. Social, psychological, and cultural dictates that affect food selection and health. Personal strategies to develop a nutrition plan for better health. G.E. Breadth E1.

* For honors students, HONOR 101, 102, and 103 fulfill G.E. areas IB, IC, ID, and M/I. See honors adviser for prerequisites.

PHIL 32H. Life, Death, and Afterlife (3 units)
Open to students in the honors program only. Diverse reflections (religious and philosophical) on the meaning of life, death, and afterlife. The nature of the soul (e.g. immortal/mortal); connection to body; implications of an afterlife (if any) for this life; includes Western and non-Western perspectives. G.E. Breadth E1.

PHIL 35H. Logic for Autonomy and Collaboration in the Marketplace of Ideas (3 units)
Open to students in the honors program only. Explores techniques for analysis of reasoning in contexts ranging from interpersonal communication through scholarly and political discourses. Theoretical grounding for these techniques, including both central ideas from philosophy of logic and readings from classical and contemporary sources on freedom of thought, freedom of conscience, and the autonomy of reason. G.E. Foundation A3.

PLSI 2H. American Government and Institutions (3 units)
Open to students in the honors program only. Prerequisite: G.E. Foundation A2. Meets the United States Constitution requirement and the federal, California state, and local government requirement. Development and operation of government in the United State; study of how ideas, institutions, laws and people have constructed and maintained a political order in America. G.E. Breadth D2.

PLSI 71H. Introduction to Environmental Politics (3 units)
Open to students in the honors program only. Prerequisite: G.E. Foundation A2. Introduction to study of environmental politics and policy making in the United States; a brief history of environmentalism; basic principles in environmental policy making, including policy making for interest groups, legislatures, and levels of government; and selection of current topics in environmental issues. G.E. Breadth D3.

PSYCH 62H. Introduction to Social and Cultural Psychology (3 units)
Open to students in the honors program only. Prerequisite: G.E. Foundation A2. Interaction between social environments and behavior with an emphasis on culture and cultural differences. Includes topics such as social influence and beliefs, conformity, the self, attitude change, group influence, prejudice and racism, aggression, attraction and intimacy, altruism and helping. G.E. Breadth D3.

UNIV 50H. Information Literacy in a Digital Age (3 units)
Open to students in the Smittcamp Family Honors College only. Introduction to theoretical background of digital and information literacy; conducting university research ethically with new media such as wikis, blogs, social networking, and online library databases. Hybrid course delivery.

Athletics

In 2004, the Development of Athletics implemented a new strategic plan. Accompanying that were new vision and mission statements and a set of core values.

Vision Statement

Fresno State Athletics: Providing competitive opportunities for today's student-athletes to become tomorrow's leaders.

Mission Statement

Fresno State Athletics is committed to developing champions for life by inspiring academic and athletic excellence in an environment that promotes diversity, equity, and integrity while providing opportunities for today's student-athletes to become tomorrow's leaders.

Core Values

Pride • Success • Integrity • Commitment

The Strategic Plan focuses on providing an academically and athletically successful collegiate experience for student-athletes in all sports, and will be used as an evaluation tool to gauge the success of staff and operations areas based on their accomplishments toward these prescribed goals and objectives.

Since competition is the trademark of intercollegiate athletics, the Department of Athletics is committed to achieving the full potential of each team and each athlete while maintaining compliance with the rules and regulations set forth by the Western Athletic Conference, the National Collegiate Athletic Association for Division IA membership, and the rules and procedures established by California State University, Fresno. Dedication to athletic and academic excellence will be reflected in the performance of all university teams.

As the major public university in the San Joaquin Valley, the department strives to develop strong local, regional, and national recognition for its team and foster a sense of community among its constituencies, i.e., the student body, the faculty and staff, the alumni, and the general public. This recognition will be achieved not only through outstanding athletic performance, but also through the civility with which we conduct ourselves both on and off the playing field.

Student-Athlete Services

The Student-Athlete Services Office provides tutoring, academic advising, individual consultations, and NCAA eligibility monitoring for student-athletes on a year-round basis. It works with the NCAA in providing a CHAMPS/LifeSkills program that emphasizes personal, career, community service and athletic development, and it advises the Student-Athlete Advisory Council. The council, with representatives from every sport, serves as a communication link between student athletes, the Athletics Department administration, and the campus community on matters of student-athlete welfare.

COURSES

Athletics (ATHL)

ATHL 10. Strategies for Student-Athlete Success (1 unit)
Open only to students in intercollegiate athletics. Designed to help entering student-athletes make a smooth transition into the university and to increase knowledge of policies, procedures, resources, and requirements especially pertaining to student athletes. Introduces techniques to improve learning and promotes awareness of relevant career and health issues.

INTERCOLLEGIATE ATHLETICS*
(Courses may be repeated. Open only to students in intercollegiate athletics.)

ATHL 100. Conditioning of Athletes (1 unit)
Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current *Class Schedule* for appropriate section and class number.

ATHL 176. Baseball (2 units)
Men only.

ATHL 177. Basketball (2 units)
Men only.

ATHL 178. Basketball (2 units)
Women only.

ATHL 180. Cross Country (2 units)

ATHL 181. Equestrian (2 units)
(Same as ASCI 187.) Women only.

ATHL 182. Football (2 units)

ATHL 183. Golf (2 units)
Men only.

Office of the President
Department of Athletics
Thomas C. Boeh, *Director of Athletics*
559.278.2643

ATHL 184. Golf (2 units)
Women only.

ATHL 185. Soccer (2 units)
Women only.

ATHL 187. Softball (2 units)
Women only.

ATHL 189. Swimming and Diving (2 units)
Women only.

ATHL 191. Tennis (2 units)
Men only.

ATHL 192. Tennis (2 units)
Women only.

ATHL 193. Track and Field (2 units)

ATHL 194. Women's Lacrosse (2 units)
Women only. (Formerly ATHL 90T)

ATHL 196. Volleyball (2 units)
Women only.

* Students majoring in kinesiology or dance may count a maximum of 12 units of dance technique, kinesiology activity courses, and intercollegiate athletics courses toward the total units required for the bachelor's degree; other students may apply a maximum of 8 units to the total degree requirement.

Faculty

Thomas C. Boeh, *Chair*

Evan Austin
Mike Batesole
Angie Cates-Moore
Collins Daye
Tim DeRuyter
Jeanne Fleck
Trisha Ford
Paul Ladwig
Betsy Mosher
Lauren Netherby-Sewell
Jessica Pausewang
Raegan Pebley
Ryan Reggiani
Ryan Stotland
Rodney Terry
L. Michael Watney
Scott Winsor
Brian Zwaschka

Jordan College of Agricultural Sciences and Technology

Agricultural Sciences Building, Room 102, 559.278.2061
Charles D. Boyer, *Dean;* Sandra S. Witte, *Associate Dean*
http://cast.csufresno.edu/

The Mission of the College

Jordan College of Agricultural Sciences and Technology is dedicated to improving the environment and quality of life through education, research, and public service in the areas of agriculture, food, technology, and the family. Educational opportunities in the college emphasize problem solving through the application of basic scientific principles, up-to-date technology, and the latest management techniques.

The college has dedicated faculty and staff to help you achieve your educational goals. Our faculty members will help you network with students who have similar interests in numerous on-campus clubs, as well as with industry professionals in various state and national organizations. The faculty and staff will involve you in applied research, service activities, and industry internships.

Upon graduation, you will be recognized for your solid basic science foundation, your experience in applied research, your hands-on problem-solving skills, and your global view of the world.

Jordan College of Agricultural Sciences and Technology includes the departments of Agricultural Business; Animal Sciences and Agricultural Education; Child, Family, and Consumer Sciences; Food Science and Nutrition; Industrial Technology; Plant Science; and Viticulture and Enology. The 1,083-acre University Agricultural Laboratory and the California Agricultural Technology Institute are integral parts of the college.

Agricultural Business

Agricultural Business

Join the leader in science, technology, and management. The award-winning Agricultural Business Program at California State University, Fresno is a pacesetter — having been recognized by the Agribusiness Education Project, sponsored by the U.S. Department of Agriculture and comprised of agricultural industry leaders and higher education scholars from around the country.

The agricultural business curriculum is a comprehensive and integrative program of economic analysis and business applications with a problem-solving orientation and a practical experience emphasis.

Degree Programs

The B.S. in Agricultural Business combines core undergraduate courses in agricultural business (AGBS) with basic business management and agricultural science foundation courses. This undergraduate major allows you to emphasize a career specialty, such as agribusiness management, agricultural finance, agricultural marketing, farm management, or food industry management.

Certified Minor Programs. The Minor in Agricultural Business is available for students majoring in agricultural sciences, business, and other fields.

Complementary Fields of Study. Agricultural business students wishing to enhance their major with a technical field should consider a *minor* in such closely allied disciplines as Animal Science, Family and Consumer Sciences, Food and Nutritional Sciences, and Plant Science. The supplementary *Minor in General Business* is available through the Sid Craig School of Business.

Ag One Grants for academic fees and books are available. Call 559.278.2061 for scholarship information and application.

The Master of Business Administration (MBA) has an elective area in agricultural business combining graduate courses in agricultural business (AGBS) with core courses from business. This AACSB-accredited degree program is administered by the Craig School of Business. It is designed for individuals seeking to advance their career by enhancing their business management and economic analysis skills with an emphasis on agricultural sector applications. Contact the graduate business adviser at 559.278.2107. ***This area not currently accepting applications.***

Instructional Facilities

Modern Computing Facilities. Labs are used to teach students computerized farm accounting systems, agricultural enterprise spreadsheets, agribusiness simulations, commodity trading, and to expose them to planning and decision-making aids as part of their professional expertise.

Center for Agricultural Business (CAB). Organized to promote the economic efficiency, profitability, and competitiveness of California agriculture, CAB uses faculty expertise and student assistance to address problems and opportunities in farm management, agribusiness finance, commodity marketing, agricultural trade, natural resources, and labor management. Seminars are held periodically on topics of concern to farmers and agribusiness managers. An annual Agribusiness Management Conference is co-sponsored with industry to explore current issues and report the economic outlook of the state's agricultural sector.

Career Opportunities

Graduates of the Agricultural Business Program can choose from more than 150 professional occupations in California's agricultural sector and related industries. Ask your faculty adviser for the agricultural business career opportunities list. Students can subscribe to a listserv that exclusively targets agribusiness internships and jobs.

Professional Preparation

Students establish credibility with prospective employers by participating in the following occupationally related activities.

- **Agricultural Business Club.** Students plan field trips, invite industry speakers to meetings, organize the annual alumni dinner, hold a newcomer picnic, support a campus job fair, and sponsor career preparation workshops.
- **Industry Internships.** Opportunities exist for many career positions through management training programs with agricultural business firms and support institutions. The department coordinates internships on a competitive basis and grants academic credit in the major for this supervised experience (AGBS 194).
- **University Agricultural Laboratory Project.** Students gain farming experience through participation in the faculty supervised, student project program and concurrent enrollment in an Enterprise Management course (PLANT, ASCI 196). Such a course is highly recommended and can be used in the major.

Jordan College of Agricultural Sciences and Technology

Department of Agricultural Business

Annette E. Levi, *Chair*

Steve Nasse,

Administrative Support Coordinator

Leon S. Peters Building, Room 302

M/S PB 101

559.278.2949 FAX: 559.278.6536

http://agbs.jcast.csufresno.edu/

B.S. in Agricultural Business

Minor in Agricultural Business

Emphasis in Agricultural Business (Graduate MBA Program)

Faculty

Annette E. Levi, *Chair*

Patrick T. Berends
Srinivasa Konduru
Todd A. Lone
Dwight D. Minami
Dennis L. Nef
R. Lynn Williams
Pei Xu

Faculty members are broadly trained with advanced degrees from top-ranked universities across the nation, and are highly experienced as teachers, consultants, and researchers. They bring practical insight to the classroom by being professionally active in service to California farms and agribusinesses, industry organizations, government agencies, and professional associations. Forming a strong advisee/adviser relationship with any one of the faculty can help you match your career goals with appropriate coursework.

Bachelor of Science Degree Requirements

Agricultural Business Major *Units*

Major requirements 60-61

Agricultural Foundation ..... (9)
(Select three lower-division courses from the below areas. No more than 3 units are allowed in the Ag Business area. No more than 6 units may be taken in any one of the remaining areas. Courses listed are approved introductory level courses. General Education courses cannot be double-counted for credit herein.)
Ag Business: AGBS 5
Animal Sci: ASCI 1, 21, 31, 35, 41, 51, 61, 71, 81, 91
Food Sci/Nutr: FSC 1, 41; NUTR 54; CULG 50, 55
Mech Ag: MEAG 3, MEAG 20
Plant Sci: CRSC 1; HORT 1; OH 1
Soil/Water: SW 2
Vit/Enol: VIT 1; ENOL 15, 45

Business Management Base.....(18-19)
AGBS 2 or ECON 50
AGBS 28 or BA 18
AGBS 31 or ACCT 4A
AGBS 32 or ACCT 4B
AGBS 71 or DS 73 or MATH 11
AGBS 76 or IS 52, 52L

Agricultural Business Core ..... (24)
AGBS 100, 110, 120, 130, 140, 150, 160, 170S

Career Specialty ..... (9)
A required concentration of upper-division units in agricultural economics is selected to match the student's career goal in consultation with the student's assigned faculty adviser. (See major program of study advising check sheet for elective course listings in various subfields.

Additional requirements 0-1
Agricultural Business majors must take the following courses, which also satisfy General Education requirements:
FOUNDATION
Area B4: DS 71 or MATH 75
BREADTH
Area D3: AGBS 1

General Education requirements..... 51

Electives and remaining degree requirements 6-9
Upper-division writing skills by exam or writing course.
Courses supplementary to the major are strongly recommended.

Total units..... 120

Grade requirements. Students majoring in agricultural business must earn a grade of *C* or better in each of the lower-division AGBS courses used to satisfy the *Business Management Base* and the *Additional Requirements* in the major.

Advising Notes

1. New students should request the *Advising Information* brochure that includes a program-of-study check sheet and explanatory notes about requirements for the major.
2. All students are assigned a faculty adviser. Consult the department bulletin board for the current listing. Make an appointment each semester to review your academic record and to schedule remaining courses in order to graduate in a timely manner.
3. Prospective transfer students should consult with a community college academic adviser about their program of study to determine which California State University, Fresno AGBS courses are articulated as equivalent for lower-division credit. Transfer students may also consult *ASSIST,* the statewide articulations database, *www.assist.org*.
4. Credits earned for articulated community college courses do not count toward upper-division units in the major.
5. Students intending to pursue graduate study in agricultural economics or agribusiness should include approved courses in intermediate macroeconomic theory, differential and integral calculus, inferential statistics, and linear regression in their bachelor's degree program.
6. A double major of agricultural business with animal sciences, food and nutritional sciences, or plant science must have 36 mutually exclusive units (including a minimum of 18 upper division). A double major requires the approval of the department chairs administering these programs of study. General Education and elective units may be applied (i.e., double counted) toward a second major or a minor. (See *Double Major* or *Minor* in this catalog and consult with the appropriate department adviser.)
7. Unit limits for courses included in the major exist for AGBS 80/180 (4 units combined maximum allowed) and AGBS 194 (3 units maximum allowed).
8. General Education courses cannot be double-counted for credit in the 60-unit major. G.E. courses may be used to satisfy additional requirements to the major.

Agricultural Business Minor

This minor field of study is principally designed for agricultural science and business majors. Those students majoring in animal, plant, and food sciences as well as agricultural education may seek to complement their technical knowledge with competencies in agricultural business for professional advancement. Students majoring in one of the business degree options may anticipate staying in the San Joaquin Valley where they will most likely become involved with and require an understanding of the agricultural sector as employees, clients, or customers of agribusiness firms. The minor also provides a foundation for graduate study in agricultural business or agricultural economics.

You should consult with your faculty adviser in the Agricultural Business Department to plan your program. The adviser and the department chair must approve the minor program of study before it can be filed with the Office of Evaluations, and recorded on your transcript.

The minor consists of 24 units, of which equivalent courses are acceptable for a maximum of 12 units.

Units

Core Requirements
Intro Microeconomics: AGBS 1 ..... **3**
Financial Accounting: AGBS 31 ..... **3**
Intermediate Microeconomics: AGBS 100..... **3**
Production Operations: AGBS 110 or AGBS 124 ..... **3**
Organizational Behavior: AGBS 120.... **3**
Financial Principles: AGBS 130..... **3**
Government Policy: AGBS 150 ..... **3**
Agricultural Marketing: AGBS 160 ..... **3**
Total units..... 24

Note: The Agricultural Business Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Notes

1. University policy states that courses fulfilling requirements for a minor may be counted toward General Education.
2. Students pursuing a minor are expected to have basic computer competencies (AGBS 76 recommended) and fundamental quantitative reasoning skills (AGBS 78 or DS 71 or MATH 75 recommended) before enrolling in the required upper-division courses.
3. The department waives AGBS 1, 31, 120, and 130 for students who have already received credit for ECON 40, ACCT 4A, MGT 104 or 110, and FIN 120 respectively. Such course waivers correspondingly reduce the unit requirement for the minor from the maximum of 24 to a possible 12 — the minimum allowable under the Title 5 code. This adjustment accommodates the university policy that "courses in a major cannot be applied toward a minor unless designated as 'additional requirements' to the major."
4. Concerning the course selections to satisfy the production operations core requirement, consult with the minor adviser about which choices match your career plans.
5. All courses in the minor must be taken for a letter grade; ***CR/NC*** grading is not acceptable.

Prerequisite Notice

1. **Agricultural business majors** *must* complete the lower-division business management base courses (AGBS 2, 28, 31, 32, 71, 76) and the lower-division additional requirements to the major in General Education Foundation Area B4 (DS 71 or MATH 75) and Breadth Area D3 (AGBS 1) before enrolling in upper-division AGBS courses.
2. **Non agricultural business majors** who select the Production Management Option (Animal Sciences Major), the Production Management Emphasis (Plant Science Major), or the Teacher Preparation Option (Agricultural Education Major) *must* complete AGBS 1, 31, and 76 before enrolling in any upper-division AGBS courses. ***Note***: DS 71 or its equivalent is a prerequisite for some core upper-division AGBS courses. Permission of instructor may be necessary to register for some upper-division AGBS courses because of the general prerequisite structure indicated in note 1 above for students majoring in agricultural business and the specific prerequisites listed in individual course descriptions.

COURSES

Note: Active immunization against tetanus (available through Student Health Services) is a prerequisite for registration in any laboratory course in agriculture and for any student employment on the University Farm.

Note: Cost to the student of extended field trips will vary each semester depending upon itinerary. The student should ask the course instructor.

Agricultural Business (AGBS)

AGBS 1. Introductory Agricultural Economics (3 units)
Prerequisite: G.E. Foundation A2. Microeconomic principles of resource allocation, production, cost, and market price equilibrium with primary application to farms and agribusinesses. Supply and demand in commodity pricing under perfect and imperfect competition. Optimizing single variable input production function; total/marginal approaches to profit maximizing output. G.E. Breadth D3. (Formerly AGEC 1)

AGBS 2. Agricultural Sector Analysis (3 units)
Domestic and international forces affecting industry profitability of farm input suppliers, agricultural producers, commodity processors, food marketers; government fiscal, monetary, trade policies interaction with agricultural credit, price support, food subsidy programs; impact on agribusiness asset values, debt accumulation, income levels. (Formerly AGEC 2)

AGBS 5. Survey of Agricultural Economics and Agribusiness (3 units)
Not open to students with credit in any upper-division AGBS course. Orientation to agricultural sector, institutions, and historic farm problems. Basic economic concepts and business principles applied to management, marketing, finance, and trade. Consumer demand and producer supply functions. Competitive market price determination. Overview of resource, environmental, consumer, and farming issues and government policies. (Formerly AGEC 5)

AGBS 28. Introductory Agricultural Law (3 units)
Fundamentals of agricultural law including historical sources; legislative laws and business ethics; administrative regulations, judicial decisions affecting agriculture; express and implied contracts with remedies for their breach in agricultural situations; real and personal property law plus secured transactions in agriculture. (Formerly AGEC 28)

AGBS 31. Farm Accounting (3 units)
Basic concepts and principles of financial accounting systems applied to farm operations; mechanics of recording single and double entry transactions under cash and accrual accounting methods; preparation and analysis of enterprise records and financial statements to generate management information. (Formerly AGEC 31)

AGBS 32. Agribusiness Managerial Accounting (3 units)
Prerequisite: AGBS 31 or ACCT 4A. Application and analysis of accounting information for farm and agribusiness management; integration of economic, and financial principles in preparing business plans; equipment cost control and crop enterprise accounting methods; capital investment and profit performance; introduction to computerized farm accounting systems. (2 lecture, 1 arranged) (Formerly AGEC 32)

AGBS 71. Agricultural Business Statistics (3 units)
Prerequisite: ELM requirement met. Study of statistical techniques and formal reasoning applications to management and social and agricultural sciences. Calculation, interpretation, critical evaluation, and historical relevance of quantitative tools, data analysis, and results including graphical presentations, descriptive and inferential statistics, hypothesis formulation and testing, and regression. (Formerly AGEC 71)

AGBS 76. Agribusiness Microcomputer Applications (3 units)
Applied microcomputing for agribusiness management; use of spreadsheet, database management, and presentation software; applications to basic farm accounting and financial budgeting, farm production recordkeeping, crop and livestock enterprise management, and commodity price trend tracking. (Formerly AGEC 76)

AGBS 78. Agribusiness Quantitative Analysis (3 units)
Prerequisite: ELM requirement met. Functional relationships, marginal analysis and decision-making models in agribusiness; logic and probability in diagnosing problems, designing operations and achieving objectives; identification of procedures for efficient resource utilization. (Formerly AGEC 78)

AGBS 80. Undergraduate Research (1-4; max total 4 units)
Prerequisites: AGBS 1 and permission of instructor. Directed study or research on particular problems in the field of agricultural economics and business. Consult department policies and procedures governing undergraduate research. Approved for *RP* grading. (Formerly AGEC 80)

AGBS 85T. Topics in Agricultural Business (1-3; max total 6 units)
Agricultural economics, farm management, agribusiness management, financial planning, agricultural development, public policy, product marketing, and decision analysis. Topics may require lab hours. (Formerly AGEC 85T)

AGBS 100. Intermediate Agricultural Economics (3 units)
Prerequisites: AGBS 1; AGBS 78 or DS 71 or MATH 75. Microeconomic theory of agricultural production in factor-product, factor-factor, product-product decisions; production costs and economies of size; consumer choice theory; price and output determination under imperfectly competitive markets; marginal productivity theory and the derived demand for agribusiness inputs. (Formerly AGEC 100)

AGBS 110. Farm Management (3 units)
Prerequisites: AGBS 31, 76, and 100. Production economics and management techniques for analysis of efficient farm resource use, planning and organization; analysis of budgeting and optimization techniques, and computer applications for developing farm management plans. (Formerly AGEC 110)

AGBS 117. Agricultural Labor-Management Relations (3 units)
Prerequisite: AGBS 1. Economic analysis of the farm labor market; labor productivity, agricultural mechanization and farm employment; farm labor laws and government regulations; agricultural labor relations, unionization, and collective bargaining; farm personnel administration practices and supervisory management principles. (Formerly AGEC 117)

AGBS 120. Agribusiness Management (3 units)
Prerequisite: AGBS 1. Organizational forms and management functions of agribusiness firms; human resource management systems; management science principles for optimizing plant location, equipment replacement, inventory control, and sales volume; operations research techniques, including probability-based network and decision models, for solving agribusiness problems. (Formerly AGEC 120)

AGBS 122. Agricultural Cooperative Management (3 units)
Prerequisite: AGBS 120. Philosophical, historical, and legislative evolution of U.S. agricultural cooperatives; uniqueness of cooperative organization, planning, direction and control functions vis-a-vis standard corporations; legal, financial, and tax considerations in managing input-supply and marketing cooperatives; case studies and field trips to cooperatives. (Formerly AGEC 122)

AGBS 124. Food and Fiber Industry Management (3 units)
Prerequisite: AGBS 1. Production management of farm input manufactures, agricultural commodity processing, food/fiber product distribution; functional approach to transformation/value-added operations including planning, organizing, directing, coordinating, controlling; case applications to materials handling, product development, food packaging, quality control, transportation logistics, inventory management. (Formerly AGEC 124)

AGBS 130. Agricultural Finance (3 units)
Prerequisites: AGBS 2, 31, 76; 100 or instructor's permission. AGBS 32 recommended. Analysis of farm financial statements; legal instruments of financial transactions; institutional sources of farm credit; time value of money and capital budgeting for agricultural investment; cost of debt and equity capital; risk management strategies; insurance, tax, and farm estate planning. (Formerly AGEC 130)

AGBS 131. Agricultural Capital Markets (3 units)
Prerequisites: AGBS 2, 130. Public and private financial intermediaries as sources of agricultural capital; the Cooperative Farm Credit System; credit management policies and practices; government policy, the regulatory environment, and competitive financial markets; legal requirements of financial instruments; external equity capital; and lease financing. (Formerly AGEC 131)

AGBS 136. Farm and Ranch Appraisal (3 units)
Prerequisites: AGBS 1. AGBS 110 recommended. Principles of agricultural appraisal; physical and economic factors affecting land values; estimation of real estate value using income, cost, and market data approaches; case studies and field problems involving the valuation of local farm and ranch properties. (Formerly AGEC 136)

AGBS 140. International Agricultural Economics (3 units)
Prerequisites: AGBS 1; AGBS 2 or ECON 50. U.S. agricultural sector in the global economy; trade theory versus government protectionism; domestic farm programs impacts on commodity exports/imports; international agreements, multi-lateral institutions, foreign currency exchange rates, overseas investment; regulatory, fiscal, and monetary policies affecting agribusiness competitiveness in world markets. (Formerly AGEC 140)

AGBS 150. Agricultural and Food Policy (3 units)
Prerequisite: AGBS 1; AGBS 2 or ECON 50. Analysis of public policies affecting the economics of U.S. and California agriculture; government programs influencing agricultural production, commodity distribution, market prices, farm income; environmental and natural resource issues; nutrition, food safety and biotechnology concerns; food industry regulation; international agricultural trade. (Formerly AGEC 150)

AGBS 155. Environmental and Natural Resource Policy (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Economic analysis of public policies governing land use, water management, energy generation, mineral exploitation and forest administration; review of population pressures and resource conservation; examination of externalities, property rights issues, resource use planning, agricultural zoning, environmental regulations, and reclamation law. G.E. Integration ID. (Formerly AGEC 155)

AGBS 160. Agricultural Market Analysis (3 units)
Prerequisite: AGBS 100 or permission of instructor. Commodity transformation and product flow through processing and distribution channels; market structure, conduct and performance; marketing system efficiency and marketing bill components; over supply, marketing orders, grading and standards, and price stabilization; price forecasting, futures market trading, and risk management. (Formerly AGEC 160)

AGBS 162. Commodity Futures Trading (3 units)
Prerequisite: AGBS 160 or permission of instructor. Study of commodity futures and options markets; speculative trading and techniques of fundamental and technical analyses; crop and livestock hedging strategies for commodity procurement and marketing; integrating options and futures trading for risk management; and development of futures trading plans. (Formerly AGEC 162)

AGBS 163. Agricultural Export Marketing (3 units)
Prerequisite: AGBS 160 or permission of instructor. Determination of potential overseas markets for U.S. agricultural products through export marketing studies; foreign business environment and distribution channels; product preparation and transportation abroad; cultural-specific promotional and advertising programs; international sales agreements, financial transactions, plus banking and shipping documentation. (Formerly AGEC 163)

AGBS 164. Agribusiness Sales Management (3 units)
Prerequisite: AGBS 1. Marketing management strategies for stimulating business and consumer demand for agricultural goods and services; food and fiber merchandising using institutional, functional, value approaches; sales program organization and staff development for effective communication of product information and timely completion of transactions. (Formerly AGEC 164)

AGBS 170S. Advanced Agribusiness Applications (3 units)
Prerequisites: AGBS 110, 120, 130, 150, 160; upper-division writing skills requirement. Research methods applied to agricultural business; problem definition and solution formulation; data collection and analysis using statistics and other techniques. Culminating activities may include research proposal, feasibility study, project review, business plan, strategic management, case study; written reports and oral presentations. (Formerly AGEC 170, AGBS 170)

AGBS 173. Wine Marketing (3 units)
Prerequisites: ENOL 45; AGBS 1. Marketing principles as applied to wine. Role of wholesalers, distributors, retailers, cooperatives. Advertising. Regulations. Interstate and international trade. **P** (Formerly AGEC 173)

AGBS 180. Undergraduate Research (1-4; max total 4 units)
Prerequisites: senior standing, upper-division writing skills requirement, permission of instructor. Directed study or research on particular problems in the field of agricultural economics and business. Consult department policies and procedures governing undergraduate research. Approved for ***RP*** grading. (Formerly AGEC 180)

AGBS 185T. Topics in Agricultural Business (1-3; max total 9 units)
Prerequisite: AGBS 1. Agricultural economics, farm management, agribusiness management, financial planning, agricultural development, public policy, product marketing, and decision analysis. Topics may require lab hours. May require field trips. (Formerly AGEC 185T)

AGBS 192. Agricultural Business Field Studies (2 units)
Prerequisite: AGBS 1. Business and economic functions performed by specialized agricultural agencies with emphasis on physical operating patterns. Field trips to production, marketing, and finance firms. Workshops with agribusiness managers. (1 lecture, 2 lab hours) (Field trip fee, $75) (Formerly AGEC 192)

AGBS 194. Agribusiness Internship (1-3; max total 6 units)
Prerequisites: junior standing. Emphasis on development of decision-making ability through industrial experience integrated with basic principles acquired in the classroom. Only 3 units of internship allowable in the major. ***CR/NC*** grading only. (Formerly AGEC 194)

GRADUATE COURSES

(See *Catalog Numbering System and Eligibility*.)

Agricultural Business (AGBS)

AGBS 210. Agribusiness Industry Analysis (3 units)
Prerequisite: classified standing or permission of instructor. Analysis of characteristics unique to agricultural institutions; practices in financing, producing, and marketing food and fiber products; integration of economic principles with management techniques for optimum decision-making under risk and uncertainty; crop/livestock enterprise budgeting; policy environment impact on agriculture.

AGBS 220. Food Processing and Distribution Management (3 units)
Prerequisite: AGBS 210. Classified standing or permission of instructor. Analysis of strategic management decisions involving pricing relationships, processing and packaging systems, supply channel management, transportation modes and distribution logistics for agricultural products in domestic and global markets; applications to food industry case problems including international food marketing firms. (Formerly AGBS 225)

AGBS 240. International Trade and Agriculture (3 units)
Analysis of global markets and national trade policies; economic principles underlying free trade and World Trade Organization; regional integration for growth/development; protectionism/preferences impact on capital investment flows, firm productivity, and industry competitiveness; domestic farm programs, international commodity agreements, and agricultural trade distortions.

AGBS 250. Agricultural Policy Analysis (3 units)
Classified standing or permission of instructor. Examination of policy-making processes; evaluation of government farm and food programs; determination of industry responses and firm adjustments to changing market structures and government policies; urbanization and other land, air, water resource issues impacting agriculture; geopolitics and agricultural trade policy.

AGBS 260. Commodity and Food Market Analysis (3 units)
Prerequisite: AGBS 210. Classified standing or permission of instructor. Economic and institutional relationships in food and fiber markets; commodity futures trading and risk management; derived demand by agribusiness for raw commodities; food industry marketing margins and market price determination; distribution and merchandising strategies; spatial and intertemporal price equilibrium models.

AGBS 280T. Topics in Agricultural Business (3; max total 6 units)
Prerequisite: AGBS 210. Classified standing or permission of instructor. Fields of study include farm management, agribusiness management, financial planning, international agriculture, public policy, and product marketing.

AGBS 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Agriculture (AGRI)

AGRI 300. Topics in Agriculture (1-3; max total 6 units)
Topics may require lab hours. In-service professional training in selected areas of agriculture.

Animal Sciences and Agricultural Education

Animal Sciences and Agricultural Education

Prepare for the future in agricultural sciences, technology, and management with a degree in animal sciences or agricultural education. The Department of Animal Sciences and Agricultural Education offers options in agricultural communications, teacher preparation, science, and production management. The science option has career specialization in the areas of preprofessional (basic) animal science and preveterinary medicine. The production management option offers career specialization in the areas of dairy science, equine science, meat technology and livestock business management. Courses integrate animal evaluation, behavior, disease, environmental management, genetics, health, marketing, muscle biology, nutrition, physiology, production, and reproduction.

The agricultural education major is designed to equip students for careers as agricultural communication specialists or secondary agriculture teachers. Specializations may be developed in agricultural business, animal sciences, plant sciences, or mechanized agriculture.

Instructional Facilities

Instruction in the animal science disciplines is enhanced through practical application at the various farm laboratory units on-campus. The Beef, Dairy, Horse, Meats, Poultry, Sheep, and Swine units are maintained by our faculty and students to support this educational purpose and provide a unique, hands-on learning experience for our students. In addition, veterinary and physiology laboratories are utilized to complement on-campus education. A 4,300-acre livestock and range management facility and another 800 acres of rangeland in the Sierra foothills are available.

Career Opportunities

Students earning a degree in animal sciences are equipped to pursue a variety of careers in the livestock industry including consultation, management, production, research, teaching, business, government and foreign service, and other professional services. Students studying agricultural education find numerous challenging careers options in the agricultural and educational fields.

The courses offered in the programs listed below provide the necessary background to prepare students for careers in the agricultural industry.

Agricultural Communications. Combines courses in agriculture with a journalism core and a specialty in advertising, broadcast journalism, print journalism, public relations, or digital and electronic media designed to train students for employment opportunities in the field of communication.

Preprofessional Animal Science. Provides a science oriented curriculum in the disciplines of animal science. This option prepares students for postbaccalaureate study or careers related to science, research, and the technical aspects of animal science.

Dairy Science. Prepares students for careers in commercial dairy herd management, genetics, nutrition, physiology, animal reproduction, animal health, milk handling, and other careers within or related to the dairy industry.

Equine Science. Educates students for careers in the equine industry by combining coursework in horse production, advanced horse management, and stable management with hands-on experience and internships at our on-campus Quarter Horse Unit and with local horse farms.

Meat Technology. Offers students opportunities for employment in the meat or food industry by teaching courses in the areas of meat science, muscle biology, food science and nutrition, HACCP, regulatory compliance, and marketing.

Preveterinary Medicine. Presents a structured program of courses in animal science and related biological/physical sciences which prepares students for admission to schools of veterinary medicine and for employment in the animal health industry.

Livestock Business Management. Provides a curriculum designed to support a strong core of animal science with specialized training in agricultural business. Students who select this option may wish to consider a Minor in Agricultural Business.

Teacher Preparation. Affords students the opportunity to gain the skills needed in all areas of agriculture for positions as secondary agriculture teachers. (See *Agricultural Education Major*.)

Jordan College of Agricultural Sciences and Technology

Department of Animal Sciences and Agricultural Education

Arthur A. Parham, *Chair*

Deborah Russell, *Administrative Support Coordinator*

Agriculture Building, Room 232, M/S AS75

559.278.2971

http://www.fresnostate.edu/jcast/asae/

B.S. in Animal Sciences

Options:

- Production Management
- Science

B.S. in Agricultural Education

Options:

- Agricultural Communications
- Teacher Preparation

M.S. in Animal Science

Minor in Animal Sciences

Agricultural Specialist Credential

Faculty

Arthur A. Parham, *Chair and Interim Graduate Coordinator*

Rosco C. Vaughn, *Agricultural Education Credentialing Coordinator*

John F. Cordeiro
John A. Henson
Randy C. Perry
Jon D. Robison
Steven J. Rocca
Michael W. Thomas
Scott A. Williamson

The faculty represent diverse specializations in the disciplines of animal science and teacher training. With doctoral degrees from many of the nation's most prestigious agricultural universities, the faculty have combined philosophies of undergraduate education, research, curriculum development, industry relations, and career placement into a unique program. Their experience allows for the combination of the practical and theoretical aspects of the animal sciences to provide an education

second to none. Students select an adviser who assists in both academic and career planning on an individual basis. The faculty place a high priority on strong teacher-student relationships.

Bachelor of Science Degree Requirements

Animal Sciences Major

Choose one option and one specialization under that option.

Options: Production Management, Science.

Units

Major requirements 62-66

Animal Science Core ..... (39)
ASCI 1, 35, 71, 101, 125, 135, 145, 155, 165, 186; BIOL 20 or 120
Select 6 units from the following: ASCI 21, 31, 41 51*, 61*, 91

Production Management Option

Career specialization *(choose one)*

Livestock Business Management Specialization ..... *(27)*
ASCI 11, 81, 156
Select 9 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 71 or PLANT 99; AGBS 117, 120; CHEM 8, 150; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 6 units from: ASCI 121, 131, 151, 161, 171, 172
Select 3 units from: ASCI 180, 181, 182, 190, 194, 196

Dairy Science Management Specialization ..... *(27)*
ASCI 61* (from ASCI core), 146, 156, 161, 162, 163, 164
Select 9 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 71 or PLANT 99; AGBS 117, 120; CHEM 8, 150; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 3 units from: ASCI 180, 181, 182, 190, 194, 196

Equine Science Specialization ..... *(27)*
ASCI 51* (from ASCI core), 151, 152, 153, 156
Select 9 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 117, 120; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 4 units from: ASCI 56, 57, 187
Select 4 units from: ASCI 180, 181, 182, 190, 194, 196

Meat Technology Specialization ..... *(27)*
ASCI 11, 162, 171, 172; FSC 125; CHEM 8
Select 3 units from: ASCI 121, 131, 151, 161
Select 5 units from: ASCI 180, 181, 182, 190, 194, 196

Science Option

Career specialization *(choose one)*

Preprofessional Specialization ..... *(24)*
ASCI 156; CHEM 8, 129A, 150; AGBS 71 or PLANT 99 or MATH 101
Select 6 units from: ASCI 121, 131, 151, 161, 171, 172
Select 3 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 117, 120; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 3 units from: ASCI 180, 190, 194

Preveterinary Medicine Specialization ..... *(23-24)*
ASCI 68; BIOL 1B, 1BL; CHEM 1B, CHEM 8, or CHEM 128A/B, 129A, 150; PHYS 2A

Additional requirements 1-3

Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9-12 units of the 51 unit General Education requirement, plus 1-3 excess units beyond the requirements in BREADTH Area B1 for the Production Management Option and Area B1 and B2 for the Science Option.

Production Management Option *(1 unit above G.E. requirement of 51 units)* BREADTH: CHEM 3A (Area B1); BIOL 10 or 12 (Area B2); AGBS 1 (Area D3); ASCI 67 recommended (Area E1)

Science Option *(3 units above G.E. requirement of 51 units)* BREADTH: CHEM 1A (Area B1); BIOL 1A (Area B2); ASCI 67 recommended (Area E1)

General Education requirements..... 51
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements 2-4

Total minimum requirements.....120**

* Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51 and Dairy Specialization majors are required to take ASCI 61.

** The total number of units will exceed 120 if a student chooses to meet all of the veterinary school entrance requirements, as additional courses may be required (see advising note 6.) This total presumes that the student has fulfilled the Upper-Division Writing Skill requirement by passing the Upper-Division Writing Skill examination for 0 units.

Advising Notes

1. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned adviser.
2. New students should request an option advising check sheet from the department office.
3. All students should make an appointment with their assigned faculty adviser prior to registration each semester.
4. ***CR/NC*** grading is not permitted for courses included in the major unless the courses have been designated ***CR/NC*** grading only.
5. The upper-division writing skills requirement can be met by passing the university examination (UDWE) or by taking an approved upper-division writing skills course, to be taken no sooner than the term in which 60 units are completed. One unit of credit in ENGL 100W may be earned for passing the exam if requested by the student; three to four units of credit will be earned by obtaining a letter grade of ***C*** or higher in an approved course.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveterinary medicine students should consult their faculty adviser regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Bachelor of Science Degree Requirements

Agricultural Education Major

Options: Agricultural Communications, Teacher Preparation

Units

Major requirements 54-60

Select *Teacher Preparation* or *Agricultural Communications*

Teacher Preparation Core .....(39)

Agricultural Economics..... (6)
AGBS 31, 120

Animal Science..... (9)
ASCI 1, 11; select one of the following: ASCI 21, 31, 41, 61, 91

Natural Resources and Forestry..... (3)
CRSC 105

Ornamental Horticulture..... (3)
OH 1

Plant Science ..... (9)
CRSC 1; SW 100 or SW 100N; HORT 110

Mechanized Agriculture..... (9)
MEAG 1, 50, 114

Teacher Preparation Career Specialty.....(15)
Select one: Agricultural Business, Animal Science, Mechanized Agriculture, or Plant Science (see *Teacher Preparation Option check sheet available in the department office.*)

Agricultural Communications Core .....(45)

Agricultural Economics..... (3)
Select 3 units from: AGBS 28, 31, 117, 120, 150

Agricultural Education..... (6)
AGED 66, 166

Animal Science..... (9)
ASCI 1
Select 6 units from: ASCI 11, 21, 31, 35, 41, 51, 61, 81, 91

Food Science and Nutrition..... (3)
Select 3 units from: ASCI 71, ENOL 15

Mass Communication and Journalism ..... (9)
MCJ 1, 10, 172 or 173

Mechanized Agriculture..... (3)
Select 3 units from: MEAG 1, 20, 50

Plant Science ..... (9)
Select 9 units from: CRSC 1; OH 1; HORT 1, 110; VIT 1

Soil and Water..... (3)
Select 3 units from: SW 2, 100, 100N

Agricultural Communications Career Specialty .....(15)
Select one: Advertising, Broadcast Journalism, Digital Medial, Electronic Media Production, Photo Journalism, Print Journalism, Public Relations (see *Agricultural Communications Option check sheet available in the department office.*)

Additional requirements 1-10

Agricultural education majors must take the following courses, which also satisfy General Education requirements. These courses amount to 12 units of the 51 unit G.E. requirement, plus 1 excess unit beyond the 3 unit requirement in BREADTH Area B1.

BREADTH
Area B1: CHEM 3A
Area B2: BIOL 10, 11, or 12
Area D3: AGBS 1
Area E1: ASCI 67

Teacher Preparation Option .....(9)
Teacher Education requirements: AGED 50 or EHD 50; AGED 135, 150

General Education requirements..... 51
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements 5-8
Upper-division writing requirement by exam or writing course (see advising note 5 following animal science major)
Courses supplementary to the major are strongly recommended.

Total minimum requirements.....120

Advising Notes

1. See *Advising Notes 1-6* following animal sciences major.
2. Teacher preparation majors seeking the Agriculture Specialist Credential must also take AGED 187 and AGED 189.
3. Contact the Kremen School of Education and Human Development for admission and program requirements for the Single Subject Credential.
4. Agriculture courses titled *Tours* or *Lectures* may be used to satisfy upper-division unit requirements but may not be counted to satisfy agricultural education core or specialized field requirements in the major.
5. Candidates for the Agriculture Specialist Credential must possess 3,000 hours or two years of occupational experience in agriculture. (For details, consult the agricultural education credentialing coordinator.)
6. Agricultural communications students must pass the Department Qualification Examination (DQE). The DQE is a screening examination administered by the Mass Communication and Journalism Department. It must be passed before permission is given for enrollment in MCJ 10 and other writing and editing courses. Contact the Mass Communications and Journalism Department for DQE information, requirements, and testing dates.

Approved Subject Matter Preparation Program

Completion of the Bachelor of Science degree in Agricultural Education meets the requirements of the Approved Subject Matter Preparation Program. The Single Subject Credential authorizes the holder to teach *general agriculture* in grades 7-12. Students with a B.S. in another agricultural major may obtain a Single Subject Credential by completing the remaining coursework required for the B.S. in Agricultural Education.

Credential candidates must pass examinations in reading, writing, and mathematics in addition to other numerous state of California and California State University, Fresno requirements. Consult the agricultural education major adviser and the Kremen School of Education and Human Development for details.

Agricultural Specialist Credential Program

The Agricultural Specialist Credential, which authorizes holders to teach secondary school vocational agriculture, is offered jointly by Jordan College of Agricultural Sciences and Technology and the Kremen School of Education and Human Development. It requires completion of the Single Subject Waiver Program (see above), professional education courses (see *Education — Single Subject Credential — Program Requirements, Professional Preparation*), and an approved fifth-year program of 30 postgraduate units including AGED 135, 150, 187, 189; EHD 155B; CI 161; and AGRI 280, 281.

Animal Sciences Minor

This program is designed for students in other majors who desire instruction in the various disciplines of animal science. Students may design a minor with an animal science adviser to best satisfy their interests.

Students must consult with a faculty adviser in the Animal Sciences Department to plan the minor. The adviser and department chair must approve the minor program before it can be certified by the college dean. It is then filed with the Evaluations Office and recorded on the transcript.

A Minor in Animal Sciences consists of a minimum of 21 units, 9 units of which must be upper division. The minor program of study must be designed from the following courses:

	Units
Select from: ASCI 1, 21, 31, 41, 51, 61, 71	**3-6**
Select from: ASCI 11, 35, 65	**3-6**
Select from: ASCI 101, 125, 135, 145, 155, 165	**9-10**
Select from: ASCI 121, 131, 151, 161, 171	**3**
Total units	**21-22**

Note: The Animal Sciences Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Notes

1. Complete an Animal Sciences Minor advising sheet with a faculty adviser for selection of courses.
2. Courses in a major cannot be applied toward a minor unless designated as additional requirements.
3. All courses in the minor must be taken for a letter grade. *CR/NC* grading is not acceptable.
4. A minor may be earned only at the time a student earns the first baccalaureate degree.

Master of Science Degree Program

The Master of Science in Animal Science is a 30-unit degree program designated to extend professional competencies in animal science to professionals in the industry and to provide the first graduate degree for students anticipating advanced graduate work in the animal sciences. The curriculum is flexible to accommodate a wide variety of areas of interest in animal science. Coursework in animal science includes ruminant and non-ruminant nutrition, environment, reproduction, meats, and health. Appropriate coursework in agricultural education, chemistry, biology, food science, business, or in other areas may also be taken with approval to meet the needs of individual student programs. A thesis or a comprehensive exam can be taken. Full-time graduate students may earn the degree within two years when working closely with an adviser. To accommodate part-time students, graduate courses are offered in the late afternoon or evening.

Admission requirements. The Master of Science in Animal Science assumes preparation equivalent to a bachelor of science in animal science or agricultural education from an accredited institution. The preparatory baccalaureate degree must include the following courses or their equivalents:

a. ASCI 35 and three of the following five courses: ASCI 125, 135, 145, 155, 165;
b. BIOL 1A or BIOL 12;
c. CHEM 1A or 3A; CHEM 8, 129A, 150
d. undergraduate level statistics course; and
e. two animal science production courses.

The above courses or equivalents must be completed prior to enrollment in courses that will be applied to the master's program.

Admission to unclassified postbaccalaureate standing by the university does not imply acceptance in the Master of Science in Animal Science program.

Applicants whose preparatory education was principally in a language other than English must earn a minimum TOEFL score of 550.

Admission materials. To be considered for admission to the graduate program, the candidate must submit the following materials: evidence of a baccalaureate degree in animal science or agricultural education, or in a related field with appropriate preparatory coursework from an accredited institution; official transcripts of all college work, scores from the Graduate Record Examination General Test (GRE); university application for graduate/postbaccalaureate admission to the Graduate Admissions Office; three letters of reference from employers or faculty at the university attended most recently; and a statement of 500 words or less indicating reasons for pursuing a master's degree.

Program admission criteria. Candidates for admission will be evaluated using the following criteria: undergraduate coursework, grade point average of 3.0 or better on the last 60 semester units, recommended GRE scores (480V/580Q are equivalent to the 50th percentile), 500-word statement of professional goals, and three letters of recommendation. Students lacking in any area with compensating strengths in other areas are encouraged to apply.

Classified standing will be granted to students who meet all of the program admission criteria. Conditional classified standing may be granted to applicants with a 2.75-2.99 GPA (last 60 semester units) and/or those required to complete prerequisite coursework. Prerequisite coursework is not included in the 30-unit master's program. Students must request classified standing in the program by the semester in which a maximum of 10 units to be used toward the degree are completed.

Program Requirements

The student, under the direction of a graduate adviser, prepares and submits a coherent program individually designed within the following framework:

	Units
Core	**12**
AGRI 200 (or BIOL 274), 201, 220; ASCI 229 (1+1+1)	
Electives	**14**
100-200 level courses with prior approval of adviser and thesis committee. Courses may be chosen from the following:	
ASCI 240T, 241, 246, 247, 248, 290	
AGRI 280, 281	
CHEM 150, 153, 156	
Courses in agriculture, business, food science, biology, or other	
Culminating experience	**0-4**
Thesis (4 units) or	
Comprehensive Exam (0 units)	
Total minimum units	**30**

Graduate Advising Notes

1. Several of the 200-level and approved elective courses have prerequisites other than courses listed as admission requirements.
2. Students must request specific information concerning the program from the department office.
3. Upon admission, students should see the graduate coordinator for assistance in program planning, selection of graduate adviser, and selection of a thesis committee.
4. To progress through the graduate program, the student must do the following:
   a. Maintain a minimum 3.0 GPA
   b. Complete all prerequisite coursework
   c. Attain classified standing
   d. Meet university graduate writing requirement by passing the writing component of AGRI 220 (contact the department office or the graduate coordinator for more information)
   e. File for advancement to candidacy

f. Complete the program requirements
g. File a master's thesis committee assignment form
h. Formally present and defend the thesis research results or pass a comprehensive examination

5. Advancement to candidacy requires the completion of 9 program units in residence (minimum GPA of 3.0), meeting the university graduate writing skills requirement, departmental requirements, and filing a petition of advancement to candidacy no later than one semester prior to enrollment in thesis and by the deadline.
6. Thesis students may apply a maximum of 2 units of independent study to the master's program.
7. A maximum of 9 units of 100-level courses may be used to meet degree requirements.
8. See *Division of Graduate Studies* in this catalog for university requirements.

COURSES

Note: Active immunization against tetanus (available through Student Health Services) is a prerequisite for registration in any laboratory course in agriculture and for any student employment within the University Agricultural Laboratory.

Note: Cost to the student of extended field trips varies each semester depending upon itinerary. The student should ask the course instructor.

Animal Science Principles (ASCI)

ASCI 1. Introduction to Animal Science (3 units)
Overview of the livestock and poultry industry; types and breeds, world distributions, foods and products from farm animals, reproduction, genetics, nutrition, and marketing. (2 lecture, 2 lab hours)

ASCI 35. Feeds and Feeding (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Principles of nutrition; nutrients and their metabolism; comparison of qualitative nutrient requirements of non-ruminant and ruminant animals and formulating diets to meet these requirements. (2 lecture, 3 lab hours)

ASCI 65. Introduction to Animal Health (3 units)
The stockman's approach to animal health and disease control in domestic animals. Classification of animal diseases, their causes and appropriate treatments with emphasis on preventative medicine. (2 lecture, 3 lab hours)

ASCI 67. Animals and Society (3 units)
Philosophical, ethical, and scientific investigation of the human/animal bond and the significance of animals in our society. Importance of animals in wellness, rehabilitation/convalescence, and stress management. Interdisciplinary investigation of controversies in animal research and human disease. G.E. Breadth E1.

ASCI 101. Environmental Management of Farm Animals (3 units)
Prerequisite: ASCI 1. Basic principles of environmental management as applied to domestic farm animals. Special emphasis given to animal behavior, animal welfare, and animal performance. The optimal animal environment will be studied in detail.

ASCI 125. Animal Genetics (3 units)
Prerequisite: ASCI 1. Genetic principles and application to livestock production; basic inheritance, qualitative genetics, variation in economic traits of livestock, quantitative inheritance, selection progress; current methods of genetic livestock improvement.

ASCI 135. Animal Nutrition (3 units)
Prerequisite: ASCI 35, CHEM 3A. Principles of nutrition and metabolism; digestive physiology of farm animals.

ASCI 145. Anatomy and Physiology of Farm Animals (4 units)
Prerequisite: BIOL 10 or 12. General structures of farm animals and physiological functions of organs in the animal body. (3 lecture, 3 lab hours)

ASCI 146. Physiology of Lactation (3 units)
Prerequisites: ASCI 61, CHEM 3A. Fundamentals of anatomy, physiology, and endocrinology of milk synthesis and secretion; milking machine systems and management; pathological and environmental factors affecting lactation.

ASCI 155. Animal Reproduction (3 units)
Principles of reproductive physiology, associated endocrine hormones, and their application to domestic animals.

ASCI 156. Artificial Insemination — Embryo Transfer (1 unit)
Prerequisite: ASCI 155 (may be taken concurrently). Basic principles of artificial insemination and embryo transfer with emphasis on application to cattle. (3 lab hours)

ASCI 163. Dairy Cattle Nutrition (3 units)
Prerequisite: ASCI 35. Principles of dairy cattle nutrition. Nutritional requirements of the dairy calf through the mature cow. Special emphasis on computerized diet formulation and feed inventory control.

ASCI 165. Infectious Diseases of Domestic Animals (3 units)
Prerequisites: BIOL 20 or 120. Microbiological concepts related to bacterial, viral, and fungal diseases in domestic animals with emphasis on specific diseases of veterinary importance. (2 lecture, 3 lab hours)

Production and Management (ASCI)

ASCI 11. Meat Animal Selection and Evaluation (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Basic factors involved in selection and evaluation of market animals; relationships of live market animal traits to carcass cutability and quality. (2 lecture, 3 lab hours)

ASCI 21. Beef Cattle Production (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Overview of world and United States beef production. Evaluation of the structure of the beef industry (consumer, packer, retailer, feedlot, seedstock, commercial cow-calf, stocker). Discussion of genetics, nutrition, reproduction, and meat science as applied to beef cattle. (2 lecture, 3 lab hours) **F even**

ASCI 31. Swine Production (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Management principles and practices of purebred and commercial pork production. Nutrition, reproduction, environmental management, health, marketing, selection, and records are studied. (2 lecture, 3 lab hours; field trips)

ASCI 41. Sheep Production (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Management of purebred, commercial, and small farm flocks; principles and practices in breeding, feeding, care of ewes and lambs, and marketing of lamb and wool. (2 lecture, 3 lab hours)

ASCI 51. Horse Production (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Breeds, selection, and care and feeding of light horses. (2 lecture, 3 lab hours)

ASCI 56. Beginning Colt Training (2; max total 4 units)
Horse training methods for young horses, primarily ground work, including leading, grooming, longeing, saddling, and bridling. Emphasis on safe protocols, horse psychology, and observable outcomes of training protocols. (Formerly ASCI 185T)

ASCI 57. Advanced Colt Training (2; max total 4 units)
Advanced training methods for young horses, including ground work and basic under saddle training. Emphasis on safe protocols to create a methodical program increasing skill, ability, and confidence in both student and horse. (Formerly ASCI 185T)

ASCI 61. Dairy Cattle Production (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Principles and practices of milking, feeding, breeding, evaluating, housing, health, behavior, and management of dairy cattle. (2 lecture, 3 lab hours)

ASCI 68. Pre-Vet Orientation (1 unit)
Detailed information for students preparing for veterinary school including course requirements, admission policies, application procedures, interview sessions, and career opportunities in vet medicine.

ASCI 71. Meat Science (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Basic meats course covering topics from harvest to consumption. Discussion of meat quality versus quantity, general food safety, and meat preparation. Lab will demonstrate all aspects of modern meat industry practices including harvest, fabrication, and further processing. (2 lecture, 3 lab hours)

ASCI 81. Introduction to Livestock, Meat, and Dairy Evaluation (3 units)
Introductory course in evaluating livestock, meat, and dairy cattle. Utilizes visual and performance data in establishing the economic value of animals representing the beef, sheep, swine, dairy, and horse industries. (2 lecture, 3 lab hours)

ASCI 91. Poultry Production (3 units)
Prerequisite: ASCI 1 (may be taken concurrently). Management principles and practices of commercial poultry production. Nutrition, reproduction, environmental management, health, and processing of broilers and layers. (2 lecture, 3 lab hours)

ASCI 121. Advanced Beef Management (3 units)
Prerequisite: ASCI 21. Prevailing and alternative management systems and techniques of beef production in the United States and California including economic analysis. (2 lecture, 3 lab hours)

ASCI 131. Advanced Swine Management (3 units)
Prerequisite: ASCI 31. A comprehensive study of the swine industry. Laboratory exercises designed to improve the management decision ability of students. (2 lecture, 3 lab hours; field trips)

ASCI 151. Advanced Horse Management (3 units)
Prerequisite: ASCI 51. Advanced principles of horse management, reproduction, breeding systems, nutrition, facilities, business aspects, exercise physiology, training colts. (2 lecture, 3 lab hours)

ASCI 152. Equine Nutrition (3 units)
Prerequisite: ASCI 51. Principles of equine nutrition; digestive anatomy and physiology nutrient requirements; feed formulation, nutritional management, and diseases.

ASCI 153. Stable Management (3 units)
Prerequisite: ASCI 51. An overview of horse farm and stable management theories and applications. The impact of management practices on the animal, on the environment, and on economic viability is considered. (2 lecture, 3 lab hours)

ASCI 161. Advanced Dairy Farm Management (3 units)
Prerequisite: ASCI 61. A comprehensive study of daily industry management strategies and practices. Exercises involve recognition of problems and recommendation of solutions associated with managing commercial dairy operations. (2 lecture, 3 lab hours; field trips)

ASCI 162. Dairy and Meat Systems Management (3 units)
Prerequisite: ASCI 61 or 71. A comprehensive study of technological systems employed in commercial dairies and meat processing facilities. Exercises involve analysis of systems for application in various facilities and evaluation of dairy and meat plant sanitation systems, HACCP, and production/processing systems. Control of food specific pathogens and their impact on the animal, on food safety, on public health, and on environment. Economic viability is considered. (2 lecture, 3 lab hours)

ASCI 164. Advanced Commercial Dairy Management Evaluation (2; max total 4 units)
Detailed analysis of dairy management. Procedures and methodologies in assessing dairy management productivity and profitability. Actual dairy assessment is emphasized. (Formerly ASCI 185T)

ASCI 171. Advanced Meat Science (3 units)
Prerequisite: ASCI 11 or 71. Basic advanced meats course that covers comprehensive study of the conversion of muscle to meat and factors that affect meat quality. Topics include muscle structure and function and muscle anatomy. Laboratory exercises involve hands-on techniques of harvest, fabrication, and further processing of various products from the major species of production livestock. (2 lecture, 3 lab hours)

ASCI 172. Meat Technology (3 units)
Comprehensive study of meat science topics. Emphasis placed on food safety systems including HACCP and current product development efforts in the meats industry. Laboratory exercises are designed to improve student application of HACCP principles and to strengthen understanding of the vast array of new and innovative products on the market. (2 lecture, 3 lab hours)

Special Topics and Industry Relations (ASCI)

ASCI 83. Issues and Opportunities in Animal Sciences (2; max total 4 units)
Prerequisite: ASCI 1. Invited speakers provide insight on current industry issues. Comprehensive study of career opportunities available in animal science. Field experience is offered in specific areas. (Formerly ASCI 183)

ASCI 94. Agri Internship (1-6; max total 6 units)
Prerequisite: minimum GPA of 2.0 and instructor approval. Emphasis on acquisition through experience of practical animal production skill integrated with basic principles acquired in the classroom. This course is for on-campus internships at animal science related units only. *CR/NC* grading only.

ASCI 180. Undergraduate Research (1-4; max total 4 units)
Open to juniors and seniors. Exploratory work on a suitable agricultural problem in animal science. Approved for *RP* grading.

ASCI 181. Advanced Livestock, Meat, and Dairy Evaluation (3; max total 6 units)
Prerequisite: ASCI 11 or 81 or permission of instructor. Detailed analysis of animal form related to functional efficiency, economic value, and sound livestock production management. Written and oral defense of judgments (dairy, horse, livestock, meats). (2 lecture, 3 lab hours; field trips)

ASCI 182. Livestock Marketing and Show Management (1-2; max total 4 units)
Development of skills in the organization, administration, and operation of livestock activities at a district fair level. Emphasis on practical application of skills. Approved for *RP* grading. (2 lab hours per unit)

ASCI 185T. Topics in Animal Science (1-4; max total 4 per discipline if no topic repeated)
Prerequisites: junior standing and permission of instructor. Anatomy, physiology, pathology, nutrition, genetics, livestock management. Topics may require labs.

ASCI 186. Animal Science Seminar (1 unit)
Prerequisite: senior standing or permission of instructor; 12 upper-division units in the major. Latest developments in research; assigned papers in animal science to be presented in both oral and written form.

ASCI 187. Equestrian (2 units)
Women only. (See ATHL 181.)

ASCI 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

ASCI 194. Agricultural Internship (1-8; max total 8 units)
Prerequisites: junior or senior standing and approval of internship committee. This course to be used by students doing off-campus, industry-related internships only. Emphasis on development of decision-making ability through industrial experience integrated with basic principles acquired in the classroom. ***CR/NC*** grading only.

ASCI 196. Enterprise Management (1-3; max total 6 units)
Prerequisites: ASCI 21 or 31 or 41 or 51 or 61 or 91; MEAG 3 or 5; or permission of instructor; concurrent participation in project program required. Theory and field application of management principles in beef, sheep, swine, horses, dairy cattle, or poultry. Other appropriate animal science enterprises. Approved for ***RP*** grading.

Agricultural Education (AGED)

AGED 50. Orientation to Agricultural Education (3 units)
An overview of agricultural education in California, including the principle components of agricultural education, developing academic and career plans, and observation in a secondary agricultural classroom. Two-hour lecture and three-hour school site observation laboratory. ***CR/NC*** grading only.

AGED 66. Agricultural Communications (3 units)
Agricultural news and information gathering and dissemination to food producers and consumers through print/broadcast media and computer networks; mass communications writing, editing, and simulated electronic presentations. (Formerly AGBS 166)

AGED 80. Undergraduate Research (1-4; max total 4 units)
Open to freshmen and sophomores with permission of instructor. Exploratory work on a suitable agricultural problem in agricultural education. Approved for ***RP*** grading.

AGED 115. FFA Activities (2; max total 4 units)
Organization and administration of various FFA activities. Parliamentary procedure and meeting organization; committee work and structure.

AGED 120. Leadership and Communication (2; max total 4 units)
Develops student leadership and communication skills. Through class instruction and field experience, students will learn team building, speaking ability, self-confidence, and communication skills. Students will develop their own recruitment and teaching information and integrate this material into presentation software.

AGED 120S. Leadership and Communication (2; max total 4 units)
Develops student leadership skills, self-confidence, and oral and written communication skills. Students experience the benefits of volunteerism through participation in various service-learning activities within their community, industries, and the university. Approved for ***RP*** grading.

AGED 135. Introduction to Agricultural Education (3 units)
Survey of agricultural education in California, including qualifications for teaching agriculture, structure and content of vocational agriculture programs. Supervision of vocational youth organizations.

AGED 150. Agricultural Resources and Computer Applications (3 units)
Prerequisite: junior standing or permission of instructor; 12 upper-division units in the major. Development and application of techniques for obtaining and using resource materials including government documents, university and experiment station reports. Development of computer skills utilized in agricultural education. (2 lecture, 2 lab hours)

AGED 160T. Topics in Agriculture (1-4; max total 6 per discipline if no topic repeated)
Prerequisites: junior standing and permission of instructor. Agricultural education. Topics may require lab hours.

AGED 166. Agricultural Publication Production (3 units)
Application of various skills, including writing, editing and layout, in producing agricultural publications, with an emphasis on computer software applications for publishing.

AGED 180. Undergraduate Research (1-4; max total 4 units)
Open to juniors or seniors with permission of instructor. Exploratory work on a suitable agricultural problem in agricultural education. Approved for ***RP*** grading.

AGED 187. Organization, Administration, and Supervision of Agricultural Education (3 units)
Prerequisite: senior standing. A study of the California and federal plans for vocational education as they pertain to agricultural education.

AGED 189. Education in Agricultural Mechanics (3 units)
Prerequisites: MEAG 1; junior standing. Strategies for organizing, teaching, and administering educational programs in agricultural mechanics for youth and adults.

AGED 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

GRADUATE COURSES

The following courses are open to students who have been accepted into the graduate program. Students who are not in graduate standing should contact the department graduate coordinator prior to enrolling.

Agriculture (AGRI)

AGRI 200. Biometrics in Agriculture (3 units)
Prerequisite: PLANT 99, AGBS 71, or MATH 101, or permission of instructor. Advanced concepts in the design of agricultural experiments. Emphasis is placed on the selection of appropriate designs to meet the objectives of well-planned experiments. Relative merits of various designs and topics in analysis, interpretation, and regression are covered.

AGRI 201. Agricultural Laboratory Techniques (3 units)
Prerequisite: One of the following courses: BIOL 161; CHEM 105, 129A, 151; FSC 115. Agricultural problem solving through the application of advances in laboratory technology, crop management, foods, nutrition, soil and water quality. Theory and practice operation of scientific instruments and techniques are taught. Student-defined project and report required. (2 lecture, 3 lab hours)

AGRI 220. Research Methodology and Communications (3 units)
Critical literature review, quantitative and qualitative research design, scientific writing, questionnaire design and use, and presentation of research results. Ethical research issues examined. Approved for ***RP*** grading.

AGRI 280. Seminar in Agricultural Education (1-3; max see below)
Maximum total credit 9 units in any given area or any combination of the three areas. Prerequisite: permission of instructor; admission to teacher preparation program; bachelor's degree in agriculture. Advanced problems in agriculture; research and experimentation in a selected area: animal science, plant science, or agricultural mechanics. Approved for ***RP*** grading.

AGRI 281. Problems in Agricultural Education (1-3; max total 3 units)
Prerequisite: graduate standing. Individual supervised research in agricultural education; appropriate reports and evaluation required. Individual conferences.

Animal Sciences (ASCI)

ASCI 229. Seminar (1; required total 3)
Prerequisite: permission of instructor. Students investigate and present current research problems. Observation and evaluation of additional assigned seminars. Oral and written reports required.

ASCI 240T. Topics in Animal Science (3; max total 12 units)
Prerequisite: upper-division animal science appropriate to study topic; permission of instructor. Investigation of topic in animal science; anatomy, physiology, pathology, nutrition, genetics, or economics. Topics may require lab hours.

ASCI 241. Endocrine and Reproductive Physiology (3 units)
Prerequisite: ASCI 155. Physiology which deals with neural and hormonal integration and control of the animal body, including scientific aspects of the processes of reproduction and application of current knowledge in improving reproductive efficiency.

ASCI 246. Ruminant Nutrition (3 units)
Prerequisite: ASCI 135, CHEM 150. Ruminant physiology of digestion, absorption, and metabolism and nutrients, and the relationship of enzymes and hormones.

ASCI 247. Concepts in Non-Ruminant Nutrition (3 units)
Prerequisite: ASCI 135 or equivalent, graduate standing or consent of instructor. Digestion, absorption, nutrient utilization, and interrelationships in poultry, swine, and other non-ruminants.

ASCI 248. Meat Science and Muscle Biology (3 units)
Prerequisite: ASCI 171, graduate standing or consent of instructor. Evaluation of muscle as meat; biological characteristics, growth and development of skeletal muscle, glycogen metabolism, and factors affecting quality of meat.

ASCI 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

ASCI 299. Thesis (2-4; max total 4 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE
(See *Catalog Numbering System*.)

Agriculture (AGRI)

AGRI 300. Topics in Agriculture (1-3; max total 6 units)
Topics may require lab hours. In-service professional training in selected areas of agriculture.

Child, Family, and Consumer Sciences

Child, Family, and Consumer Sciences

The Child, Family, and Consumer Sciences Department is dedicated to improving the quality of life for children and families through education, research, and service. The department offers two degree programs toward this end: (1) a Bachelor of Arts in Family and Consumer Science (FCS) encompassing two areas of emphasis - Family Science and Fashion Merchandising and (2) a Bachelor of Science in Child Development that includes three degree paths - the traditional Child Development degree, Child Development Practitioner Option, and Pre-Credential Option.

All majors must consult with a department academic adviser to determine the emphasis or degree path most appropriate to their career or personal goals.

The CFCS Department is housed in the Family and Food Sciences (FFS) Building on the west side of campus. The department maintains laboratory facilities that support our academic programs. These include clothing and textile labs, a child and family observation lab, and two child care labs serving infants, toddlers, and preschool children in which students study child behavior and development under the supervision of faculty and laboratory teaching staff.

Bachelor of Arts in Family and Consumer Science

Family Sciences. Courses correspond with suggested content areas outlined by the National Council on Family Relations (NCFR). Areas include the following: internal dynamics of families, interpersonal relationships, human growth and development, families in society, parent education and guidance, family resource management, family law and public policy, and family life education. Graduates pursue opportunities in parent education, family life education, adolescent counseling, military family support, child and family service agencies.

Fashion Merchandising. The Fashion Merchandising program focuses on preparing students for a wide variety of careers related to marketing, management, buying, and selling of fashion goods. It combines product and industry knowledge with business, communication, and computer skills. Job opportunities include buyers, merchandisers, store managers, product developers, and fashion consultants, as well as other positions in today's competitive and global environment. The curriculum is built upon the Mega Goals for Four-Year programs developed by the International Textile and Apparel Association (ITAA) and recommendations from fashion industry experts.

Bachelor of Science in Child Development Degree Paths

Child Development

The traditional Bachelor of Science in Child Development provides breadth and depth in the child and family sciences. It provides an excellent foundation for careers or graduate studies in social science, human services, education, child and family health, family law, counseling, or college teaching. It also provides excellent preparation to those who have, or will have, families.

Child Development Practitioner Option

The Practitioner Option is an accelerated, year-round, cohort-based program tailored to the unique career needs of professionals working in Early Care and Education. It provides advanced preparation in child development theory and in early childhood practice. This option has limited enrollment. Students must meet eligibility requirements and complete an application process in order to be considered for admission. Under the California Child Development Permit structure, the bachelor's degree qualifies practitioners for master teacher, site supervisor, and program director levels.

Note: The Child Development Practitioner Option is not a credential preparation program.

Pre-Credential Option

The Pre-Credential Option prepares prospective elementary school teachers for the challenges of the contemporary classroom. It provides students with comprehensive preparation in child development and family science to prepare future teachers to understand and work effectively with children and parents. It includes interdisciplinary coursework that addresses California State Standards requirements and is aimed at developing competence in working with culturally and linguistically diverse populations characteristic of California and other diverse regions of the country. This option provides a degree path for students wishing to pursue the Multiple Subject Credential postbaccalaureate.

Note: Pre-Credential Option students are strongly encouraged to follow the lower- and upper-division General Education pattern designated by the School of Education and Human Development Liberal Studies Blended Program. Courses in this pattern have been approved for G.E. credit for Pre-Credential Option students. See adviser for details.

Faculty

CFCS faculty members are highly qualified professionals with advanced degrees from universities across the nation. They bring practical insights and experience to the

Jordan College of Agricultural Sciences and Technology

Department of Child, Family, and Consumer Sciences

Kathie Reid, *Chair*

Cheryl Jackson,
Administrative Support Coordinator

Andrea Magdaleno,
Administrative Support Assistant

Family and Food Sciences Building, Room 111, M/S FF12

559.278.2283

http://cfcs.jcast.csufresno.edu/

B.A. in Family and Consumer Sciences

Emphases:

- Family Sciences
- Fashion Merchandising

B.S. in Child Development

Degree Paths:

- Child Development
- Child Development Pre-Credential Option
- Child Development Practitioner Option*

M.S. in Family and Consumer Sciences**

Minor in Family and Consumer Sciences

Minor in Fashion Merchandising

Certificate of Special Study in Fashion Merchandising

* The Child Development Practitioner Option has been suspended as of spring 2012.

** Admissions to the M.S. in Family and Consumer Sciences are currently suspended while the program is being restructured.

classroom, resulting from a wide variety of professional activities, research, publications, community service, and consulting.

Kathie Reid, *Chair*
Kabeljit Atwal
Lizhu Davis
Kathleen Dyer
Amber Hammons
Marianne Jones
Alma Major

Bachelor of Arts in Family and Consumer Sciences

Family Sciences Emphasis	*Units*
Major requirements	**48**
Required courses	(45)
CFS 31, 32, 38, 131, 134, 135, 193; FIN 30; CFS 133S or 143; PH 91 or PH 126, or PSYCH 132; COUN 174 or PSYCH 175; COUN 150 or GERON 140; PSYCH 153 or ERA 153	
Select two of the following: CFS 39, 136, 137, 146, or PSYCH 166	
Additional requirements	(0 or 3)
PHIL 120* or PHIL 122	
General Education requirements	**51**
Electives and remaining degree requirements	**18-24**
(See *Degree Requirements*); may be used toward a double major or minor	
• Upper-division writing skills (by examination or course)	
• Courses supplementary to the major are strongly recommended.	
Total	**120**

* This assumes that PHIL 120 will be taken for G.E. Area IC.

Fashion Merchandising Emphasis	*Units*
Major requirements	**52-53**
Required courses	
FM 10, 20, 21, 120, 126, 127, 128, 130, 133, 134, 140; ART 13; ACCT 3 or 4A; BA 105W or ENGL 160W; ECON 40 or AGBS 1*; MKTG 100S; MGT 104 or 106	
General Education requirements	**51**
Electives and remaining degree requirements	**19-20**
(See *Degree Requirements*); may be used toward a double major or minor	
• Upper-division writing skills (by examination or course)	
• Courses supplementary to the major are strongly recommended.	
Total	**120**

* This assumes that ECON 40 or AGBS 1 will be taken for G.E. Area D3.

Advising Note

1. Students majoring in family science or fashion merchandising are required to earn a grade of *C* or better in all major courses. A grade of ***CR/NC*** counts in the major **only** if it is the sole method of grading specified for a particular course.
2. As their culminating experience, students majoring in family science are required to complete CFS 193 (Internship) during their senior year. A requirement of this course includes passing a cumulative exam that evaluates understanding of material from all coursework required in the program. Failure to pass the exam will result in an ***Incomplete*** in CFS 193; the student will have the opportunity to re-take the exam the next time CFS 193 is taught (within one year). Failure to pass the exam at that point will result in ***No Credit*** in CFS 193. Please see academic adviser for more information.

Family and Consumer Sciences Minor

A Minor in Family and Consumer Sciences consists of 21 units of which 9 must be upper division. At least 12 units must be taken in a particular department and/or discipline. The minor program must be certified by the department chair and school dean. The certified minor program is filed with the university's Office of Evaluations.

Bachelor of Science in Child Development

Child Development	*Units*
Major requirements	**48**
Core courses	(33)
CFS 37 or CFS 145A, CFS 39, 131, 133S, 134, 135, 140	
either CFS 136 or 137 or 146	
CFS 139 or 145B or 193	
COUN 150	
PSYCH 153	
Elective courses	(15)
See an adviser for approved elective courses.	
General Education requirements	**51**
Electives and remaining degree requirements	**21**
(see *Degree Requirements*); may be used toward a minor	
Total	**120**

*Child Development Practitioner Option**	*Units*
Major requirements	**43**
Child Development Practitioner Option required courses: CFS 110, 112, 113, 114, 115, 117, 118, 119, 120, 121, 122	
General Education requirements	**51**
Electives and remaining degree requirements	**26**
Must include 12 units of lower-division child development coursework specified in Title 22 of the California Administrative Code (i.e., child development; child, family, and community; creative experiences for young children; child development practicum; or equivalents.)	
Total	**120**

* The Child Development Practitioner Option has been suspended as of spring 2012.

Eligibility Criteria

1. Admission to California State University, Fresno.
2. Completion of lower-division General Education requirements; G.E. certified or approval of coordinator. Students must develop a plan with the CDP option coordinator for completion of other degree requirements.
3. Junior standing.
4. Minimum of three years full-time experience in child development programs.
5. Current employment in a child development program.
6. Statement from employer granting permission for student to use work site for program activities.
7. Twelve units of specified early childhood education or child development coursework (see *Electives and Remaining Degree Requirements* above.)
8. A passing score on the Upper-Division Writing Skills Exam or a *C* or higher in a UDWS course. ***Note***: Students who do not earn a passing grade on the UDWS exam, but who are admitted into the Child Development Practitioner Option, must successfully complete the university writing requirement by exam or course by the beginning of the third competency.
9. Admission to the Child Development Practitioner Option.

Child Development Pre-Credential Option	*Units*
Major requirements	**51**
CFS 39 or PSYCH 101; CFS 133S, 134, 135, 140, 141, 143, 145A, 145B, 146; PSYCH 153; AFRS 104W; LING 132, 146, 165; COMM 114 or 164; LEE 120CL	
General Education requirements	**51**
The following G.E. courses are strongly recommended as preparation for the CSET Exam:	
Area B1: NSCI 1A; *Area B4*: MATH 10A; *Area C2*: LING 10 or HIST 20; *Area D1*: HIST 11; *Area D3*: GEOG 4; *Area E*: CFS 38; *Area IB*: NSCI	

115; *Area IC*: IAS 108; *Area ID*: SSCI 110; *Area MI*: SSCI 180

Other electives **18**
(See adviser for recommended courses in preparation for the CSET Exam.)

Total **120**

Child Development Advising Notes

1. Students majoring in Child Development are required to earn a grade of *C* or better in all major courses. A grade of *CR/NC* counts in the major only if it is the sole method of grading specified for a particular course.
2. As their culminating experience, students majoring in child development (all options) are required to complete an advanced practicum experience, either CFS 139 (Advanced Child Development Practicum), CFS 145B (Advanced Observing of the Development of Children), or CFS 193 (Internship). A requirement of each of these courses includes passing a cumulative exam that evaluates understanding of material from all coursework required in the program. Failure to pass the exam will result in an ***Incomplete*** in the course; the student will have the opportunity to re-take the exam the next time the course is taught (within one year). Failure to pass the exam at that point will result in a failing grade in the course. Please see academic adviser for more information.
3. Students seeking teaching credentials should see a child development adviser for program planning before enrolling in any classes in the major.
4. Under the restrictions of the major, students may make approved adaptations in their programs to fulfill specific needs and career objectives in consultation with their faculty adviser.
5. CFS 38, CFS 39, or PSYCH 101 are prerequisites for most upper-division CFS courses. See course descriptions in this catalog for prerequisites.
6. CFS 37 and CFS 139 may not be taken concurrently.
7. Completion of the victim services cluster may lead to the Certificate in Victim Services. See Criminology Department adviser for approval.

Fashion Merchandising Minor

		Units
Required courses		**12**
FM 20, 21, 120, 128		
Electives		**9**
Determined in consultation with an adviser		
Minimum total		**21**

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Fashion Merchandising Certificate of Special Study

Requirements		**6**
FM 21	Fashion Merchandising Fundamentals	3
FM 130	Fashion Study Tours	3
Electives		**9**
(Select 9 units from the following)		
FM 126	History of Costume	3
FM 127	Fashion Merchandising	3
FM 128	Fashion Display Tech	3
FM 133	Textile/Apparel Economics	3
Minimum Total		**15**

Master of Science Program

The Master of Science in Family and Consumer Sciences is a 30-unit program designed to increase the competencies of family and consumer science professionals and to provide the foundation that will qualify some to pursue the doctoral degree. It is a flexible program. With adviser assistance, through appropriate choice of courses, students may focus a major part of their program in the following areas: child development, family science, fashion merchandising, clothing and textiles, consumer science, or home economics education. Graduate courses are offered in the late afternoon or evening to accommodate part-time students. Full-time graduate students may earn their degree within two years when working closely with an adviser.

The M.S. in Family and Consumer Sciences is currently not accepting applications. Please contact the department office at 559.278.2283 for more information.

Admission Requirements. The Master of Science in Family and Consumer Sciences assumes preparation equivalent to a bachelor's degree in family and consumer sciences; 3.0 GPA (last 60 semester units); 480V/580Q GRE score; completion of all prerequisite coursework; separate school application; three letters of reference, and a statement of 500 words or less indicating reasons for pursuing a master's degree. Students lacking in any area with compensating strengths in other areas are encouraged to apply.

Students who have a bachelor's degree in family and consumer science or a related field (e.g., child development, nutrition, etc.) may need to take appropriate prerequisite courses in preparation for their individual career goal. These prerequisites will be determined by the department Graduate Admissions Committee. Please see the department graduate coordinator.

Students who have not completed a bachelor's degree in family and consumer sciences or a related field (e.g., child development, nutrition, etc.) are required to select appropriate prerequisite courses in consultation with the department graduate coordinator.

Admission by the university does not imply acceptance in the Master of Science in Family and Consumer Sciences program.

All students who are accepted in the Master of Sciences Program in Child and Family Sciences must see an adviser prior to enrolling in any graduate courses.

Applicants whose preparatory education was principally in a language other than English must earn a minimum TOEFL score of 550.

Classified standing will be granted to students who meet all of the admission criteria. Conditional classified standing may be granted to petitioning applicants with a 2.5 to 3.0 GPA (last 60 units); GRE scores on file with the university; separate school application; three letters of reference; a statement of 500 words or less indicating reasons for pursuing a master's degree; and a minimum of 18 units of prerequisites completed (consult with your graduate coordinator for specific prerequisite foundation courses). Prerequisite coursework is not included in the 30-unit master's program. Students must request classified standing in the program by the semester in which a maximum of 10 units to be used toward the degree are completed.

Prerequisite Requirements. An introductory statistics course, such as MATH 11, SOC 125, or PSYCH 42.

Program Requirements for Family and Consumer Sciences

The student, under the direction of a graduate adviser, prepares and submits a program individually designed within the following framework:

	Units
Core	**9**
FCS 203, 205; FN 200 or ERA 220	
Electives	**15**
(in consultation with an adviser) FCS 200-series courses in a specialized area (3 units), 100-200 level (12 units) courses in family and consumer sciences or related areas, with a maximum of 9 units at 100 level	
Culminating Experience	**6**
Project or Thesis: FCS 298 or 299	
Total minimum requirements	**30**

Graduate Advising Notes

1. Several of the 200-level and approved elective courses have prerequisites other than courses listed as admission requirements.
2. Students must request specific information concerning the Master of Science degree or program advising sheet from the department office.
3. Upon admission, students should see the department graduate coordinator for aid in program planning, selection of graduate adviser, and selection of a thesis committee.
4. To progress through the graduate program, students must:
   a. Maintain a minimum of 3.0 GPA
   b. Complete all prerequisite coursework
   c. Attain classified standing
   d. Meet university graduate writing requirement
   e. File for advancement to candidacy
   f. Complete the program requirements
   g. File a master thesis or project committee assignment form
   h. Formally present and defend the thesis/project research results
5. Advancement to candidacy requires the completion of 9 program units in residence, minimum 3.0 GPA, meeting the university writing skills requirement and filing a Petition for Advancement to Candidacy a minimum of one semester prior to enrollment in thesis/project and within the deadline.
6. The Graduate Writing Skills requirements for the graduate program in Family and Consumer Sciences may be met by passing the writing component of AGRI 220. Please see the program's graduate adviser for more information.
7. See *Division of Graduate Studies* in this catalog for university requirements.

COURSES

Family and Consumer Sciences (FCS)

FCS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

FCS 192. Readings and Conference (1-3; max total 6 units)
Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged) Approved for *RP* grading. **FS**

Consumer Science and Housing (CSH)

CSH 112T. Topics in Consumer Science and Management (1-4; max total 12 if no topic repeated)
Current topics relating to consumers and home management; consumers in action (lobbying), financial counseling, product standards and safety, home ownership. Some topics may have labs.

CSH 113. Economics for Consumers (3 units)
Prerequisite: ECON 50 recommended. Consumer spending related to social and psychological factors influencing consumers. Legislation that protects and relates to the consumer on local, state, and federal levels. **FS**

CSH 116. Consumer Aspects of Home Ownership (3 units)
Emphasis on benefits and obligations of home ownership. Analysis of the consumer processes of selecting, buying, and maintaining a home. **F even**

CSH 117. Resource Management of Aging (3 units)
(Same as GERON 117.) The individual during the later stages of the life cycle with emphasis on the special problems of the elderly in management of personal and community resources. **FS**

Fashion Merchandising (FM)

FM 10. Professional Preparation and Development (3 units)
Guidance and preparation for relevant and successful careers in the fashion industry. Focus is on exploring job opportunities, professional norms, ethics, and behavior.

FM 20. Textile Science (3 units)
Introduction to physical and chemical properties of textile, fibers, yarns, fabric structures, finishes, and textile coloration. Criteria for selection and evaluation of textile properties, performance, and care. Review of pertinent regulations related to production, quality, and environmental protection. **FS**

FM 21. Fashion Merchandising Fundamentals (3 units)
An introduction to fashion merchandising with an overview of fashion products and the merchandising system. (Formerly FM 121)

FM 120. Social and Psychological Aspects of Clothing (3 units)
The psychological, social, and economic aspects of clothing related to the individual, family, and society. **F**

FM 122T. Topics in Clothing and Textiles (1-4; max total 12 if no topic repeated)
Topics relating to clothing, textiles, and fashion merchandising. Some topics may have labs.

FM 124. Textile Finishing (3 units)
Prerequisite: FM 20. Finishing, dyeing and printing techniques, material and equipment. Evaluation through standard laboratory tests. (2 lecture, 2 lab hours) **S**

FM 126. History of Costume (3 units)
Important periods of costume; their relationship to political, social, and economic conditions of the times and their importance in evolution and inspiration of modern dress. **F**

FM 127. Fashion Merchandising (3 units)
Prerequisites: FM 21 or permission of instructor; ACCT 3 or 4A (recommended). Principles of fashion merchandising as applied in manufacturing and retailing business organizations; study of planning, developing, and presenting product lines. (2 lecture, 2 lab hours) **S**

FM 128. Visual Merchandising (3 units)
Prerequisite: FM 21 (may be taken concurrently). Aspects of visual merchandising and display, from classic techniques to most recent developments. Design fundamentals applied to the aesthetic arrangement of promotional and institutional displays in the retail store. (2 lecture, 2 lab hours)

FM 130. Fashion Study Tours (3 units)
An in-depth study of industrial, retail, and wholesale sites in California. Field experiences are included to ensure optimum learning opportunities. (1 lecture, 4 lab hours) (Course fee, $190) **F**

FM 133. Textile/Apparel Economics (3 units)
Prerequisites: FM 20 (may be taken concurrently); ECON 40 or AGBS 1. Organization and development of the textile and apparel industries. Aspects of production, consumption, and international trade. Analysis of current problems facing the industry and industry's response.

FM 134. Fashion Retail Buying (3 units)
Prerequisites: G.E. math; FM 127 or permission of instructor. Basic principles and

applications of retail mathematics as related to fashion retailing. Focuses on quantitative concepts used in merchandising fashion goods with an emphasis on profitablity.

FM 140. Fashion Entrepreneurship (3 units)
Prerequisites: FM 20, FM 21, and FM 127; Senior standing for Fashion Merchandising majors or permission of instructor. Applying entrepreneurship principles to fashion apparel and accessories, from identifying new enterprise opportunities to analyzing the feasibility of business ideas by in-depth analysis of fashion consumers, markets, and merchandising strategies.

Child and Family Sciences (CFS)

CFS 31. The Family in America (3 units)
Prerequisite: G.E. Foundation A2. Interdisciplinary introduction to American families, their place within society, and their influence on human behavior. Topics include historical development, social functions, methods for studying, cultural and subcultural influence and meaning, family types, parenting, family violence, and the impact of race, class, and gender. G.E. Breadth D3. **S**

CFS 32. Intimacy (3 units)
An exploration of personal, relationship, and social aspects which contribute to loving relationships. Barriers to loving will also be discussed. Topics include the nature of love, awareness, emotional needs, fears, communication, conflict, values, beliefs, expectations, freedom, and responsibility. **F**

CFS 37. Introductory Child Development Practicum (3 units)
An interdisciplinary study in a laboratory setting of the physical, social, emotional, and intellectual development of toddler and preschool children. Children's relationships to family, peers, community, and culture will be a primary focus. Antibias curriculum will be explored through principle and practice. (2 lecture, 3 lab hours) **F**

CFS 38. Life Span Development (3 units)
A balanced study of basic theories, research, applications, and principles of physical, cognitive, and psychosocial development from conception to death, presented in an integrated manner in the context of the family in a diverse society. Includes behavior, sexuality, nutrition, health, stress, environmental relationships, and implications of death and dying. G.E. Breadth E1. **FS**

CFS 39. Introduction to Child and Adolescent Development (3 units)
The interdisciplinary study of physical, social, emotional, and intellectual development from conception through adolescence. The family and broader cultural environments provide the context for the study. Topics include historical views of children, developmental theories, research methodology, and patterns of growth. G.E. Breadth E1. **FS**

CFS 110. Child Development, Play, and Learning (4 units)
Open only to students enrolled in the Child Development Practitioner Option. Examination of child development theories as they relate to play and learning in young children. Considers cultural and developmental perspectives, emphasizes theories in practice, and provides a theoretical framework for structuring, observing, analyzing, and evaluating play and play problems.

CFS 112. Developmentally Appropriate Curriculum and the Environment (4 units)
Open only to students enrolled in the Child Development Practitioner Option. Developmentally appropriate curriculum planning, implementation, and assessment in the child care setting. Addresses content area integration and literacy development in a context of social/emotional development and interaction. Considers the role of environment in the curriculum.

CFS 113. Working with Diverse Families (3 units)
Open only to students enrolled in the Child Development Practitioner Option. Examines communication patterns, barriers, and strategies that impact practitioner-parent and practitioner-child interactions. Emphasis on perspective-taking, cultural responsiveness, and anti-bias practices as well as on building partnerships.

CFS 114. Child Crisis and Community Resources (3 units)
Open only to students enrolled in the Child Development Practitioner Option. Examination of common childhood crises such as divorce, loss through death, abuse and neglect, and societal violence. Emphasizes intervention strategies appropriate to child care settings. Familiarizes students with community resources.

CFS 115. Action Research in the Classroom (6)
Open only to students enrolled in the Child Development Practitioner Option. Introduction to action research methodology and practice for the child development practitioner. Includes orientation to print and electronic research sources, familiarization with the Henry Madden Library, research at students' work sites, and documentation and presentation of findings.

CFS 117. Advocacy and Policy Development (2 units)
Open only to students enrolled in the Child Development Practitioner Option. Examination of social trends and policies affecting young children and the child development field. Familiarization with child advocacy organizations. Strategies and tools for affecting policy at the work site and within local and state government. Practical application at the community level. Not available for *CR/NC* grading.

CFS 118. Program Evaluation: Models and Tools (3 units)
Open only to students enrolled in the Child Development Practitioner Option. Introduction to and application of current accreditation, quality standards and evaluation instruments in use in child development programs at the national and California state levels.

CFS 119. Portfolio Development Workshop (1; max total 3 units)
Open only to students enrolled in the Child Development Practitioner Option. Summary seminar and portfolio development workshop required at the conclusion of each CDP Option competency. (Only open to students enrolled in CDP option.) *CR/NC* grading only.

CFS 120. Professional Development Seminar (4 units)
Open only to students enrolled in the Child Development Practitioner Option. Culminating experience in the CDP Option. Competency validation includes finalizing and presenting program portfolio, site review, and preparation for presentation of action research. *CR/NC* grading only.

CFS 121. Field Work (2; max total 8 units)
Open only to students enrolled in the Child Development Practitioner Option. Supervised practice in an early care and education program. Concurrent with CFS 110, 112, 113, 115, and 122. *CR/NC* grading only.

CFS 122. Developmentally Appropriate Curriculum: Foundation and Models (3 units)
Open only to students enrolled in the Child Development Practitioner Option. A study of the historical and contextual factors that have influenced curriculum development in early care and education. Examines the purpose and function of curriculum models. Compares and contrasts enduring models such as High Scope, Montessori, Direct Instruction, and Developmental-Interaction.

CFS 131. Family Relations (3 units)
A study of family processes and the inner workings of families from the perspective of family systems theory. Topics include the interplay

of gender, temperament, and roles on family functioning; intergenerational transmission in families; communication; power dynamics; and development of the family over time. **FS**

CFS 132T. Topics in Child Development and Family Relationships (1-4; max total 12 if no topic repeated)
Prerequisites: CFS 39 and/or 131. Topics relating to child development and family relationships. Some topics may have labs.

CFS 133S. Child and Family Crisis (3 units)
Prerequisite: CFS 38 or 39 or PSYCH 101. Examines stress and crisis as experienced and perceived by children and their families. Topics to be covered include child abuse, divorce, remarriage, death, substance abuse, disability, immigration, poverty, and diverse populations. **FS**

CFS 134. Multicultural Perspectives on Children and Families (3 units)
Prerequisites: CFS 38 or 39 or PSYCH 101. Exploration of the challenges families face in living in a diverse society. Includes a survey of research on how children develop identity and attitudes about gender, ethnicity, and disability. An approach that facilitates healthy self identity and positive attitudes toward diversity. **FS**

CFS 135. Parenting (3 units)
Prerequisite: CFS 38 or 39 or PSYCH 101. Study of the significant impact of adult-child relationships upon the developing person. Topics include guidance and discipline theories, attachment, self-esteem, trust, encouragement, communication, consequences, rewards, punishment, abuse, and children with special needs. **FS**

CFS 136. Adolescent Development (3 units)
Prerequisite: CFS 38 or 39 or PSYCH 101. Theories, research, and principles of physical, intellectual, social, and emotional development within the contexts of the self, the family, educational environments, and peer groups.

CFS 137. Infant and Toddler Development (3 units)
Prerequisite: CFS 38, 39, or PSYCH 101. Interdisciplinary study of physical, social, emotional, and intellectual development from birth to three years in a diverse society. Topics include attachment, significance of play, communication, importance of early relationships, principles of care giving, fostering language development, and impact of the environment. **S**

CFS 139. Advanced Child Development Practicum (3 units)
Prerequisites: CFS 37; CFS 38, 39, or PSYCH 101; junior or senior standing. Comprehensive study of the young child and ways to foster physical, social, emotional, and intellectual development. Students will plan developmentally appropriate learning episodes, conduct observations, and employ assessment techniques. (2 lecture, 3 lab hours) **S**

CFS 140. Advanced Child Development Theories (3 units)
Prerequisites: CFS 38 or 39 or PSYCH 101. In-depth study of major child development theories with implications for play for children from infancy through adolescence. Course considers ethological and cultural perspectives, gender differences, and special populations. Examines psychoanalytic, sociocultural, attachment, cognitive, social learning, moral development, and information processing perspectives. **FS**

CFS 141. Effective Relationships in the School Setting (3 units)
Prerequisites: CFS 135 and 133S or 143. In-depth examination of the interrelationship of home and school experiences and their influences on a child's success, including concepts and strategies for building effective teacher-student and teacher-parent relationships in the school setting. **FS**

CFS 143. Children at Risk (3 units)
Examines from an ecological perspective the environmental, societal, family, and developmental factors that contribute to risk. Explores categories and characteristics of high- and low-risk children with emphasis on early and middle childhood periods. **FS**

CFS 145A. Observing the Development of Children (3 units)
Prerequisite: CFS 38 or 39 or PSYCH 101. Techniques in observing and recording development and behavior of school-age children. Interpretation and reporting of observational data. Emphasis on children six to 13 years of age in diverse elementary school settings from developmental, ecological, and systems perspectives. (2 lecture hours, 1 lab hour) **F**

CFS 145B. Advanced Observing of the Development of Children (3 units)
Prerequisite: CFS 145A. Advanced application of techniques in observing and recording child development and behavior. Observation of children six to 13 years of age in diverse elementary school settings in affective, physical, and cognitive domains. Interpretation and reporting of observational data. **S**

CFS 146. Middle Childhood (3 units)
Covers theories, research, and principles of development in middle childhood. Includes physical, cognitive, language, social, and emotional development. Examines issues in the middle childhood years in the contexts of the family and diverse educational and social environments. **FS**

CFS 193. Internship (3 units)
Prerequisites: completion of at least 60 units; good academic standing; permission of the department. Combines study with paid or unpaid work experience in a supervised career-related placement. *CR/NC* grading only. **S**

GRADUATE COURSES

The following graduate courses are open only to students who have been accepted into a graduate program. Students who are not in graduate standing, should contact the graduate coordinator prior to enrolling.

Family and Consumer Sciences (FCS)

FCS 203. Trends and Issues in Family and Consumer Sciences (3 units)
A study of the history and current status of family and consumer sciences. An examination of trends and issues pertaining to child and family sciences, clothing and textiles/fashion merchandising, consumer science and housing, food and nutrition, and interior design. **S**

FCS 205. Survey of Family and Consumer Sciences Research (3 units)
Prerequisite: FCS 203. Examination of current research in each area of family and consumer sciences. Abstract writing, formulation of annotated bibliographies and research presentations. (Fulfills university's graduate writing proficiency requirement)

FCS 210T. Seminar in Consumer Sciences and Family Management (3; max total 12 if no topic repeated)
Prerequisite: permission of instructor. Analytical study of problems pertaining to identifiable segments of the populace; intercultural, socioeconomic, age level and ethnic and community groups. Topics may include aspects of aging, cultural aspects of management, home and community relationships, and ergonomics — aspects of work simplification.

FCS 220T. Seminar in Clothing, Textiles, and Fashion Merchandising (3; max total 6 if no topic repeated)
Prerequisite: permission of instructor. Research and analysis of historical material and contemporary developments in clothing, textiles, and fashion merchandising. Topics may include aspects of historical costume and textiles, technological developments in textiles, and trends in purveying fashion. Some topics may have labs.

FCS 230T. Seminar in Child and Family Sciences (3; max total 12 if no topic repeated)
Prerequisite: permission of instructor. Research, methodology, and issues in family relationships and child development. Topics may include parenting, families in transition, relationship patterns, infancy, early childhood, and family diversity.

FCS 240T. Seminar in Family and Consumer Sciences Education (3; max total 6 if no topic repeated)
Prerequisite: permission of instructor. Applied research; current and future trends of the multilevel areas of family and consumer sciences education. Topics may include curriculum development, administration, evaluation, supervision, and incorporation of business and industry.

FCS 242. Community College Teaching in Family and Consumer Sciences (3 units)
Strategies for implementing family and consumer sciences curriculum in community colleges. Study of instruction techniques, procedures, resources, problems and responsibilities in the community college setting.

FCS 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

FCS 292. Readings in Family and Consumer Sciences (2-3; max total 6 if no topic repeated)
Prerequisite: permission of instructor. Individually directed readings in a field of special concern to students in the graduate program; appropriate reports and evaluations required; individual conferences, no formal class meetings. Approved for ***RP*** grading. **FS**

FCS 298. Project (2-6; max total 6 units)*
Prerequisite: prior advancement to candidacy. See *Criteria for Thesis and Project*. The project is a significant undertaking of an approved pursuit appropriate to the applied arts, e.g., extensive curriculum design, development of new consumer products or similar professional endeavors with written documentation. Abstract required. Approved for ***RP*** grading. **FS**

FCS 299. Thesis (2-6; max total 6 units)*
Prerequisite: prior advancement to candidacy; see *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading. **FS**

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Home Economics Education (HEC)

HEC 380. Topics in Home Economics (1-3; max total 9 if no area repeated)
Special problems in home management, foods and nutrition, child care, housing and home furnishings, textiles and clothing, household equipment, family finances, marriage, and the family.

Food Science and Nutrition

Jordan College of Agricultural Sciences and Technology

Department of Food Science and Nutrition

Sandra S. Witte, *Interim Chair*
Cheryl Jackson,
Administrative Support Coordinator
Andrea Magdaleno,
Administrative Support Assistant
Family and Food Sciences Building, Room 111, M/S FF17
559.278.2164
http://fsn.jcast.csufresno.edu/

B.S. in Food and Nutritional Sciences

Options:

- Culinology®
- Dietetics and Food Administration
- Food Science

M.S. in Food and Nutritional Sciences*

Minor in Food and Nutritional Sciences

Certificate of Advanced Study in Dietetics (Dietetic Internship)

Food Science and Nutrition

Join the leader in science, technology, and management. Students majoring within the Department of Food Science and Nutrition are prepared for a wide range of professions in the food industry — the largest single industry in the United States. California State University, Fresno is centered in the greatest food production and processing area in the world.

Some of the largest and best dairy and food companies cooperate with the university to provide students with a view of commercial realities in this industry. There is strong demand for dietitians and nutritionists by the health care and food service industries.

Instructional Facilities

The department facilities include the Dairy Processing Plant, Food Processing Research Laboratory, the Food Preparation and Product Development Laboratories, Food Science Analytical Laboratory, Food Sensory Laboratory, and the Computer Laboratory. These facilities are used by students and faculty to provide a practical education founded on science and technology.

Career Opportunities

Graduates of the Department of Food Science and Nutrition have enjoyed outstanding employment opportunities in the food industry. Historically, graduates have been placed in challenging positions with salary advancement and professional prestige envied by other industries throughout the world. The following options are available:

Culinology® is the blending of culinary arts and the science of food. The discipline consists of chefs and food scientists working in research and development (its primary focus), food manufacturing, chain restaurants, hotels, ingredient supply houses, consulting, and academia. It includes other food professionals in sales, marketing, manufacturing, distribution, and the media. The professional organization of the discipline is the Research Chefs Association (*http://www.culinology.org*). The group was formed in 1996 by a group of food professionals with a common interest in the challenges facing the profession. It has become the premier source of culinary and technical information for the food industry.

Dietetics and Food Administration. Graduates are prepared for challenging and rewarding employment in dietetics, nutrition, and food service. Employment is available in hospital dietetics, nutrition consulting, school and community nutrition, education, commercial and institutional food services.

This program is accredited by the Commission on Accreditation for Dietetics Education of the American Dietetic Association. The American Dietetic Association can be reached at 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995 or at 312. 899.0040 ext. 5400. By completing the requirements for this option, students meet the American Dietetic Association didactic requirements for dietetic registration and are eligible to apply to a dietetic internship. To become a registered dietitian, graduates of this program must also complete a dietetic internship and pass the dietetic registration examination.

Food Science. Graduates are prepared for an endless variety of employment opportunities in the food industry, including laboratory, processing, production, and governmental roles. New product development, marketing, management, distribution, and field service opportunities are present in many scientific, technological, and business endeavors. Located in the center of the world's most productive food processing region, the Fresno State Food Science Program is ideally suited to provide students with both a strong academic and practical education in food science. Students can gain practical experience by working in the Dairy Processing Enterprise and the Food Processing Enterprise, or research experience through the Center for Food Science and Nutrition Research. Students can also participate in internships, projects, supervised work experience, and cooperative research. This program is based upon the educational standards of the Institute of Food Technologists (IFT). Information on careers in food science and IFT contacts can be obtained at *www.ift.org*.

Faculty

The faculty members continue to be recognized for quality hands-on education as well as scholarly contributions to their academic disciplines. Each student is assigned to a faculty adviser to maximize the student's educational experience at California State University, Fresno. The faculty are noted for cooperation and activity within each industry to prepare and place graduates in their chosen career.

Sandra Witte, *Interim Chair*
Erin S. Dormedy
Dennis Ferris
Elizabeth Ferris
Lisa Herzig
Klaus Tenbergen

Bachelor of Science Degree Requirements

Food and Nutritional Sciences Major — *Units*

Major requirements 41-54

Options (select one)

Culinology® 54

CULG 50, 55, 152; FSC 1, 41, 100, 112, 120, 125, 151, 178, 193 (3 units), 199; FSM 60, 131, 133, 134, 193 (3 units); NUTR 54

Dietetics and Food Administration 35

CULG 50, 152; FSC 1; FSM 60, 131; NUTR 54, 61, 149, 153, 160, 165, 166S, 170

Career Specialty (12 units)

In consultation with assigned faculty adviser, each student is required to select one area of electives to match his or her career goals. A minimum of 3 of the 12 career specialty units must be upper-division in the Department of Food Science and Nutrition. Career specialties include, but are not limited to, the following:

* Admissions to the M.S. in Food and Nutritional Science are currently suspended while the program is being restructured.

- *Foodservice Management*: FSM 133, 134; additional courses approved by adviser
- *Community Nutrition, Health, and Wellness*: NUTR 147; PH 100, 112, 114, 115, 128; additional courses approved by adviser
- *Registered Dietition*: FSM 133, 134; NUTR 156, 157, 175

(Note: This career specialty requires admission to the Certificate of Special Study - Dietetics in addition to completing the Dietetics and Food Administration Option of The B.S. in Food and Nutritional Sciences; 12 units from the certificate can be used to fulfill the 12 units required for a career specialty. See catalog copy for more information.)

Food Science 41-44

Core (13 units): FSC 1, 41, 178; NUTR 54

Career Specialities (31 units)

- *General Food Science* (31 units): FSC 100, 112, 115, 120, 125, 141, 142, 144
- *Food Agribusiness Career Specialty* (31 units): CULG 50; FSC 100; FSM 60, 131; AGBS 1, 31, 71, 76, 117, 120, 160
- *Food Plant Operation and Management Career Specialty* (28 units): FSC 120, 141, 142, 144; IT 52, 92, 112, 118

Additional requirements 4-25

Culinology.....(15)*
CHEM 1A, 8, 150; BIOL 20; MATH 11

Dietetics and Food Administration.....(22)**
CHEM 3A, 8, 150; BIOL 20; BIOL 65; PSYCH 10; COUN 174; approved statistics course

Food Science.....(7-25)***
General Food Science (25 units)***: CHEM 1A, 1B, 8, 150; MATH 11, 75; BIOL 20; PHYS 2A
Food Agribusiness Career Specialty (4 units): FSC 141 or 142
Food Plant Operation and Management Career Specialty (14 units)***: CHEM 1A; MATH 11, 75; BIOL 20; PHYS 2A

Elective Units
General Food Science (0 units)
Food Agribusiness Career Specialty (choose 21 units from the following): AGBS 5, 28, 100, 124, 164; ENTR 81, 151, 161, 163, 165; CULG 55, 152; FSC 112, 115, 120, 125, 144
Food Plant Operation and Management Career Specialty (choose 14 units from the following): IT 104, 107, 114, 115, 117, 131, 148, 190

General Education requirements..... 51
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Total units..... 120

* This total indicates that 3 units for CHEM 1A are being used to satisfy the General Education requirement of 51 units.

** This total indicates that 6 units for CHEM 3A and PSYCH 10 are being used to satisfy the General Education requirement of 51 units.

*** This total indicates that 6 units for MATH 75 and PHYS 2A or CHEM 1A are being used to satisfy the General Education requirement of 51 units.

Advising Notes

1. Students should contact the program coordinator to schedule an academic advising appointment each semester. Since many courses are sequential in nature, it is important for new, transfer, or returning students to contact the program coordinator one semester prior to intended enrollment.
2. *CR/NC* grading is not permitted for courses included in the major and additional requirements, except work experience (FSC 193; FSM 193; and NUTR 193).
3. Grade Policy — all courses listed under major and additional requirements require a grade of *C* or better.
4. General Education courses designated as required by the department are prerequisite to many courses in the program of study.
5. The upper-division writing skills requirement can be met by passing the university upper-division writing examination or by passing an approved upper-division writing skills course. One unit of credit (in ENGL 100W) may be earned for passing the examination if requested by the student; by obtaining a letter grade of *C* or higher in an approved course (e.g., PLANT 110W) the student meets the university writing skills requirement.

Certificate in Dietetics. The Certificate in Dietetics is designed to prepare students to pursue a career as a registered dietitian. To qualify for the national examination to become a registered dietitian, students must earn the following: (1) bachelor's degree from a U.S. regionally accredited university or college, or international equivalent, (2) verification statement from a Commission on Accreditation for Dietetics Education (CADE) accredited didactic program in dietetics (DPD), and (3) verification statement from a CADE accredited dietetic internship (DI).

The Dietetics and Food Administration Option when taken with the Certificate in Dietetics is accredited by the CADE as a DPD. Students completing both programs will receive a verification statement and will be eligible to apply for an accredited dietetic internship.

Currently the supply of positions in dietetic internship programs is less than the demand by DPD graduates. The DI selection process is highly competitive and favors students who have demonstrated a well-rounded preparation as evidenced by GPA, work experience, volunteer experience, leadership, and career potential. Not all students applying to a DI will be placed.

Admission requirements. Candidates for the Certificate in Dietetics will be evaluated using the following criteria: grade point average of 3.0 or higher in all attempted college coursework, statement of professional goals, and a minimum of 240 hours of work or volunteer experience in dietetics.

Program Requirements	*Units*
FSM 133	**3**
FSM 134	**3**
NUTR 156	**3**
NUTR 157	**3**
NUTR 175	**1**
Total units	**13**

Food and Nutritional Sciences Minor

The Minor in Food and Nutritional Sciences consists of 21 units, of which 9 must be upper-division. All courses must be selected in consultation with the department chair. The minor program must be certified by the department chair. The certified minor program will be filed with the Office of Evaluations.

Note: The Food and Nutritional Sciences Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Graduate Programs

The Master of Science in Food and Nutritional Sciences is a 30-unit degree program designed to provide the student with professional competence in the technology

and science of food and nutrition-related disciplines: food science and nutrition.

Full-time graduate students may earn the degree within two years when working closely with an adviser. To accommodate part-time students, graduate courses are offered in the late afternoon or evenings.

Admission Materials. To be considered for admission to the graduate program, the candidate must submit the following materials: evidence of a baccalaureate degree in food science, nutrition, agricultural chemistry, or a related area from an accredited institution; official transcripts of all college work; official scores from the Graduate Record Examination Aptitude Test (GRE); a university application; three letters of reference from employers or faculty at the university most recently attended; and a statement of 500 words or less indicating reasons for pursuing a master's degree.

Admission Criteria. Candidates for admission will be evaluated using the following criteria: undergraduate coursework; grade point average of 3.0 or better (last 60 semester units); GRE scores (480V/580Q equivalent to the 50th percentile), 500-word or less statement of professional goals; and letters of reference. Admission by the university does not imply acceptance in the Master of Science in Food and Nutritional Sciences program. Applicants whose preparatory education was in a language other than English must earn a minimum TOEFL score of 550 and a minimum score of 4 on the Test of Written English (TWE).

Classified standing will be granted to students who meet all of the admission criteria.

Conditional classified standing may be granted to applicants with a 2.75 to 2.99 GPA (last 60 semester units) and/or those required to complete prerequisite coursework. Prerequisite coursework is not included in the 30-unit master's program. Students must request classified standing in the program by the semester in which a minimum of 10 units to be used toward the degree are completed.

Master of Science Program

Food and Nutritional Sciences

Mission. The Master of Science in Food and Nutritional Sciences at California State University, Fresno provides for development of advanced level knowledge, development of research abilities, and the mentoring of future leaders.

Outcomes. The program graduates will be able to (a) use knowledge and critical thinking skills to identify innovative solutions to problems, (b) communicate research findings through professional presentations and publications, (c) advance their careers, and (d) take an active role in their profession.

This program provides a graduate-level proficiency in food science or nutrition. The degree is applicable to specializations in food research, production, processing, chemistry, and microbiology and dietetics, nutrition, nutrition education, and food service systems management.

Prerequisite Courses. The Master of Science in Food and Nutritional Sciences assumes preparation equivalent to a California State University, Fresno undergraduate major in food science, dairy science, nutrition, dietetics and food administration, or related areas.

Students with undergraduate degrees in other fields or from other institutions who need to make up course deficiencies should consult with the graduate coordinator. The following specific prerequisite foundation courses, or their equivalents, are required:

Food Science: FSC 112, 115, 125, 141, 144; NUTR 54

Nutrition/Dietetics: CULG 152 and NUTR 54, 147, 149, 153, 160, or completion of an ADA-accredited didactic program in dietetics as evidenced by a signed verification statement.

Program Requirements

All students must complete a 12-unit common core. Under the direction of the graduate adviser, students may focus a program in a specialized area to meet their career goals. This is accomplished by the selection of a minimum of 12 units of electives. A 6-unit thesis completes the program of study. A minimum of 21 units must be taken at the 200 level.

	Units
Core	
FN 200	**3**
200-level statistics course (See *Graduate Advising Notes*.)	**3**
FN 223	**3**
FN 229	**1+1+1**
Approved Electives	
200- or 100-level courses appropriate to individually designed program; must be approved by adviser prior to enrollment	**12**
Culminating Experience	
FN 299	**6**
Total minimum	**30**

Advising Notes for M.S. in Food and Nutritional Sciences

1. Several of the 200-level and approved elective courses have prerequisites other than courses listed as admission requirements.
2. The statistics requirement may be met with any adviser approved 200-level statistics course offered by the university.
3. Students should request specific information concerning the master of science degree and the program advising sheet from the department office.
4. Upon admission, students should see the department graduate program coordinator for assistance in selection of a graduate adviser.
5. To progress through the graduate program, the student must:
   a. Maintain a minimum of 3.0 GPA
   b. Complete all prerequisite coursework
   c. Attain classified standing
   d. Meet the graduate writing proficiency requirement
   e. File for advancement to candidacy
   f. Complete the program requirements
   g. File a master thesis committee assignment form
   h. Formally present and defend the thesis results
6. The Graduate Writing Skills requirement for the graduate program in Food and Nutritional Sciences may be met by passing the writing component of AGRI 220 or FN 200. Please see the program's graduate adviser for more information.
7. Advancement to candidacy requires the completion of 9 program units in residence, a minimum GPA of 3.0, meeting the graduate writing proficiency requirement, and filing a petition for advancement to candidacy a minimum of one semester prior to enrollment in thesis and within the deadline.
8. Students may apply a maximum of 3 units each of FN 290 or 292 to their program.
9. See *Division of Graduate Studies* in this catalog for university requirements.

Certificate of Advanced Study in Dietetics (Dietetic Internship)

The Certificate of Advanced Study in Dietetics is a postbaccalaureate professional program that meets the requirements for supervised practice experience for entry-level generalist dietitians. The Commission on

Accreditation for Dietetics Education of the American Dietetic Association has granted accreditation to the program as a dietetic internship. The American Dietetic Association can be reached at 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995 or at 312.899.0040 ext. 5400. Students completing the program will be eligible to take the dietetic registration exam administered by the Commission on Dietetic Registration of the American Dietetic Association.

Admission Requirements. Candidates for admission will be evaluated using the following criteria: undergraduate coursework, grade point average of 3.0 or better (last 60 semester units/90 quarter units), completion of an accredited/approved didactic program in dietetics within the last five years, GRE scores (480V/580Q recommended), statement of professional goals, and letters of reference. Preference is given to those applicants with work or volunteer experience in dietetics. Applicants whose native language is other than English must earn a minimum TOEFL score of 550.

Note: Interns accepted to the program must successfully complete background checks, fingerprinting, and any other requirements of sponsoring facilities before beginning program.

Admission Materials. The application process has three parts (all of which must be completed for your application to be considered):

1. application to the dietetic internship (online centralized internship application): *https://portal.dicas.org*
2. application to the university for post baccalaureate standing: *http://www.csumentor.edu*
3. application to D & D Digital for computer match: *http://www.dnddigital.com*

Please see detailed application procedures at *http://fsn.jcast.csufresno.edu/degrees_and_programs/post_baccalaureate/dietetic_internship.aspx.*

Program Requirements

	Units
FN 250	3
FN 229	1+1
FN 230	3
NUTR 193	4
FSM 193	4
Total units	**16**

COURSES

Note: Active immunization against tetanus (available through Student Health Services) is a prerequisite for registration in any laboratory course in agriculture and for any student employment on the University Farm.

Culinology (CULG)

CULG 50. Food and Culinary Science I (3 units)
Introduction to high quality food. Emphasis on principles of food safety, nutrition, food preparation, and sensory evaluation. (2 lecture, 2 lab hours) (Course fee, $25) **FS** (Formerly FSC 50)

CULG 55. Food and Culinary Science II (3 units)
Prerequisite: CULG 50. Advanced preparation of high-quality food. Includes wine and food pairing, nouvelle cuisine, advanced plate presentation, advanced knife and culinary skills, and professional methods of production. Also includes advanced knife and culinary skills including gardemanger, charcuterie, and advanced cooking techniques. (2 lecture, 3 lab hours) (Course fee, $25) **3RD** (Formerly FSC 55)

CULG 151. Food Product Development (3 units)
Prerequisites: CULG 55; FSC 100, 112. Experimental approach to development of new food products. Explores both scientific and marketing parameters of product development. Includes concepts of traditional wine and food pairings, food styling and presentation, and other culinary techniques. (2 lecture, 3 lab hours) **3RD** (Formerly FSC 151)

CULG 152. Techniques for Healthful Cooking (3 units)
Prerequisites: CULG 50; NUTR 53 or 54 or permission of instructor; computer competency recommended. Planning a nutritious diet implementing the Dietary Guidelines for Americans. Cooking principles, recipe modification, and food selection at supermarkets and restaurants to increase dietary complex carbohydrates and decrease fat, sugar, and sodium. (2 lecture, 2 lab hours) (Course fee, $25) **S** (Formerly FSC 152)

Food Science (FSC)

FSC 1. Introduction to Food Science and Technology (3 units)
Survey of specific types of industries, chemical composition, microbiological concerns, processing, and environmental risks and their control to ensure food quality and safety. Introduction to governmental regulation. Current issues in the food industry. **FS**

FSC 41. Introduction to Food and Dairy Processing (3 units)
Prerequisite: FSC 1. Introduction to the technology of processing foods, including dairy products, with special reference to unit operations and sanitation. Laboratory includes computer applications related to food technology. (2 lecture, 3 lab hours) (Field trips) **3RD**

FSC 100. Sensory Evaluation (3 units)
Prerequisite: MATH 11 or AGBS 71. Analysis, measurement, and methods used in sensory evaluation of foods. (2 lecture, 3 lab hours) **3RD**

FSC 112. Food and Dairy Chemistry (4 units)
Prerequisites: CHEM 150; FSC 1. Study of the functional properties of water, dispersed systems, carbohydrates, proteins, enzymes, lipids, and colligative properties with respect to their role in processing and shelf-life. Computer applications. (3 lecture, 3 lab hours) **S**

FSC 115. Food Analysis (4 units)
Prerequisites: FSC 41 or 112; MATH 11 or AGBS 71; or permission of instructor. Application of analytical techniques and instrumental methods used in the analysis of food composition. Laboratory analyses include proximate, fatty acids, °Brix, titratable acidity, mineral, peroxidase, peroxide values, reducing sugars, vitamins, and filth. (2 lecture, two 3-hour labs) **3RD**

FSC 120. Quality Assurance in the Food and Dairy Industry (4 units)
Prerequisites: FSC 1; FSC 178; CHEM 1A or 3A; MATH 11 or AGBS 71; or permission of instructor. Physical, chemical, and microbiological methods for determining quality in food and dairy processing. Total Quality Management (TQM) and Statistical Quality Control (SQC) principles utilized. Food product standards and Hazard Analysis Critical Control Points (HACCP) guidelines and applications. Computer applications. (3 lecture, 3 lab hours) (Field trips) **3RD**

FSC 125. Food and Dairy Microbiology (4 units)
Prerequisites: FSC 41, 178; BIOL 20; or permission of instructor. Physical, chemical, and biological control of microorganisms in foods. Beneficial microorganisms used in food and dairy production. Laboratory emphasis on microbiological methods used in examining foods. Computer applications. (2 lectures, two 3-hour labs) (Field trips) **3RD**

FSC 141. Fruit/Vegetable Processing and Waste Management (4 units)
Prerequisites: FSC 41, 178; senior standing. Characteristics of raw fruits and vegetables. Application of storage and thermal dehydration, refrigeration/freezing, waste management, and packaging principles that influence quality. Computer applications. (3 lecture, 3 lab hours) (Field trips) **3RD**

FSC 142. Dairy Processing (4 units)
Prerequisite: FSC 41; FSC 178; senior standing; or permission of instructor. Unit operation approach to processing, including the three major steps of processing (raw material preparation, processing and packaging.) Overview of applied processing such as fluid milk, concentrated milks, cream, non-fat dried milk (NFDM) powder, ice cream, butter, and cheese. (2 lecture, two 3-hour labs) (Field trips) **3RD**

FSC 144. Food Engineering (4 units)
Prerequisites: FSC 41; PHYS 2A; MATH 75; or permission of instructor. The application of the engineering concepts and unit operations that include energy balance, heat transfer, fluid flow, thermodynamics, and mass transfer. (2 lectures, two 3-hour labs) (Field trips) **3RD**

FSC 162T. Topics in Food Science (1-4; max total 12 if no topic repeated)
Prerequisites: FSC 41, CULG 50, NUTR 54. Topics relating to food science. Some topics may have labs. **FS**

FSC 178. Food Laws, Regulations, Inspection, and Grading (3 units)
Prerequisite: FSC 1. Federal and state laws and regulations pertaining to the food industry. Federal Register, Code of Federal Regulations, United States codes, California state codes, and other government documents as they pertain to the FDA, USDA, EPA, and other agencies. Grading and inspection of food products. (2 lecture, 2 activity hours) **3RD**

FSC 180. Undergraduate Research (1-4; max total 4 units)
Prerequisite: permission of instructor. Exploratory work on a suitable problem in food science. Approved for ***RP*** grading. **FS**

FSC 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

FSC 192. Readings and Conference (1-3; max total 3 units)
Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged) **FS**

FSC 193. Supervised Work Experience (1-6; max total 6 units)
Prerequisite: permission of instructor. Supervised work experience in food science. ***CR/NC*** grading only. **FS**

FSC 199. Senior Seminar (1 unit)
Prerequisite: permission of instructor. Faculty, student, and industry presentations of current food science topics. Discussion of topics of practical importance to graduating students. **S**

Food Systems Management (FSM)

FSM 60. Food Safety for Foodservice Professionals (1 unit)
Up-to-date information on all aspects of handling food, from receiving and storing to preparing and serving. **FS**

FSM 131. Introduction to Food Systems Management (3 units)
A managerial and systems approach to food service operations. Impact of legislation, labor relations, and marketing on industry. **S**

FSM 133. Quantity Food Production (3 units)
Prerequisites: FSM 60; FSM 131; CULG 50. Preparation and service in quantity foodservice operations including techniques for making stocks, soups, and sauces. Ethnic cooking. Menu planning, recipe standardization, equipment and layout, production controls, work simplification, and quality assurance. (2 lecture, 3 lab hours) (Course fee, $25) **F**

FSM 134. Cost Analysis in Food Systems Management (3 units)
Prerequisites: FSM 133; computer competency recommended. Advanced concepts of planning, analyzing, decision-making and reporting procedures unique to food systems management. Cost analysis and control, computer applications, and purchasing in food service. (2 lecture, 2 lab hours) **S**

FSM 135. Institutional Experience (3 units)
Prerequisites: FSM 134 or permission of instructor; health clearance and health and accident insurance required. Supervised work experience in food systems management. (1 lecture, 4 lab hours) **FS**

FSM 162T. Topics in Food Systems Management (1-4; max total 12 if no topic repeated)
Prerequisites: CULG 50; FSM 131; NUTR 54. Topics relating to food systems management. **FS**

FSM 180. Undergraduate Research (1-4; max total 4 units)
Prerequisite: permission of instructor. Exploratory work on a suitable problem in food systems management. Approved for ***RP*** grading. **FS**

FSM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

FSM 192. Readings and Conference (1-3; max total 3 units)
Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged) **FS**

FSM 193. Supervised Work Experience (1-6; max total 6 units)
Prerequisite: permission of instructor. Supervised work experience in food systems management. A health clearance may be required. ***CR/NC*** grading only. **FS**

Nutrition (NUTR)

NUTR 53. Nutrition and Health: Realities and Controversies (3 units)
Optimal nutrition to reduce the risk of cancer, heart disease, allergies, obesity, and other diseases. Social, psychological, and cultural dictates that affect food selection and health. Personal strategies to develop a nutrition plan for better health. G.E. Breadth E1. **FS**

NUTR 54. Elementary Nutrition (3 units)
Application of chemical and biological principles to carbohydrates, proteins, fats, vitamins, minerals and water in human nutrition; recommended nutrient allowances and dietary evaluation; determination of energy needs; and relationship of nutrition to health and disease. **FS**

NUTR 61. Introduction to Foods and Nutrition Careers (1 unit)
Overview of various careers in foods and nutrition; educational and experiential requirements for foods and nutrition professionals; professional ethics; and food and nutrition information literacy. (1 lecture) **FS**

NUTR 147. Nutrition and the Athlete (3 units)
Prerequisite: NUTR 53 or 54. Covers intermediate principles of nutrition and the application of these principles to diet and nutritional status. Looks at interactions among diet, nutritional status, training, response, adaptation, and performance. **FS**

NUTR 149. Food and Nutrition Communication (3 units)
Prerequisites: NUTR 156; computer competency recommended. Integrating and translating food and nutritional science concepts into easily understood consumer messages. Activities include developing an assortment of instructional materials using a variety of media, writing lesson plans, and making presentations to a target audience. (2 lecture, 2 lab hours) **S**

NUTR 153. Advanced Nutrition (3 units)
Prerequisites: NUTR 54, BIOL 65, and CHEM 150. Relationship of nutrients to maintenance of homeostasis. Factors affecting the nutrient demands with interpretation of biochemical indices. Structural and functional properties of nutrients. Gross and microscopic structures related to cell metabolism, digestion, bone mineralization and body composition. **S**

NUTR 156. Nutrition Assessment (3 units)
Prerequisites: NUTR 153 and COUN 174. Assessment of nutritional status emphasizing dietary evaluation, nutrition care planning, and intervention. Application of dietary standards and principles for disease prevention and control. Methods for monitoring quality of nutritional care requiring application of nutrition counseling skills. (2 lecture, 3 lab hours) **F**

NUTR 157. Medical Nutritional Therapy (3 units)
Prerequisite: NUTR 156. Advanced concepts of nutritional therapy in disease. Identification of goals of nutritional therapy, principles of dietary modification, and meal planning for specific conditions. Calculation of diet prescriptions and application of nutrition counseling skills for medical conditions. (2 lecture, 3 lab hours) **S**

NUTR 160. Nutrition across the Life Cycle 1 (3 units)
Prerequisite: NUTR 54. The influence of nutrition on age, growth, and normal development. Nutrition recommendations from conception through toddler and preschooler to late adulthood. Socioeconomic, cultural, and psychological factors influencing food and nutrition behavior. The role of exercise throughout the life cycle. **F**

NUTR 162T. Topics in Nutrition (1-4; max total 12 if no topic repeated)
Prerequisites: NUTR 54, 160. Topics relating to nutrition. Some topics may have labs. **FS**

NUTR 165. Nutrition Across the Life Cycle 2 (3 units)
The influence of nutrition on age, growth, and normal development. Nutrition recommendations from child and preadolescent through late adulthood. Socioeconomic, cultural, and psychological factors influencing food and nutrition behavior. The role of exercise throughout the life cycle.

NUTR 166S. Community Nutrition (3 units)
Prerequisite: NUTR 160 or permission of instructor. Survey of nutrition programs created to improve community health. Development and examination of public health nutrition policy. Proposal writing. (Formerly NUTR 166) **S**

NUTR 170. Food and Culture (3 units)
Prerequisites: NUTR 160, 165, 166S. Understanding of relationships among cultural, religious, and geographical locations to food consumed by people around the world. Comparison of differences and similarities in types of food and cuisines. Exploration of factors that affect types of food consumed and their effects on nutrition and health status.

NUTR 175. Senior Dietetics Seminar (1 unit)
Prepares students to assume leadership positions in dietetics. Provides a forum in which students focus on professional development, ethics, and lifelong learning. Capstone course for seniors applying to dietetic internship programs. Open only to students admitted to the Certificate in Dietetics Program.

NUTR 180. Undergraduate Research (1-4; max total 4 units)
Prerequisite: permission of instructor. Exploratory work on a suitable problem in nutrition and dietetics. Approved for ***RP*** grading. **FS**

NUTR 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

NUTR 192. Readings and Conference (1-3; max total 3 units)
Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged) **FS**

NUTR 193. Supervised Work Experience (1-6; max total of 6)
Prerequisite: permission of instructor. Supervised work experience in dietetics and nutrition. ***CR/NC*** grading only. **FS**

GRADUATE COURSES

(See *Catalog Numbering System*.)

The following graduate courses are open to students who have been accepted into the graduate program. Students who are not in graduate standing should contact the department graduate coordinator prior to enrolling.

Food and Nutrition (FN)

FN 200. Research Methods in Food and Nutrition (3 units)
Prerequisite: permission of instructor. Quantitative and qualitative research design in food and nutritional sciences. Methods of data collection and analysis. Evaluation of research design and outcomes. Reporting research results. Students will develop a research proposal. **F**

FN 221T. Topics in Food Science and Nutrition (3; max total 9 units)
Prerequisites: upper-division food science and nutrition course appropriate to study topic; permission of instructor. Advanced studies in a given area of food science and nutrition. Some topics may require lab hours. **FS**

FN 223. Food, Nutrition, and Health (3 units)
Prerequisite: CHEM 150. Review and discussion of the recent scientific literature relating to food consumption, nutrient intake, and human health. **F**

FN 229. Seminar (1; required total 3)
Prerequisite: permission of instructor. Students investigate and present current research problems. Observation and evaluation of additional assigned seminars. Oral and written reports required. **FS**

FN 230. Advanced Nutrition Counseling (3 units)
Prerequisite: NUTR 157. Advanced counseling techniques including learning and behavioral theories and principals of goal setting. Design, delivery, and evaluation of nutrition counseling. Development and evaluation of nutrition education materials. Role-playing and case studies assigned. **F**

FN 250. Food and Nutrition Resource Management (3 units)
Examines management resources (human, financial, and physical) in a variety of industry and practice settings related to foods and nutrition. Development of a business and marketing plan. Group projects, case studies, and selected topics from current literature. (Formerly FN 221T)

FN 290. Independent Study (1-3; max total 3 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

FN 292. Readings in Food Science and Nutrition (1-3; max total 3 units)
Prerequisite: permission of instructor. Individually directed readings in a field of special concern to students in the graduate program; appropriate reports and evaluations required; individual conferences, no formal class meetings. Approved for ***RP*** grading. **FS**

FN 299. Thesis (2-6; max total 6 units)*
Prerequisite: prior advancement to candidacy. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading. **FS**

* For 299C courses, see *Graduate Studies*.

Industrial Technology

Jordan College of Agricultural Sciences and Technology

Department of Industrial Technology
Nitaigour P. Mahalik, *Chair*
Christina Fitz Gibbon, *Administrative Support Coordinator*
M. Grosse Industrial Technology Building, Room 212, M/S IT 9
559.278.2145
FAX: 559.278.5081
http://indtech.jcast.csufresno.edu/

B.S. in Industrial Technology

M.S. in Industrial Technology

Minor in Industrial Technology

Industry and Technology Teaching Credential Waiver

Certificate in Computer Process Control Network Administration

Certificate in Network Routing and Internetworking Technology

Industrial Technology

The Industrial Technology program at California State University, Fresno is geared towards preparing students for managerial and leadership roles in the industry. The program equips students with the necessary skills to use and manage state-of-the-art technologies in the fields of agricultural information systems, manufacturing, processing and packaging, quality systems and transportation. A blend of lectures, online instruction and hands-on lab activities together with engaged faculty and staff provides students with an environment that nurtures critical thinking and encourages innovation. The undergraduate curriculum includes technical concentrations in the areas of automotive technologies, food processing, and packaging, manufacturing quality and spatial technology which build on the strong foundations of our technology and management core courses.

The major focus of IT is to prepare individuals for technical and industrial management positions. Examples of positions held by IT graduates include plant engineer, fleet service representative, manufacturing engineer, operations supervisor, production planning analyst, production scheduling coordinator, and quality systems supervisor.

Average salaries for Fresno State IT graduates are commensurate with those offered to business managers and engineers in the Central Valley as well as in the greater Bay Area and Los Angeles areas. IT graduates typically enjoy career growth in both management and technological pathways.

The program also provides students the opportunity to interact with industry professionals and practitioners through activities organized by various professional societies such as the American Society of Automotive Engineers (SAE); American Society of Quality (ASQ); Association of Technology, Management, and Applied Engineering (ATMAE); American Society of Agricultural and Biological Engineers (ASABE); and Institute of Food Technologists (IFT). Major student clubs are Advanced Technology Enterprises (ATE); Epsilon Pi Tau (EPT); and American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHARE). Through participation in one or more of these groups, students learn more about their profession and interact with working professionals in their field. Internships are also available to provide on-the-job experience to interested students.

The Master of Science in Industrial Technology program offers an individually tailored program with a blend of theory and practice that provides an enriching learning experience and prepares tomorrow's professionals for exciting and rewarding careers. The graduate program includes a set of core courses and electives besides a culminating experience in the form of a project or thesis.

Mission Statement

The mission of the department is to prepare individuals for technical and management careers in business, industry, agriculture, and government for the improvement of regional and global economy.

Instructional Facilities

The Industrial Technology Department continues to receive equipment and financial support from a number of California -based industries. Facilities supported include the computer-aided design (CAD) lab, digital and analog electronics lab, hydraulics lab, process control/programmable logic controller lab, materials and fuels testing lab, robotics/computer numerical control (CNC)/computer integrated manufacturing (CIM) lab, motors and controls lab, and computer network lab.

Faculty

Nitaigour P. Mahalik, *Chair*

Darnell P. Austin, *Technology Teacher Education Coordinator*

Arun N. Nambiar, *Graduate Program Coordinator*

Tony M. Au
Balaji Sethuramasamyraja
Matthew M. Yen
Daming Zhang

Bachelor of Science Degree Requirements

Industrial Technology Major	*Units*
Major requirements	**68**
Technical Core IT 52, 74, 102, 104, 106, 114, 115, 196, 199; DS 73; CHEM 3A	(32)
Management Core IT 92, 107, 117, 118, 137, 148, 184	(21)
Electives Consult with a department adviser to develop 15 units of electives. Electives should be chosen from the following list with adviser's approval: IT 12, 30, 41, 58, 63, 71, 80, 110, 112, 116, 120, 127, 129, 131, 133, 134, 146, 147, 164, 165, 190, 191T, 194	(15)
General Education requirements (Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)	**51**
Additional requirements Upper-division writing skills: Students must pass the Upper-Division Writing Exam or complete IT 198W (recommended); PHYS 2A, IT 20. (***Note:*** PHYS 2A and IT 20 satisfy two G.E. area requirements [B1 and D3]. Consult the *Class Schedule* for a current list of approved G.E. courses).	**1**
Total units	**120***

*This total indicates that PHYS 2A and IT 20 also may be applied to G.E. area requirements, and it presumes that the student has fulfilled the Upper-Division Writing Skills requirement by passing the Upper-Division Writing Exam for zero units. Contact the department chair or faculty adviser for additional details.

Advising Notes

1. All courses (except IT 194) required for the major must receive a letter grade.
2. Students must pass the upper-division writing exam or complete IT 198W with a grade of ***C*** or higher (to be taken no sooner than the term in which 60 units are completed) to fulfill the upper-division writing skills graduation requirement.

See the *General Catalog* website for recommended program at *www.fresnostate.edu/catoffice/current/industrec.html*.

Industrial Technology Minor

The Minor in Industrial Technology consists of 20 units of which 9 must be upper-division. At least 12 units must be taken in one of these specialized areas of study: CAD/CAM systems management, industrial control systems management, networking systems management, quality systems management, or transportation systems management.

Note: The Industrial Technology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Certificate in Network Routing and Internetworking Technology

The Certificate in Network Routing and Internetworking consists of 16 units in industrial technology courses. The student is required to take IT 58, 63, 164, and 165. In addition, 3 units must be selected from the following: IT 116, 146, 190, 194.

Certificate in Computer Process Control Network Administration

The Certificate in Computer Process Control Network Administration consists of 19 units in industrial technology coursework. The student is required to take IT 58, 112, 117, and 133. In addition, 3 units must be selected from the following: IT 116, 134, 156, 190, or 194.

Industry and Technology Teaching Credential Waiver Program

The following course of study will prepare students for entry into the teacher education program. Students will complete the 120 unit requirement for the Bachelor of Science in Industrial Technology (BSIT) with teacher credentialing as their specialty.

1. Complete the BSIT General Education requirement (51 units)
2. Complete the BSIT Technical Core (32 units)
3. Complete the BSIT Management Core (21 units)
4. Complete the Teacher Education Credential Core (15 units):
   IT 12, 30, 58, 80; EHD 50
5. Area of emphasis (6 units)
   Select one area of emphasis below and take a minimum of 6 units in that area.
   - Engineering Design Technology: IT 41, 116, 147
   - Communication Technology: IT 63, 103, 116, 146, 164, 165
   - Manufacturing Technology: IT 112, 131, 133, 134, 156, 184
   - Power, Energy, and Transportation: IT 106, 110, 120, 127, 129
6. Additional requirements (1 unit)

Upper-division writing skills as noted under the BSIT requirements.

Master of Science Degree Requirements

The Master of Science in Industrial Technology is a 30-unit program which offers graduate study in both industrial and educational related professional and technical fields. Emphasis is directed toward the attainment of advanced competency in the areas of industrial and technology education as well as manufacturing technology. Through selected courses, within the department and other disciplines, knowledge and experience can be acquired in research and development, management and administration, technological studies, and educational studies that are related to all areas of the field.

Admission Requirements. The Master of Science degree program in Industrial Technology assumes preparation equivalent to a CSU undergraduate major in technol-

ogy education (industrial arts), industrial technology, or a related field. Students who have not completed a degree in technology education or industrial technology are expected to have completed the following courses or their equivalents prior to enrollment in courses to be applied toward the master's program: IT 41, 52, 74, 102, 114, 115; MATH 11 or DS 71.

Applicants whose preparatory education was principally in a language other than English must earn a minimum TOEFL score of 213 on the computer-based test, 550 on the paper-based test, and 80 on the Internet-based test.

Classified Standing. A baccalaureate degree is required and an undergraduate major in technology education, industrial technology, or a related field; a 3.0 GPA (last 60 semester units); a 450V/430Q GRE score; three letters of reference from employers or faculty at the university attended most recently; a personal statement of 500 words or less indicating reasons for pursuing a master's degree; a preadmission consultation session with the department graduate program coordinator. Students lacking in any area with compensating strengths in other areas are encouraged to apply.

Conditional classified standing may be granted to petitioning applicants with a 2.5 to 2.99 GPA (last 60 semester units); GRE scores on file with the university; three letters of reference; and a personal statement of 500 words or less. Students must request classified standing in the program by the semester in which a maximum of 10 units to be used toward the degree are completed.

Program Requirements. Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the following framework:

Specific Requirements	*Units*
Required courses	**15**
IT 223, 280, 282, 283, 285	
Electives in industrial technology or related field	**12**
(approved electives appropriate to individually designed program; a maximum of 9 units may be 100-level courses)	
Culminating Experience	**3**
IT 298 or 299	
Total minimum requirements	**30**

Graduate Advising Notes

1. Upon admission, students should see the department graduate program coordinator for aid in program planning.
2. To progress through the graduate program, students must:
   a. Maintain a minimum 3.0 GPA
   b. Complete all prerequisite coursework
   c. Attain classified standing
   d. Meet the graduate writing skills requirement
   e. File for advancement to candidacy
   f. Complete the program requirements
   g. File a master's thesis or project committee assignment form
   h. Formally present and defend the thesis or project results
3. Classified standing must be achieved by the semester in which students take the 10th program unit. All admission requirements must be met. Students must maintain a 3.0 GPA.
4. Students must meet the university graduate writing competency requirement by passing the writing component of IT 280 or AGRI 220. Students should complete the writing requirement prior to advancement to candidacy.
5. Advancement to candidacy requires the completion of 9 program units at California State University, Fresno, a minimum GPA of 3.0, meeting the graduate writing skills requirement, and filing a Petition for Advancement to Candidacy a minimum of one semester prior to enrollment in thesis or project and by established deadline.

COURSES

Industrial Technology (IT)

IT 12. Basic Vehicle Systems (3 units)
Design, construction, and mechanical functions of vehicle engines, fuel systems, electrical systems, power transmission, brakes, and wheel suspension; proper use and safety of tools and equipment. (2 lecture, 2 lab hours)

IT 20. Technology and Society (3 units)
Prerequisite: G.E. Foundation A2. Critical relationship between society and technology. Technology, as it applies to contemporary issues such as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, technology and consumer culture, and technological relations to the natural environment. G.E. Breadth D3.

IT 30. Exploring Technology Systems (3 units)
Survey of the technology systems discipline including history (medieval apprenticeship to present), technology subsystems (information and communications, transportation, manufacturing, construction), and relationships to other disciplines, including business, industry, and education. (2 lecture, 2 lab hours; field trips)

IT 41. Industrial Design Graphics (3 units)
Application of the fundamentals of industrial design graphics. Sketching, lettering, orthographic projection, working drawings, auxiliary views, dimensioning, developments, pictorial drawings, duplication; interrelationship to the design process. Introduction to CAD. (6 lab hours)

IT 45. Industrial Technology Exhibits and Competitions (3 units)
Provides a structure for students to be involved in various industrial technology exhibits and competitions, industrial technology research and development, project management, and team work. ***CR/NC*** grading only. (6 lab hours)

IT 52. Electricity and Electronics (3 units)
(Same as MEAG 53.) Introduction to electricity including fundamentals of electrostatics, alternating and direct current electrical circuits, electrical calculations, magnetics, circuit applications, electrical measuring, and test equipment. Schematics and wiring diagrams, standards, and codes. (2 lecture, 2 lab hours) (Course fee, $5)

IT 58. Applied Computer Networking I (4 units)
Internet, intranet, local area network concepts, protocols, architectures, and implementation issues. Data communication in office technology and manufacturing automation. (2 lecture, 4 lab hours; field trips)

IT 63. Applied Computer Networking II (4 units)
Prerequisite: IT 58. Understanding complex networks, such as IP, IPX, Frame Relay and ISDN. An analysis of the technology used to increase bandwidth and quicken network response times. Network security, global intranet, custom queuing, and routed priority services. (2 lecture, 4 lab hours; field trips)

IT 71. Metallurgical Processes (3 units)
(Same as MEAG 50.) Fundamentals of metallurgy; properties and characteristics of metals; survey of metal welding processes, equipment, and procedures; theory-discussion and laboratory experience in oxygen-fuel welding, cutting, brazing, and shielded metallic arc welding. (2 lecture, 3 lab hours) (Course fee, $7)

IT 74. Manufacturing Processes (3 units)
Study of how consumer and industrial products are manufactured, focusing on how raw materials (primarily metal and plastic) are changed into finished products. Topics include production processes of material addition, forming, casting, removal, separation, assembly, and finishing. (2 lecture, 2 lab hours) (Course fee, $7)

IT 80. Wood Processing Technology (3 units)
Wood properties, materials, finishing; hand, portable electric, and machine tool processing; design, production planning; safety, adhesives, and cutting principles; machine design and use. (6 lab hours) (Course fee, $10)

IT 92. Safety Management (3 units)
Principles of safety management in an industrial and agricultural environment; safety legislation and programs; management/supervisory and employee responsibilities and attitudes; physical hazards associated with chemicals, equipment, fire, compressed gases; other topics include eye, stress, drugs, lifting, office, and noise safety.

IT 102. Industrial Computer Concepts and Applications (3 units)
Introduction to computer systems hardware and software, operating system basics and installation, computer maintenance and troubleshooting. (2 lecture, 2 lab hours)

IT 103. Network Operating Systems (3 units)
Prerequisite: IT 102. Introduction to multiuser and multitasking network operating systems. Covers characteristics of the Linux, Windows 2000, NT, and XP network operating systems. Installation procedures, security issues, backup procedures, and remote access. (2 lecture, 2 lab hours)

IT 104. Product Design (3 units)
Prerequisite: IT 114 and 115. Elements, principles, and methods of design. Emphasis will be placed on the development of models and prototypes with attention to standard components, productivity, and packaging. (2 lecture, 2 lab hours)

IT 106. Energy Conversion and Utilization (3 units)
Fundamental sources of energy, including the following energy conversion systems: direct mechanical, external combustion, internal combustion, solar power, wind power, electrical and atomic systems. Experiments and demonstrations. (2 lecture, 2 lab hours; field trips)

IT 107. Facilities Planning and Materials Handling (3 units)
Facility planning techniques as applied to facility location, zoning, building codes, line balancing, shipping-receiving, offices, material handling, storage, project scheduling, and computerized layout.

IT 110. Fluid Power (3 units)
Selective study of fluid power principles and applications; hydraulics, pneumatics, and vacuum; includes pumps, controls, transmission systems, actuators, and fluidics. In-depth study of air conditioning-heating theory and applications. (6 lab hours; field trips) (Course fee, $5)

IT 112. Industrial Process Control Systems I (3 units)
Prerequisite: IT 52. Process control principles; components and principles; transducers, actuators, sensors, and instrumentation; computer interface software, terminologies, standards, and trends in control technologies. Programmable logic controller principles, hardware, and software. (2 lecture, 2 lab hours)

IT 114. Industrial Materials (3 units)
Chemical and physical properties of metals, polymers, ceramics, composites. Atomic structure and phases of matter emphasizing crystalline and amorphous solids. Mechanical properties, strength and testing of materials including impact, hardness, and tensile. Metallographic, microscopic inspection of electronic, and metallic specimens. (2 lecture, 2 lab hours)

IT 115. Design and Documentation Systems (3 units)
IT 41 recommended prior to enrollment. Design and documentation systems used in business and industry. CAD principles and applications, product development process, design process management, design review, concurrent engineering, value analysis. (2 lecture, 2 lab hours)

IT 116. Applied Visual Programming (3 units)
Contemporary computer language used in office automation and manufacturing industry; basic concepts on structural programming, object-oriented language, programming mechanics, user interface development, and Internet applications. (2 lecture, 2 lab hours)

IT 117. Quality Assurance (3 units)
Prerequisites: DS 73 or MATH 11. Quality assurance principles and practices in industry: quality assurance systems, acceptance sampling, testing, source surveillance; probability and statistical concepts, process control techniques and measurement procedures as applied to quality.

IT 118. Production Operations (3 units)
A survey of production manufacturing operations: quality assurance, work sampling, testing, time and motion study; routing, scheduling, and inventory control; flow processes, material handling, and automation. (Field trips)

IT 120. Vehicle Engine Systems (3 units)
Prerequisites: IT 12, 52 or concurrently. Advanced study of vehicle engines and support systems. Includes engine theory, fuel and electrical systems, turbochargers, LPG, diesel, computerized emission and engine controls, and dynamometer testing analysis. (6 lab hours; field trips)

IT 121. Automotive Engine Machining (3 units)
Prerequisites: IT 12, 74. Advanced study of automotive engine machining including precision measurements, principles of engine operation, machining of engine components, crack detection, assembly procedures, lubricating and cooling systems. (6 lab hours; field trips) (Course fee, $6)

IT 127. Vehicle Design and Development (3; max total 6 units)
Design and mechanical development of vehicles for intercollegiate competition events. Students will select one or more vehicle research projects: innovative future fuels, supermileage, mini baja, formula, aero design, walking robot. (6 lab hours)

IT 129. Vehicle Diagnostic Procedures (3 units)
Prerequisites: IT 12, 52 or concurrently. Laboratory study and analysis of mechanical, electrical, and computer control problems. Technical reports. (6 lab hours) (Course fee, $5)

IT 131. Automated Systems I (3 units)
Prerequisite: IT 52. Number systems, Boolean logic, and fundamentals of digital devices; basic applications of logic devices in computers and control systems. (2 lecture, 2 lab hours; field trips) (Course fee, $5)

IT 133. Industrial Process Control Systems II (3 units)
Prerequisite: IT 52. Programmable logic controller principles and equipment; programming languages, procedures, and documentation; equipment and software selection and application. (2 lecture, 2 lab hours)

IT 134. Computer-Aided Manufacturing Systems I (3 units)
Prerequisite: IT 74. Study, analysis, and evaluation of robotics systems. APT programming language for numerical control and application languages for robots. Use of robot vision and the geometry of computer vision applications. (2 lecture, 2 lab hours)

IT 137. International Quality Standards (3 units)
Prerequisite: IT 117. ISO 9000 and related international quality systems. Implementation process. Conformance standards, quality system requirements, and the registration and audit processes.

IT 146. Multimedia Development (3 units)
Integration of a variety of media types: graphics, animation, digital video, and sound. Emphasis placed on development and creation of multimedia as applied to various CAD/CAM projects, the process of bringing live interactivity to the Internet, Web page development, and desktop publishing.

IT 147. Advanced CAD Applications (3 units)
Prerequisites: IT 115. CAD as a tool to facilitate design activities. An overview of design processes and methods. Solid modeling techniques are introduced. A team approach in system design is emphasized. (2 lecture, 2 lab hours)

IT 148. Project Management and Control (3 units)
Project management process and tools, planning, scheduling, organizing, and controlling projects. Project planning and control using qualitative and quantitative methods. (2 lecture, 2 lab hours)

IT 156. Automated Systems II (3 units)
Prerequisite: IT 52. Study and analysis of the characteristics and industrial applications of electric motors. Major emphasis is placed on programmable, solid state, and electromechanical motor controllers. (2 lecture, 2 lab hours; field trips) (Course fee, $4)

IT 164. Routers and Internetworking I (4 units)
Prerequisite: IT 63. Implementation of appropriate technologies to build a scalable routed network. Building of campus networks using multilayer switching technologies. Improving traffic flow, reliability, redundancy, and performance for campus LANs, routed and switched WANs, and remote access networks.

IT 165. Routers and Internetworking II (4 units)
Prerequisite: IT 164. Creation and deployment of a global internet. Troubleshooting an environment that uses routers and switches for multiprotocol client hosts and services. Addresses those tasks that network managers and administrators need to perform in managing access and controlling overhead traffic over LANs and WANs. Connecting corporate networks to an Internet Service Provider (ISP).

IT 184. Advanced Manufacturing Technology (3 units)
Prerequisite: IT 74. Production processing, using metallic and nonmetallic materials, including product design, work cells, tooling, capacity planning, material handling, scheduling and flow chart. (2 lecture, 2 lab hours; field trips) (Course fee, $10)

IT 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

IT 191T. Technical Topics in Industrial Technology (1-3; max total 6 units)
Prerequisite: permission of instructor. Investigation and analysis of selected subjects in industrial technology. (2-6 lab hours)

IT 194. Cooperative Education in Industrial Technology (1-4; max total 12 units)
Prerequisites: courses appropriate to the work experience; permission of department cooperative education coordinator; junior standing. Integration of work experience with academic program, individually planned through program adviser. ***CR/NC*** grading only.

IT 196. Senior Seminar (1 unit)
Prerequisite: senior standing. Exploration of technology systems management trends and preparation for employment or further study in technical fields. Technology forecasting, orientation to professional certifications, employment correspondence, and interview techniques. Letter grade only.

IT 198W. Technical Writing (3 units)
Prerequisites: satisfactory completion (***C*** or better) of the ENGL 5B or 10 graduation requirement; to be taken no sooner than the term in which 60 units are completed. Preparation of technical reports, research proposals, specifications, resumes, and correspondence using effective writing techniques, formats, and styles. Meets upper-division writing skills requirement for graduation.

IT 199. Senior Problem in Industrial Technology (3 units)
Prerequisite: successful completion of Upper-Division Writing Exam or IT 198W. Approved problem or research project, with seminar, in the area of the student's option and emphasis. Approved for ***RP*** grading.

GRADUATE COURSES

(See *Catalog Numbering System*.)

The following graduate courses are open only to students who have been accepted into a graduate program. Students who are not in graduate standing should contact the department graduate coordinator prior to enrolling.

Industrial Technology (IT)

IT 223. Management of New Technology (3 units)
Study of new technology and its impact on people and their institutions. Topics focus on rapid technological changes as they relate to adoption, implementation, management strategies, and social issues.

IT 280. Research Methodology (3 units)
Prerequisites: MATH 11 or DS 73. Seminar in research procedures in industrial education and technology; basic bibliography, research form and methods.

IT 282. Advanced Communication Concepts and Visual Presentations (3 units)
Preparation and use of agendas, memoranda, business letters, electronic mail, fax communications. Video development and slide and transparency preparation and the incorporation of these media into presentations. Interview techniques, resume evaluations, dictation skills, professional relations with personnel, business etiquette.

IT 283. Advanced Materials and Processes (3 units)
Prerequisite: IT 114. Chemical and physical properties of metals, polymers, ceramics and composites. The atomic structure and phases of matter emphasizing crystalline and amorphous solids. Materials technology of metallic, polymeric, ceramic, and advanced composites are stressed.

IT 284T. Topics in Industrial Technology (2-3; max total 9 toward master's degree if no area repeated)
Advanced study in technical areas; current industrial practices, developments and trends related to design, materials, and processes.

IT 285. Advanced Manufacturing Systems (3 units)
Prerequisite: IT 115. A comprehensive study of modern manufacturing systems. Topics include plant layout, material control and transfer, operations measurement, transfer lines, CNC and DNC, machine tool network, computer-integrated manufacturing, flexible manufacturing systems, group technology, robotics, and manual assembly systems.

IT 286. Applied Spatial Technology (3 units)
Survey of geo-spatial technologies, e.g. geographical information system and global positioning system. Applications of GIS/GPS, remote sensing, imaging technology, and geo-database in fields of logistics, agriculture, and business. Spatial information management for precision agriculture, agriculture business, food system, and public policy.

IT 290. Independent Study (1-3; max total 6 if no area repeated; max combined total with IT 270 is 12)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

IT 298. Project (3 units)*
Prerequisites: IT 280; prior advancement to candidacy. See *Criteria for Thesis and Project*. Completion of an approved project appropriate to the candidate's area of specialization involving the development of a physical prototype or other similar professional problem-solving activity with extensive written documentation. Abstract required. Approved for ***RP*** grading.

IT 299. Thesis (3 units)*
Prerequisites: IT 280; prior advancement to candidacy. See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Industrial Technology (IT)

IT 341. Problems in Industrial Technology (2-3; max total 6 if no area repeated)
Prerequisite: permission of instructor. Intensive analysis of a selected area in industrial technology. Research paper, project, or reports.

Plant Science

Jordan College of Agricultural Sciences and Technology

Department of Plant Science
Andrew B. Lawson, *Chair*
Marlene Miyasaki, *Administrative Support Coordinator*
Agriculture Building, Room 222,
M/S AS 72
559.278.2861
FAX: 559.278.7413
http://plantsci.jcast.csufresno.edu/

B.S. in Plant Science
Options:
- Crop Production Management
- Plant Health

M.S. in Plant Science

Minor in Plant Science

Plant Science

Join the leader in science, technology, and agricultural management. The Department of Plant Science offers plant science programs focused on agricultural production with options in crop production management or plant health.

Courses offered by the department integrate physiology, soils and nutrition, agronomic practices, plant health management, protection against plant pests, ag marketing, and mechanization to provide students with a well-balanced background for positions in plant/soil sciences, and crop production. In addition, courses in areas such as micropropagation and plant improvement provide students with a background for further studies in plant biotechnology.

Each degree option integrates departmental curricula with the basic sciences (e.g., biology, chemistry, mathematics, physics) and management skills to build a well-balanced foundation.

The irrigation program is augmented by the Center for Irrigation Technology and the newly created International Center for Water Technology.

For information about laboratory units and supervised projects, contact the department office.

Career Opportunities

The courses offered within each of the disciplinary areas in the department provide the required background and experience to qualify graduates of these programs for many exciting, well-paying careers. For a list of career opportunities, contact the department office.

Mandatory Advising

It is the policy of the department that every student see his/her assigned adviser at least once during the academic year.

Faculty

The faculty members hold advanced degrees in their fields of specialization from leading agricultural institutions and universities in the United States. They are well-qualified teachers who, through extensive research and interaction with major agricultural industries, bring a wealth of basic and practical information into the classroom. A faculty academic adviser is assigned to work with each student to plan and design an individualized program of study to meet the student's educational and career objectives.

Many of the faculty members are involved in one or more of the Centers of the California Agricultural Technology Institute (Center for Irrigation Technology and the Viticulture and Enology Research Center) and the San Joaquin Experimental Range. These centers offer excellent opportunities to undergraduate and graduate students to participate in applied research projects that address and help solve problems faced by California's agricultural industry.

Andrew B. Lawson, *Chair*
Bruce A. Roberts,
J.G. Boswell Chair of Agronomy
Sharon E. Benes, *Co-Graduate Coordinator*
John T. Bushoven, *Co-Graduate Coordinator*

Athanasios Alexandrou
Charles Boyer
James J. Farrar
Dave Goorahoo
Ken Heupel
Anil Shrestha

Adjunct faculty
Florence Cassel Sharma
Kent M. Daane
Joel Mahill
Jesse Richardson
David Zoldoske

Bachelor of Science Degree Requirements

Plant Science Major

Crop Production Management Option: Recommended curriculum for students interested in a foundation of agronomic, vegetable, tree fruit/nut, or ornamental horticulture crop production combined with a foundation in agricultural business; recommended curriculum for students interested in combining foundations in agricultural equipment, crop production, and agricultural business.

Units

Major requirements 45
PLANT 99, 100; SW 2, 100, 100L
- Choose one from MEAG 3 or 20
- Choose two from PLTH 103, 105, 106
- Choose 2 units from PLANT 180, 190, 194, 196, or VIT 196

After consultation with your adviser, choose courses below that best serve your career objectives. Courses from above cannot be double-counted below. 15 units must be from no more than two prefixes. Select 21 units (minimum 15 upper-division units) from CRSC, HORT, MEAG, OH, PLTH, SW, VIT; PLANT 107, 108, 134, 150.

Additional requirements 22-24*
CHEM 3A, BIOL 11, AGBS 1 (or ECON 40), DS 71 (or MATH 75)
- Select one course from CHEM 3B, CHEM 8, PHYS 2A
- Select 18 units (15 upper-division) from the following:**

AGBS 28, 31, 100, 110, 117, 120, 130, 150, 160, 163, 164

General Education requirements..... 51
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Note: Consult your departmental adviser for other G.E. courses that are recommended for the plant science major. No General Education Integration or Multicultural/International course offered by the Plant Science Department may be used to satisfy the G.E. requirements for majors in the department.

Electives 0-2
Total units..... 120

* This total assumes that CHEM 3A, BIOL 11, AGBS 1 (or ECON 40), and DS 71 (or MATH 75) are being used to satisfy 12 units of the G.E. requirement.

** Additional prerequisites may be required for some upper-division AGBS courses

Plant Health Option: Recommended curriculum for students interested in obtaining a Pest Control Adviser's license, or who are interested in plant biotechnology or pursuing a post-graduate degree in plant science.

Units

Major requirements 57-58
PLANT 99, 100, 150; PLTH 102, 103, 105, 106, 108; SW 2, 100, 100L; MEAG 20
- Choose one from SW 101, PLTH 104
- Choose 3 additional units from PLTH courses
- Select 15 units (minimum 9 upper division) from CRSC, HORT, OH, SW, VIT; PLANT 107, 108, 134
- Choose 2 units from PLANT 180, 190, 194, 196, or VIT 196

Additional requirements 7*
CHEM 3A, BIOL 11, CHEM 8 and 150

General Education requirements..... 51
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Note: Consult your departmental adviser for other G.E. courses that are recommended for the plant science major. No General Education Integration or Multicultural/International course offered by the Plant Science Department may be used to satisfy the G.E. requirements for majors in the department.

Electives 4-5
Total units.....120*

* This total assumes that CHEM 3A and BIOL 11 are being used to satisfy 6 units of the G.E. requirement..

Advising Notes

1. Students will be assisted in selecting an appropriate faculty adviser and be given the curriculum checksheet(s) from which to select a catalog year.
2. Meet with your academic adviser prior to registration each semester.
3. General Education courses designated as required by the department are prerequisites to many courses in the program of study. The General Education requirement of 51 units may be exceeded depending upon your selection of courses.
4. ***CR/NC*** grading is not permitted for courses included in the major unless the course has been designated ***CR/NC*** grading only (PLANT 194).
5. ***Grading policy***: all prerequisites for courses listed under the major and additional requirements require a grade of ***C*** or better.
6. Upper-division G.E. courses (i.e., 100-level courses) should not be attempted prior to the semester in which 60 lower-division units toward the degree have been completed.
7. The upper-division writing skills requirement can be met by passing the university Upper-Division Writing Examination (UDWE) or by passing an approved upper-division writing skills course. One unit of credit (i.e., ENGL 100W) may be earned for passing the exam; 3 units of credit is earned by obtaining a letter grade of ***C*** or higher in an approved course, i.e., PLANT 110W. In either case, the requirement will have been met.
8. One semester prior to graduation, contact your academic adviser to prepare and file any necessary course substitutions with the Evaluations Office.
9. Students interested in becoming Certified Professional Agronomists, Crop Scientists/Specialists or Soil Scientists/Specialists should consult with their department faculty adviser for additional requirements for certification.

Plant Science Minor

The 21 units of courses will constitute a basic background in plant science. The program is similar to the major core and provides students with an introduction to the broad spectrum of plant science. Other majors in Jordan College of Agricultural Sciences and Technology, particularly the Agricultural Business and Education majors, require students to be knowledgeable of plant science in order to pursue their careers or teach the subjects of agricultural production. This minor would be a way in which students could acquire those courses they need and get credit for completing a program of study rather than only a series of courses.

	Units
Select from the following	**3**
PLANT 100: Aspects of Crop Productivity* (BIOL 11)	
PLANT 107: Plant Propagation	
PLANT 150: Crop Improvement* (BIOL 11)	
Select from the following	**6**
PLTH 103: Economic Entomology* (BIOL 1A or 11)	
PLTH 105: Weeds* (BIOL 1A or 11 and CHEM 3A)	
PLTH 106: Plant Pathology* (BIOL 1A or 11)	
Select from the following	**3**
SW 2: Agricultural Water	
SW 100: Soils* (CHEM 3A)	
Select from one of the following three prefix groups in Plant Science in consultation with an academic adviser	**9**
(at least 6 units must be upper division)	
Group 1: CRSC, SW	
Group 2: HORT, OH, VIT	
Group 3: PLTH	
Total units	**21**

*Course requires a prerequisite.

Note: The Plant Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Master of Science Degree Requirements

The Master of Science (M.S.) in Plant Science is a 30-unit program designed to provide advanced studies and in-depth knowledge in the fundamentals of plant science, as well as experimental design, technical writing, and formal presentation of research. Coursework provides a broad understanding of crop production and physiology, and thesis research allows for specialization. Areas of specialization include agronomy, pomology, horticulture, weed science, entomology, plant pathology, soils and irrigation, and mechanized agriculture. Graduate courses are offered in the late afternoon or evening permitting students to earn a degree within two or three years when working closely with an adviser.

Admission Requirements. The master's degree in Plant Science assumes preparation equivalent to a Bachelor of Science in Plant Science. Students having undergraduate majors in fields other than plant science may enter the program, but may reasonably expect additional requirements to produce equivalent preparation. The following courses or equivalents are expected to be completed prior to admission to the master's program:

Units	Subject Area
3	Plant Physiology
3	Statistics
3	Soils
3	Plant Health (entomology, pathology, nematology, integrated pest management, biological control, etc.)
6	Physical Science (chemistry, physics, etc.) of which a minimum of 3 units must be in chemistry
9	Life Science (biology, ecology, genetics, agricultural sciences, etc.)

Students who do not have all the prerequisite courses may be admitted to the program with conditionally classified standing and would be expected to complete the prerequisites before being granted classified standing.

To apply, students must complete the online application required for university admission at *www.fresnostate.edu/gradstudies/admission.* The following materials are required to complete the application:

- college application to the master's degree program
- statement of research interest (minimum of 500 words)
- three letters of recommendation from individuals in a position to make an evaluation in support of graduate study
- Institutional Score Report of the Graduate Record Exam (GRE)
- Institutional Score Report of the Teaching of English as a Foreign Language (TOEFL) exam — *for applicants whose native language is not English (unless the baccalaureate degree is from an institution using English as their language of instruction)*

The packet of application materials must be submitted by the following deadlines:

Spring Semester: **September 30** (Aug. 30, International students)*

Fall Semester: **March 1** (February 1, International students)*

*or as reported at *www.fresnostate.edu/gradstudies/admission/index.shtml*

Admission will be based on all of the following criteria:

1. Official GRE scores (suggested minimum of 480 verbal, 580 quantitative and 4.0 analytical writing) sent to the university by ETS
2. Grade point average (GPA) for the last 60 units (minimum 2.75)
3. TOEFL score: for those required to take this exam, scores of 213 (computer-based), 550 (paper-based), or 80 (Internet-based)
4. Official college transcript verifying completion of prerequisite courses and conferral of the bachelor's degree
5. Three letters of reference
6. Statement of research interest

Classified standing may be granted to students who meet all of the admission criteria.

Conditional classified standing may be granted to applicants meeting most, but not all, of the admission requirements. In this case, students must fulfill the criteria for "classified standing" and submit the required paperwork by the semester in which a minimum of 10 units to be used toward the degree are completed. Prerequisite courses are not included in the 30-unit master's program and students must achieve a 3.0 GPA for all coursework (prerequisite and graduate)

Program Requirements

All students must complete a 15-unit common core consisting of four 3-unit courses and three 1-unit topic seminars. Students must also complete 9 additional units of elective courses. Each student is also expected to complete 6 units of thesis research (PLANT 299) in consultation with a thesis committee.

	Units
Core	**15**
AGRI 200, 201, 220; PLANT 257, 270 (3 units required)	
Electives	**9**
Three courses from the list below. With prior approval, one course from the list of approved, non-departmental electives can substitute. PLANT 251, 261, 252, 255, PLANT 250T (Topics in Plant Science)	
Thesis Research	**6**
PLANT 299 (3 units in each of two semesters)	
Total minimum requirements	**30***

*Under certain circumstances students may need to take additional units at the discretion of the thesis adviser.

Graduate Advising Notes

1. Non-departmental elective courses may have prerequisites other than those listed as admission requirements.
2. Upon acceptance to the M.S. program in Plant Science, students should obtain the Graduate Student Handbook from the department office (559.278.2861). Students will be assigned an initial faculty adviser by the graduate coordinators. Soon after, students should identify a research interest and find a faculty member willing to serve as their thesis adviser, notifying the graduate coordinators once finalized.
3. To progress through the graduate program, the student must (a) complete all prerequisite coursework, (b) attain classified standing, (c) maintain a minimum GPA of 3.0, (d) meet the university graduate writing requirement, (e) successfully present and defend the thesis proposal, (f) file for advancement to candidacy, (g) file a thesis committee assignment form, (h) complete all program requirements, and (i) satisfactorily present and defend the thesis research results.
4. Advancement to candidacy requires the completion of 9 program units in residence with a 3.0 or higher GPA, meeting the university graduate writing requirement, and filing a Petition for Advancement to Candidacy a minimum of one semester prior to enrollment in thesis units (PLANT 299) and within the deadline.
5. To meet the university graduate writing competency requirement, students must either pass the writing component of AGRI 220, or be approved for writing competency by the graduate coordinators based on their review of the thesis proposal. See the Plant Science Department "Graduate Student Handbook" or the graduate coordinators for details.
6. All students must successfully present and defend their thesis research proposal. The defense must be completed by the end of their second semester in the M.S. program. Information on writing and defending the thesis can be obtained from the graduate coordinators.
7. See the Division of Graduate Studies section in this catalog for university requirements or visit *www.fresnostate.edu/gradstudies/*.

COURSES

Note: Active immunization against tetanus (available through Student Health Services) is a prerequisite for registration in any laboratory course in agriculture and for any student employment within the University Agricultural Laboratory.

Note: Cost to the student of extended field trips varies each semester depending upon itinerary. The student should ask the course instructor.

Crop Science — Agronomy and Vegetable Crops (CRSC)

CRSC 1. Introduction to Crop Science (3 units)
Not open to students with credit in upper-division CRSC courses. Principles of production for cereal, row, forage and vegetable crops. Culture, insect and disease control, harvesting, storage, and marketing. **S**

CRSC 101. Row Crops (3 units)
Prerequisites: BIOL 11, CRSC 1. The culture of beans, cotton, sugar beets, and oil crops; varieties, nutrition, insect, disease, and weed control; harvest, storage, uses, and marketing. (2 lecture, 3 lab hours) **F**

CRSC 102. Cereal and Forage Crops (3 units)
Prerequisites: BIOL 11, CRSC 1. The culture of alfalfa, barley, corn, sorghum, oats, rice, rye and wheat; varieties, nutrition, insect disease, and weed control; harvest, storage, uses, and marketing. (2 lecture, 3 lab hours) **S**

CRSC 105. Range Ecology and Management (3 units)
Prerequisites: BIOL 10 or 11, CRSC 1. Identification of range and pasture plants; carrying capacity; methods of range and pasture improvement, grazing management, water development, rodents, fertilization, reseeding, brush removal; mountain range resources. (2 lecture, 3 lab hours) **S**

CRSC 111. Vegetable Production (3 units)
Prerequisites: BIOL 11, CRSC 1. Cultural practices, harvesting, processing, and marketing of vegetables of economic importance to California and the San Joaquin Valley. (2 lecture, 3 lab hours) (Field trips fee, $65) **F**

CRSC 115. Organic Crop Production (3 units)
Prerequisites: BOT 10 or BIOL 11, CRSC 1. Cultural practices, harvesting, processing, and marketing of organically grown crops of economic importance to California and the San Joaquin Valley. (2 lecture, 3 lab hours) (Formerly PLANT 170T)

Horticulture (HORT)

HORT 1. Introduction to Fruit Science (3 units)
Not open to students with credit in upper-division HORT courses. Origin and distribution of grape and tree fruit crops. Botanical and commercial classification of grapes and tree fruits and their culture in California. **F** (Formerly VTF 1)

HORT 110. Fruit Species of California (3 units)
Prerequisite: BIOL 11 or HORT 1 or OH 1. Fruit and nut species common to California, their adaptation and uses. **S** (Formerly VTF 110)

HORT 112. Principles of Pomology II (3 units)
Prerequisite: BIOL 11 or HORT 1. Pruning, fruit and vegetative development, pollination, rootstocks, propagation, and nutrition. Crop fundamentals of spring cultural practices. (2 lecture, 3 lab hours) **F** (Formerly VTF 112)

HORT 113. Citrus and Subtropical Fruits (3 units)
Prerequisite: BIOL 11 or HORT 1. Geographic distribution, climatic and soil adaptation of subtropical fruit crops. Fruit and vegetative development and cultural practices for globally important fruit crops. Emphasis on citrus and olive. (2 lecture, 3 lab hours) **F odd** (Formerly VTF 113)

Mechanized Agriculture (MEAG)

Note: Suitable eye protection is required in many MEAG laboratory classes.

MEAG 1. Introduction to Agricultural Mechanics (3 units)
Selection, care, and use of common tools, projects of wood and metal; mechanical skills in the field of agriculture. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly MEAG 1S) **FS**

MEAG 3. Agricultural Tractors (3 units)
Study of functions, physical capabilities, applications, economics, and improvement of tractors. Testing and analysis of tractors in laboratory and field conditions to maximize efficiencies. (2 lecture, 3 lab hours; 5 hours field operation) **F**

MEAG 5. Power Equipment Safety (1 unit)
Safety training for operation of power equipment. Meets requirements of Senate Bill 198 and University Agricultural Laboratory (UAL) for classroom safety instruction on using tractors and similar power equipment. Satisfactory completion meets safety training portion requirement of the UAL Tractor License. (16 hours, meets four consecutive times) *CR/NC* grading only. **FS**

MEAG 20. Agricultural Machinery and Equipment (3 units)
The study of functions and applications of machinery and equipment. Setup, calibration, analysis, and adjustment of agricultural machinery common to the San Joaquin Valley under field conditions will be emphasized. Equipment will be evaluated for efficiency and effective performance. (2 lecture, 3 lab hours) **S**

MEAG 50. Metallurgical Processes (3 units)
(Same as IT 71.) Fundamentals of metallurgy; properties and characteristics of metals; survey of metal welding processes, equipment, and procedures; theory-discussion and laboratory experience in oxygen-fuel welding, cutting, brazing, and shielded metallic arc welding. (2 lecture, 3 lab hours) (Course fee, $50) **FS**

MEAG 53. Electricity and Electronics (3 units)
(See IT 52.) **F**

MEAG 103. Electro-Hydraulics (3 units)
Prerequisite: MEAG 3. Theory and practice in the operation, service, adjustment, and function of the component parts of fluid power systems. Design application of systems to agricultural equipment. Major emphasis is on computerized electronic controls of hydraulic systems. (2 lecture, 3 lab hours) **S odd**

MEAG 112. Power Systems Technology (3 units)
Prerequisite: MEAG 3. Principles of the internal combustion engine; overhauling, repairing, and adjusting of gasoline, diesel, and LPG farm engines. Practices in repair technology and engine replacement as well as cost analysis decisions. (2 lecture, 3 lab hours) **S even**

MEAG 113. Power Transmissions (3 units)
Prerequisite: MEAG 3. Theory and operation of electro-hydraulic assist transmissions, synchronized transmissions; gear transmissions; clutches; brakes; final drives, selecting devices, mechanical front wheel drives, four wheel drive, and rubber/steel track drives. (2 lecture, 3 lab hours) **F even**

MEAG 114. Small Gasoline and Compact Diesel Engines (3 units)
Prerequisite: MEAG 1. Theory of operation, maintenance, and repair of small gasoline and compact diesel internal combustion engines. Emphasizes use of small engines in agricultural education. (2 lecture, 3 lab hours) **FS**

MEAG 120. Advanced Farm Machinery (3 units)
Prerequisite: MEAG 3. Theory, operation, and management economics of planters, tillage tools, harvesting, spraying equipment, and precision farming equipment. Managerial responsibilities under state and federal mandates will be emphasized. (2 lecture, 3 lab hours) **F odd**

Ornamental Horticulture (OH)

OH 1. Introduction to Ornamental Horticulture (3 units)
Not open to students with credit in upper-division OH courses. Planting and maintenance of the home landscape; selection, planting, fertilization, and pruning of plants; lawn planting and care. (2 lecture, 3 lab hours) **FS**

OH 4. Floral Design (3 units)
Principles and rules of design and color using plants as a media; European and Japanese influences; emphasis on American line-mass and contemporary designs. An assortment of arrangements are made in lab. (2 lecture, 3 lab hours) (Course fee, $50) **S**

OH 104. Greenhouse and Nursery Crop Production (4 units)
Prerequisites: BIOL 11, OH 1. Fundamentals of greenhouse and nursery crop production. Emphasis on sustainable and economically viable production and management systems for significant flower, foliage, and nursery crops. (3 lecture, 3 lab hours; field trips) **F**

OH 108. Woody Plant Materials (3 units)
Prerequisites: BIOL 11, OH 1. Survey of woody plant materials, including identification, growth habits, and cultural requirements. Emphasis on plants used in the California landscape. (2 lecture, 3 lab hours; field trips) **F**

OH 109. Herbaceous Plant Materials (3 units)
Prerequisites: BIOL 11, OH 1. Survey of herbaceous plant materials, including identification, growth habits, and cultural requirements. Emphasis on plants used in California landscapes, botanical gardens, and arboreta. (2 lecture, 3 lab hours; 2 Saturday field trips) **F**

OH 110. Turfgrass Production and Management (3 units)
Prerequisites: BIOL 11, OH 1. Production and maintenance of grass for lawns, public parks, public institutions, playgrounds, playing fields, golf courses, bowling greens; identification of turfgrasses and turfgrass seed. (2 lecture, 3 lab hours; field trip) **F**

Plant Health (PLTH)

PLTH 102. Pesticides (3 units)
Prerequisite: CHEM 3B or 8. Modes of action and effective application of insecticides, herbicides, fungicides, rodenticides, nematocides and plant growth regulators. Emphasis on effective and safe use of agricultural chemicals by reading labels and following laws/regulations. **F**

PLTH 103. Economic Entomology (3 units)
Prerequisite: BIOL 10 or 12. Biology, ecology, management and taxonomy of economically important arthropods, with special emphasis on agricultural ecosystems in California. (2 lecture, 3 lab hours) **F**

PLTH 104. Plant Nematology (3 units)
Prerequisites: BIOL 1A or 11. Biology, taxonomy, host-parasite relationships, soil ecology, conventional and innovative controls, plant diagnosis and laboratory techniques with emphasis on plant-parasitic species. (Formerly PLPR 104) **F**

PLTH 105. Weeds (3 units)
Prerequisites: BIOL 11; CHEM 3A, 3B, or 8. Vegetation management in California. Identification of common weeds. Fundamentals of preventive, cultural, biological, physical, and chemical weed control methods. (2 lecture, 3 lab hours) **S**

PLTH 106. Plant Pathology (3 units)
Prerequisite: BIOL 1A or 11. Study of the causal agents, disease cycles, and control of plant diseases. (2 lecture, 3 lab hours) **S**

PLTH 108. Integrated Pest Management (3 units)
Prerequisite: PLTH 103. Concepts and principles of integrated pest management. Insect and mite pest problems; sampling techniques; biology and ecology of major agricultural crop pests; integration of control measures for management of economic pests. (2 lecture, 3 lab hours) **S**

PLTH 109. Diagnosis and Control of Plant Diseases (3 units)
Prerequisite: PLTH 106. Techniques for diagnosis of specific diseases in California and selection criteria for control strategies. Students will practice diagnostic techniques and select preventative, cultural, biological, physical, and chemical disease control strategies for major plant diseases. **F**

Plant Science (PLANT)

PLANT 99. Introduction to Biometrics (3 units)
Prerequisite: ELM requirement met. Introduction to experimental methods and statistical procedures with particular emphasis on applied biological systems. Design of experiments; statistical analysis and interpretation. **F**

PLANT 100. Aspects of Crop Productivity (3 units)
Prerequisite: BIOL 11. Study of the growth, development, and basic physiological processes of cultivated crops. Environmental influences on crop growth and development processes and management techniques to minimize stresses and maximize crop yield and quality. (Formerly PLANT 170T) **FS**

PLANT 105. Food, Society, and Environment (3 units)
Prerequisites: G.E. Foundation and Breadth Areas B. Linkages among food production systems, human social behavior, and environmental quality. Basic principles of environmental and agricultural sciences as applied to interrelationships among social value systems, agricultural activities and environmental resources. G.E. Integration IB. **FS**

PLANT 107. Plant Propagation (3 units)
Prerequisite: BIOL 11; CHEM 3A. Principles and practices of propagating plants, sexual and asexual. Seeds, cuttings, layering, grafting, budding, and tissue culture. Propagation media and rooting aids. (2 lecture, 3 lab hours; field trips) **S**

PLANT 108. Micropropagation (3 units)
Prerequisites: BIOL 11; BIOL 161 or CHEM 150 or permission of instructor. Principles of plant propagation by aseptic cell and organ culture as a means of rapid cloning, elimination of systemic plant diseases, production of somatic hybrids, ploidy change, and other genetic variants for use in plant breeding. (2 lecture, 3 lab hours) **F**

PLANT 110W. Dimensions in Agriculture (3 units)
Prerequisite: satisfactory completion of the ENGL 5B or 10 graduation requirement. Current agricultural problems and developments; nature of agricultural industries in a changing world. Interrelationships among agriculture, government, labor, and the public. Meets the upper-division writing skills requirement for graduation. **FS**

PLANT 134. Micrometeorology (3 units)
(See GEOG 114.)

PLANT 150. Crop Improvement (3 units)
Prerequisite: BIOL 11. Application of genetic, cytological and environmental principles to improvement of plants; heredity and variation in plants, effects of environmental factors, biotechnology, self- and cross-fertilization, principles and results of selection and hybridization in plant improvement. **F**

PLANT 170T. Topics in Plant Science (1-4; max total 6 per discipline if no topic repeated)
Prerequisite: junior standing. Selected topics in plant science, agronomy, horticulture, and other associated areas. Topics may require lab hours. **FS**

PLANT 180. Undergraduate Research (1-4; max total 4 units)
Open to juniors and seniors. Exploratory work on a suitable agricultural problem in plant science. Approved for ***RP*** grading. **FS**

PLANT 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

PLANT 194. Agricultural Internship (1-8; max total 8 units)
Prerequisite: junior standing; approval of faculty adviser and department chair. Field experience in your career specialty that integrates with classroom instruction. Written reports of knowledge and experience gained are required. ***CR/NC*** grading only. **FS**

PLANT 196. Crop Projects (1; max total 4 units)
Prerequisite: MEAG 3, appropriate production course, UAL Tractor License, and permission of instructor. Knowledge gained from classroom instruction applied to field conditions. Students will participate in growing and marketing a crop using the University Agricultural Laboratory. Approved for ***RP*** grading. **FS**

Soil and Water (SW)

SW 2. Agricultural Water (3 units)
Water resources and problems in California; water requirements for agricultural and ornamental crops; irrigation scheduling and application methods. (2 lecture, 3 lab hours) **F**

SW 100. Soils (3 units)
Prerequisites: CHEM 3A, intermediate algebra. Physical, chemical, and biologic properties of soils as a medium for plant growth and as a natural body, factors that influence soil formation; food and fiber production; fertilizer and soil amendment use and environmental impact; soil's role in the biosphere. **F**

SW 100L. Soils Lab (1 unit)
Prerequisite: SW 100 (may be taken concurrently). Physical, chemical, and biological analysis. Interpretation of field and laboratory data. (3 lab hours) (Saturday field trip) **F**

SW 100N. Soils in Environment (3 units)
Prerequisites: CHEM 3A. Physical, chemical, and biological properties of soils as the interconnecting link in the biosphere; factors that influence soil formation; role of soil in food and fiber production. Not open to plant science and viticulture and enology majors. No credit if taken after SW 100. (2 lecture, 3 lab hours) (Formerly PLANT 170T)

SW 101. Crop Nutrition (4 units)
Prerequisite: SW 100. Evaluation of nutrient elements in soils; application of fertilizers and organic waste to meet nutrient requirements; soil and plant tissue analysis and interpretation; fertilizer recommendations for different crops. (3 lecture, 3 lab hours) **S**

SW 104. Soil and Water Management (3 units)
Prerequisites: SW 2, 100 (may be taken concurrently). Management of irrigated soils with particular emphasis on crop water requirements, irrigation scheduling, salinity, and other physical and chemical soil problems of field crops, permanent crops and landscapes. **F**

SW 111. Irrigation Systems (3 units)
Prerequisite: SW 2. Principles of planning, installation and evaluation of irrigation systems for field crops, permanent crops and ornamental horticulture. Pressurized systems (sprinkler and drip irrigation) emphasized. **S**

GRADUATE COURSES

The following graduate courses are open to students who have been accepted into the graduate program. Final semester senior undergraduate students may petition the Division of Graduate Studies to enroll in graduate courses. The petition form, which is available in the department office, must be accompanied by GRE scores to be considered.

Agriculture (AGRI)

AGRI 200. Biometrics in Agriculture (3 units)
Prerequisites: PLANT 99, AGBS 71, or MATH 101, or permission of instructor. Advanced concepts in the design of agricultural experiments. Emphasis is placed on the selection of appropriate designs to meet the objectives of well-planned experiments. Relative merits of various designs and topics in analysis, interpretation, and regression are covered. **F**

AGRI 201. Agricultural Laboratory Techniques (3 units)
Prerequisite: One of the following courses: BIOL 161, CHEM 105, CHEM 109, or FSC 115. Agricultural problem solving through the application of advances in laboratory technology, crop management, foods, nutrition, soil and water quality. Theory and practice operation of scientific instruments and techniques are taught. Student defined project and report required. (2 lecture, 3 lab hours) **S**

AGRI 220. Research Methodology and Communications (3 units)
Critical literature review, quantitative and qualitative research design, scientific writing, questionnaire design and use, and presentation of research results. Ethical research issues examined. Approved for *RP* grading. **F**

Plant Science (PLANT)

PLANT 250T. Topics in Plant Science (3; max total 6 units)
Prerequisites: upper-division plant science course appropriate to study topic or permission of instructor. Advanced studies in a selected area of plant science which could include new or emerging issues and technologies. Topics may require lab hours.

PLANT 251. Soil-Plant-Water Relations (3 units)
Prerequisites: BIOL 161 and SW 100. Water flow and solute transport through the soil-plant-atmosphere continuum (SPAC). Soil-plant-water relationships affecting water use efficiency, agriculture productivity, and environmental quality. Management of salinity, drainage, and trace elements. Irrigation scheduling and water quality. (2 lecture, 3 lab hours) (Formerly PLANT 253, PLANT 256) **S odd**

PLANT 252. Plant Nutrition (3 units)
Prerequisite: BIOL 161 and SW 100, or permission of instructor. Soil factors influencing nutrient availability, mineral requirements of plants, and the acquisition and translocation of nutrients and their role in plant metabolism. Soil and tissue analysis for fertility management. (2 lecture, 3 lab hours) **S even**

PLANT 255. Advanced Plant Breeding (3 units)
Prerequisites: PLANT 150 or equivalent. Principles and techniques of plant improvement, breeding methods, combining ability, sterility systems, quantitative genetic analysis, heritability estimates, experimental designs for plant breeding.

PLANT 257. Physiology of Cultivated Plants (3 units)
Prerequisite: BIOL 161 or permission of instructor.. Plant cell structure and function. Response of cultivated plants to the environment. Physiology and hormonal control of flower induction, fruit set, and development. Review of pertinent current publications. **S**

PLANT 261. Advanced Plant Health Management (3 units)
Prerequisite: PLTH 108 or permission of instructor. Comprehensive study of anthropod, disease, and weed problems in California cropping systems. Examination of complex relationships among crop plants and other biological organisms in agro-ecosystems design crop management programs that are economically viable and ecologically sound.

PLANT 270. Seminar in Plant Science (1; max total 4 units)
(Three units required.) Reviews of published and/or original research in the broad areas of crop science, soil and water relations, and plant health. **FS**

PLANT 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

PLANT 299. Thesis (3; max total 6 units)*
Prerequisite: prior advancement to candidacy. See *Criteria for Thesis and Project*. Thesis research work and preparation. Submission of an acceptable written thesis for the master's degree. Oral presentation of thesis research required. Must take 3 units in each of two semesters. Approved for ***RP*** grading. **FS**

* For 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Agriculture (AGRI)

AGRI 300. Topics in Agriculture (1-3; max total 6 units)
Topics may require lab hours. In-service professional training in selected areas of agriculture.

Viticulture and Enology

Jordan College of Agricultural Sciences and Technology

Department of Viticulture and Enology
James A. Kennedy, *Chair and Director*
Jayne Ramirez,
Administrative Support Coordinator
Viticulture and Enology Research Center
2360 E. Barstow Ave, M/S VR89
559.278.2089
FAX: 559.278.4795
http://jcast.csufresno.edu/ve/

B.S. in Enology

B.S. in Viticulture

M.S. in Viticulture and Enology

Certificate of Special Study in Enology

Certificate of Special Study in Sustainable Viticulture

The Department

It is the goal of the Department of Viticulture and Enology to be a world-class center of excellence that can effectively meet the needs of students and the broader community. The department offers courses in viticulture and enology. Each degree integrates viticulture and enology offerings with the basic sciences (e.g., biology, chemistry, mathematics, physics) and management skills to build a well-balanced foundation.

Academic Excellence

The Department of Viticulture and Enology at California State University, Fresno was officially established in July 2000. Prior to this, these disciplines were taught in the Departments of Plant Science, and Food Science and Nutrition respectively. The foundations for the current curricula are firmly based in the sciences such as botany, chemistry, soil science, and microbiology. Classes in viticulture and enology are designed to help the students incorporate the basic sciences into the production of grapes and wines with numerous opportunities for "hands-on" learning experiences. We have the only university teaching facilities in the world that combines 150 acres of table, raisin and wine grape vineyards, a commercial 50,000 gallon winery, and a processing facility suitable for small-scale raisin production. This unique combination of academics and facilities has provided the training ground for numerous award winning viticulturists and winemakers. Students are limited only by their personal energy and motivation.

Students are required to meet with their advisers regularly to monitor their progress and plan for the future. Students are strongly encouraged to become involved in student club activities.

Faculty

In their fields of specialization, faculty members hold advanced degrees from leading universities. They bring a wealth of basic and practical information into the classroom. Faculty work with each student to plan and design an individualized program of study that meets the student's educational and career objectives. Faculty members are involved in research and public service through the Viticulture and Enology Research Center, one of four centers in the California Agricultural Technology Institute. The center offers excellent opportunities for students to gain experience by participating in applied research projects that address and help solve problems faced by California's grape and wine industries.

James A Kennedy
Kenneth C. Fugelsang
Sanliang Gu
Kaan Kurtural
Roy J. Thornton
Sonet van Zyl

Bachelor of Science Degree Requirements

Viticulture Major *Units*

Major requirements 67
BIOL 161; CHEM 8, 150; ENOL 15; MEAG 3; PLANT 99, 150; PLTH 103, 105, 106; SW 100, 100l, 101; VIT 101, 102, 103, 105, 106, 160, 165, 196 (4 units), 199 (1 unit)
Select 6 units in consultation with faculty adviser from the following courses: AGBS 31, 110, 117, 120, 130; ENOL 45, 163, 175; SPAN 1A; VIT 194

Additional requirements 2
Viticulture majors must take the following courses, which also satisfy General Education requirements. These courses amount to 12 units of the 51-unit G.E. requirement, plus 1 unit beyond the 30-unit requirement in BREADTH Area B1 and Area C2.
BREADTH: CHEM 3A (Area B1); BIOL 11 (Area B2); AGBS 1 (Area D3); and SPAN 1B (Area C2)

General Education requirements.....51
(Including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Upper-division writing skills requirement 0
Upper-division Writing Exam (See Advising Note 6.)

Total units..... 120*

* This total assumes that students will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as indicated above.

Bachelor of Science Degree Requirements

Enology Major	*Units*
Major requirements	**43**
ENOL 15, 45, 105, 114, 116, 125, 135 (2 units), 151, 163, 164 (6 units), 166 (2 units), 175, 199 (1 unit); VIT 101, 102, 106	
Additional requirements	**44**
BIOL 11, 161; CHEM 1A, 1B, 8, 105, 150; DS 71; AGBS 1; BIOL 120; PLANT 105; SW 100, 100L	
General Education requirements	**51**
15 of these G.E. units are included in the *additional requirements*. These courses are 3 units of CHEM 1A [B1]; BIOL 11 [B2]; DS 71 [B4]; AGBS 1 [D3]; and PLANT 105 [IB]. Therefore, 36 remaining General Education units are required.	
Upper-division writing skills requirement	**1**
Upper-division Writing Exam (See Advising Note 6.)	
Total units	**124***

* This total assumes that students will maximize the 15 units required for the major that also may be applied to fulfill General Education requirements as indicated above.

Advising Notes

1. During the Add/Drop period of their first semester, students are required to attend a department undergraduate orientation session. Alternatively, they are required to meet with the department chair. In either case, they will be assisted in selecting an appropriate faculty adviser.
2. Students meet with their academic advisers prior to registration each fall semester.
3. General Education courses designated as required by the department are prerequisites to many courses in the program of study. The General Education requirement of 51 units may be exceeded depending upon your selection of courses.
4. ***CR/NC*** grading is not permitted for courses included in the major.
5. Upper-division G.E. courses (i.e., 100-level course) should not be attempted prior to the semester in which 60 units toward the degree have been completed.
6. If the upper-division writing skills requirement is not met by passing the university Upper-Division Writing Examination (0 units), then a 3- to 4-unit *W* course (e.g., PLANT 110W or ENGL 160W) must be passed with a grade of ***C*** or higher.
7. One semester prior to graduation, contact your academic adviser to prepare and file an official certification of major requirements form. Your application for graduation cannot be processed by the Evaluations Office until this form has been submitted.
8. Viticulture students are encouraged to become certified crop scientists/specialists and should consult their faculty adviser for additional requirements for certification.
9. All courses listed under the major and additional requirements require a grade of ***C*** or better.

Certificate of Special Study in Enology

The Department of Viticulture and Enology offers a Certificate of Special Study in Enology. Normally, students admitted to this certificate program will have completed an undergraduate degree in a related field. This program is specifically designed for those who wish to pursue a career in winemaking. The certificate program emphasizes coursework in enology and viticulture, with requirements in other supporting sciences. Before enrolling in this certificate program, students must meet with an adviser in the Department of Viticulture and Enology to ensure that prerequisites have been met and to plan for their course of study.

The program consists of a minimum of 31 units in enology. If students have completed courses that qualify as part of the 31 units in enology, substitutions shall be made in consultation with an adviser to meet the 31-unit requirement. The Certificate of Special Study in Enology has additional requirements totaling up to 50 units that may be satisfied by previously completed coursework. Each student will meet with the certificate adviser to determine whether these requirements have been met by proper coursework or extensive experience in the field.

Required Qualifications:

1. Normally, a bachelor's degree from an accredited institution in the sciences or a related field

Preferred Qualifications:

1. One or more years of experience in the wine industry
2. Strong background in chemistry, microbiology, or food science
3. Academic training and experience in viticulture and soils

Students who have completed all of the prerequisites and additional requirements could possibly complete this course of study in a single year. Other students may take longer. The time limit for completing this certificate program is five years.

Certificate Program	*Units*
Required courses	**31**
ENOL 105, 114, 116, 125, 135, 151, 163, 164, 166, 175, 199; VIT 106	
Additional courses or their equivalents	**46**
BIOL 11; CHEM 1A, 1B, 8, 105, 150; ENOL 15, 45; BIOL 120; PLANT 105; SW 100, 100L; VIT 101, 102	

Certificate of Special Study in Sustainable Viticulture

The Certificate of Special Study in Sustainable Viticulture is specially designed for those students interested in pursuing a career in sustainable viticultural practices. Students who are admitted to the certificate program must have completed a minimum of a bachelor's degree from an accredited university or the equivalent international degree.

The program consists of 30 units which may be taken from upper-division (100-199) and/or professional courses (300-399). Courses approved for the Certificate of Special Study in Sustainable Viticulture are listed below.

Advising Notes

1. Courses taken at California State University, Fresno (or another accredited university) used to fulfill the requirements of a degree program cannot be used to meet the requirements for the certificate program.
2. Courses taken at other universities will be reviewed by the faculty in the Department of Viticulture and Enology to determine equivalence.
3. Students are required to work with an adviser to develop a plan for courses to be used to meet the certificate requirements. Course plans must be approved prior to enrollment in courses used to meet certificate requirements.
4. Students who have not taken the approved courses in viticulture and/or enology (see *Approved Courses*) to meet the requirements for a previous degree/certificate must take those courses as electives in the Certificate of Special Study in Sustainable Viticulture program.
5. Students who have taken the approved courses in viticulture and/or enology (see *Approved Courses*) to meet the requirements for a previous degree/certificate may select electives from other approved courses in consultation with an adviser.

6. Several of the courses approved for the certificate program have prerequisites not included on the approved course list. Students are required to complete all prerequisites prior to enrolling in courses used for the certificate program.

Program Requirements. All courses listed under the certificate program require a grade of *C* or better.

Required Categories

1. Social responsibility as applied to agriculture (such as PLANT 105) - 3 units
2. Qualitative and quantitative evaluation (such as MATH 107*) - 3 units
3. Public policy and regulations (such as AGBS 150* or 155*) - 3 units

Approved Electives 21 units (minimum) Selected from the list of *Approved Courses* (see below) in consultation with an adviser.

Total units 30 units (minimum)

Approved Courses
Viticulture: VIT 101*, 102*, 103*, 105*, 106*, 165*, 162T (see adviser for approved topics), 199

Enology: ENOL 105*, 135*

Agricultural Economics: AGBS 110*, 117*, 120*

Biological Sciences: BIOL 101*, 171*

Plant Science: PLTH 108*; SW 100 and 100L, 101*, 104*, 111*, 111AG*

*Course has prerequisites; see *General Catalog*.

Master of Science Degree Program

The Master of Science in Viticulture and Enology is a 30-unit program designed to provide advanced studies and in-depth knowledge in the fundamentals of plant physiology, microbiology, and grape and wine chemistry, as well as technical writing and formal presentation of research reports.

Full-time graduate students may earn the degree within two years when working closely with an adviser. To accommodate part-time students, graduate courses are offered in the late afternoon or evenings.

Admission Requirements. The Master of Science in Viticulture and Enology assumes preparation equivalent to a Bachelor of Science in Viticulture and/or Enology, Agricultural Chemistry, Food Science and Nutrition, Plant Science, or a related area from an accredited institution. The following courses or equivalents are expected to be completed prior to enrollment in courses to be applied to the master's program: BIOL 11, 161; CHEM 8, 150; ENOL 116, 125, 166; PLTH 103, 105, 106; SW 2, 100; VIT 101, 102.

Admission Materials. To be considered for admission to the graduate program, the candidate must submit the following materials: evidence of a baccalaureate degree in agricultural chemistry, enology, food science, nutrition, plant science, viticulture, or a related area from an accredited institution; official transcripts of all college work; official scores from the Graduate Record Exam (GRE); a university application; three letters of reference from employers or faculty at the university most recently attended; and a statement of 500 words or less indicating reasons for pursuing a master's degree.

Admission Application Filing Periods
Check *www.fresnostate.edu/catoffice/current/admssns.html* or call the Graduate Admissions Office at 559.278.2261.

Enrollment Packet Submission Deadlines. Check *http://cast.csufresno.edu/ve*
Incomplete packets of materials will be returned to students for resubmission the following semester. Required application materials are available in the Department of Viticulture and Enology, VR 89, 559.278.2089, fax 559.278.4795. The department Web site is *http://cast.csufresno.edu/ve*.

Admission Criteria: Candidates for admissions will be evaluated using criteria including undergraduate coursework, grade point average of 3.0 or better (last 60 semester units), GRE scores (480V/580Q are equivalent to the 50th percentile), 500-word or less statement of professional goals, and letters of reference. Students lacking in any area with compensating strengths in other areas are encouraged to apply. Admission by the university does not imply acceptance in the Master of Science in Viticulture and Enology program. Applicants whose preparatory education was in a language other than English must earn a minimum TOEFL score of 550 and a minimum score of 4 on the Test of Written English (TWE).

Classified standing will be grated to students who meet all of the admission criteria.

Conditional classified standing may be granted to applicants with 2.75 to 2.99 GPA (last 60 semester units) and/or those required to complete prerequisite coursework. Prerequisite coursework is not included in the 30-unit master's program. Students must request classified standing in the program by the semester in which a maximum of 10 units to be used toward the degree are completed.

Program Requirements for M.S. in Viticulture and Enology

All students must complete a 14-unit common core. Students must also complete 12 units of approved electives and a 4-unit thesis (culminating experience) in consultation with a thesis adviser.

	Units
Core	**14**
AGRI 200, 220; VEN 210, 229, 280	
Approved Electives	**12**
BIOL 156; CHEM 225; FN 221T; IT 223, 282; PLANT 251, 252, 254, 257, 258; VEN 214*, 225*, 250T, 251*, 264*, 275*, 290	
Culminating Experience	**4**
VEN 299	
Total minimum requirements	**30**

*Development of VEN electives in progress.

Graduate Advising Notes

1. Several of the approved elective courses have prerequisites other than courses listed as admission requirements.
2. To obtain the required school application form and more specific information concerning the Master of Science in Viticulture and Enology, interested students should call or write the department office. Upon acceptance into the Master of Science in Viticulture and Enology program, students should obtain the *Graduate Student Handbook* from the department office.
3. Upon acceptance into the Master of Science in Viticulture and Enology program, students will be assigned an initial faculty adviser by the department chair. Students may subsequently select a faculty adviser upon obtaining his/her approval and notifying the department office of that selection.
4. Elective courses are selected in consultation with the student's faculty adviser.
5. To progress through the graduate program, students must
   a. maintain a minimum of 3.0 GPA,
   b. complete all prerequisite coursework,
   c. attain classified standing,
   d. meet university graduate writing requirement,
   e. pass the department qualifying examination,
   f. file for advancement to candidacy,
   g. complete the program requirements,
   h. file a master's thesis committee assignment form, and

i. satisfactorily present and defend the thesis research results.

6. All students must successfully complete the department qualifying examination before being advanced to candidacy. The exam should be taken as soon as possible after completing AGRI 200, 220, and PLANT 257. Information on the department preliminary examination is included in the *Graduate Student Handbook.*
7. Advancement to candidacy requires the completion of 9 program units in residence, meeting the university graduate writing requirement, passing the Viticulture and Enology Department qualifying exam, and filing a Petition for Advancement to Candidacy a minimum of one semester prior to enrollment in thesis and within the deadline.
8. The Graduate Writing Requirement may be met by passing the writing component of AGRI 220. Please see the program coordinator for more information.

See *Division of Graduate Studies* in this catalog for university requirements.

COURSES

Enology (ENOL)

ENOL 15. Introduction to Enology (3 units)
History and development of the wine industry; mechanics of various processes and factors affecting wine quality and consumer acceptance. **FS**

ENOL 45. Wine Evaluation Techniques (2 units)
Parameters that determine sensory quality in wines. Wine appreciation. Critical evaluation of wines including premium varietals. Must be 21 years of age — state law. (1 lecture, 2 lab hours) (Course fee, $50)* **FS**

ENOL 105. Advanced Sensory Evaluation of Wines (3 units)
Prerequisites: ENOL 45 and ENOL 164 (ENOL 164 may be taken concurrently). Factors affecting the quality of wines in terms of growing region, grape maturity, harvesting, vinification, cellaring, blending, and storage practices; attributes and defects in premium varietals. Statistical concepts. (2 lecture, 2 lab hours) (Course fee, $40)* **S**

ENOL 114. Analytical Methods for Wine I (2 units)
Corequisite: ENOL 164; prerequisite: CHEM 105 (may be taken concurrently) or permission of instructor. Fundamental principles and practices of methods of analysis for grape juice and wine during crush. Emphasis on practical laboratory procedures. (1 lecture, 3 lab hours) **F**

ENOL 116. Analytical Methods for Wine II (2 units)
Corequisite: ENOL 166; prerequisites: ENOL 114, 164, CHEM 105, or permission of instructor. Fundamental principles and practices of methods of analysis for wine and wine products during cellaring operations. Emphasis on practical laboratory procedures. (1 lecture, 3 lab hours) **S**

ENOL 125. Wine Microbiology (4 units)
Prerequisites: ENOL 15; BIOL 120; CHEM 150. Identification, physiology, and biochemistry of bacteria and yeasts involved in winemaking and spoilage of wines. Vinous and malolactic fermentations. Sherry organisms and other film yeasts. (2 lecture, 6 lab hours) **S**

ENOL 135. Field Studies (2; max total 6 units)
Prerequisite: ENOL 15 or permission of instructor. A six-day field trip during the spring recess visiting wineries to study the techniques and handling methods employed by the many vintners. Students must provide own transportation, meals, housing, and insurance. **S**

ENOL 140. Regulations: Wine and Brandy (2; max total 2 units)
Prerequisite: ENOL 15 or permission of instructor. Rules and regulations concerning wine and brandy licensing, record keeping, production, taxation, enological practices, rule making, and labeling. Interstate and international commerce. Export requirements. **S**

ENOL 151. Winery Equipment (2 units)
Prerequisites: ENOL 15; 135 (may be taken concurrently). Evaluation, use, location, operation, and repair of winery equipment. Winery safety. Safety equipment required. (1 lecture, 3 lab hours) **S**

ENOL 162T. Topics in Enology and Fermentation Science (1-4; max total 12 if no topic repeated)
Prerequisite: ENOL 15. Topics in winemaking and fermentation science. Some topics may include labs. **P**

ENOL 163. Fermentation Laboratory (2 units)
Prerequisite: ENOL 15 (may be taken concurrently). Vinification/Fermentation Laboratory practice at the university's Enology Pilot Plants and Ag Lab Winery. Individual winemaking. Students must supply their own grapes. (6 lab hours) **F**

ENOL 164. Wine Analysis and Production (6; max total 12 units)
Corequisite: ENOL 114; prerequisites: CHEM 1A; CHEM 1B or 105; CHEM 8; ENOL 151, 163. Only open to enology and viticulture students. Laboratory and winery experience in winemaking operations, including harvest, scheduling, crushing, fermentation, safety, sanitation procedures, record keeping, analysis, and operation of enology facility equipment. Safety equipment required. (2 lecture, four 3-hour labs) **F**

ENOL 166. Cellar Operations (2; max total 4 units)
Corequisite: ENOL 116; prerequisites: ENOL 114, 164 (must be taken the previous semester). Survey of cellaring operations and equipment. Analytical methods, blending, fining, ion exchange, finishing, and bottling. May be repeated once for credit. (1 lecture, 3 lab hours; local field trips) **S**

ENOL 175. Winery Management (3 units)
Prerequisites: ENOL 15 and permission of instructor. Physical properties of a winery; administrative organizational setup; personnel; purchasing, packaging and shipping; local, state, and federal regulatory statutes. **S**

ENOL 180. Undergraduate Research (1-4; max total 4 units)
Prerequisite: ENOL 164. Open to juniors or seniors with permission of instructor. Exploratory work on a suitable agricultural problem in enology. Approved for ***RP*** grading. **FS**

ENOL 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

ENOL 199. Undergraduate Seminar (1; max total 2 units)
Oral presentations of topics of current interest in enology, wine grapes, and fermentation science. **F**

Viticulture (VIT)

VIT 1. World Viticulture (3 units)
Origin and distribution of European (Old World) grapevines and their "New World" relatives. The use of grape and grape products in various regions of the world. Not open to viticulture or enology majors. **S**

VIT 101. General Viticulture I (3 units)
Prerequisite: BIOL 11 and 161. Current status and future of the grape industry. Characteristics and identification of leading raisin, table, wine and rootstock varieties. Growth and physiology of the grapevine. Climatic and soil requirements for grape growing. Principles and practices of grapevine nutrition. (2 lecture, 3 lab hours) **F**

VIT 102. General Viticulture II (3 units)
Prerequisite: BIOL 11 and 161. Planning of new vineyards. Vine propagation, planting, training, and trellis systems. Recent develop-

*Course fee effective spring 2013.

ments in viticultural practices, with emphasis on raisin, table, and wine grape production. (2 lecture, 3 lab hours) **S**

VIT 103. Raisin Production and Processing (2 units)
Prerequisite: VIT 101 and 102. Principles and practices of raisin production; sun drying, mechanical dehydration, on-the-vine drying; new raisin processes to produce new products. (1 lecture, 3 lab hours) **F**

VIT 105. Production and Marketing of Table Grapes (2 units)
Prerequisite: VIT 101 and 102. An overview of the table grape industry in California. Major table grape growing regions in the world, U.S., and California. Varietal adaptation to climate and soils. Cultural practices and vineyard management. Post-harvest technology and marketing strategies. Field trips. (1 lecture, 3 lab hours) **S**

VIT 106. Winegrape Production (2 units)
Prerequisite: VIT 101 and 102. Advanced viticulture course in the science of winegrape production. Covers the basics and advanced technology of winegrape growing for wine production. (1 lecture, 3 lab hours) **F**

VIT 160. Mechanized Viticulture (3 units)
Prerequisite: MEAG 3 or equivalent (may be taken concurrently). Provides detailed description of the machinery used to establish vineyards, carry out cultural practices, and harvest grapes for production of wine grapes, raisins, and table grapes. Objective is to provide student with an understanding of machinery designed for grape production and the principles of machinery operation. (2 lecture, 3 lab hours) **S**

VIT 162T. Topics in Viticulture (1-4; max total 4 units)
Prerequisite: junior standing. Oral presentations by invited speakers on topics of current interest to viticulture. **P**

VIT 165. Grape Varieties and Rootstocks (2 units)
Prerequisite: VIT 101 and 102. Taxonomy and ampelography of the grapevine with emphasis on genus, species, varieties, and clones. Identification, viticultural attributes, adaptation, and utilization of the leading rootstocks, raisin, table, and wine varieties grown in California and the United States. (1 lecture, 3 lab hours) **F**

VIT 180. Undergraduate Research (1-4; max total 4 units)
Prerequisites: VIT 101 and 102 or permission of instructor. Open to juniors or seniors with permission of instructor. Exploratory work on a suitable agricultural problem in viticulture. Approved for ***RP*** grading. **FS**

VIT 190. Independent Study (1-3; max total 6 units)
See *Academic Placement—Independent Study.* Approved for ***RP*** grading. **FS**

VIT 194. Grape and Wine Industry Internship (2; max total 4 units)
Prerequisite: permission of instructor. Field experience in a career specialty that integrates with classroom instruction. Requires written reports of knowledge and experience gained. ***CR/NC*** grading only. **F**

VIT 196. Viticulture Projects (2; max total 4 units)
Prerequisite: MEAG 3 or MEAG 5 and VIT 101 and 102. Knowledge gained from classroom instruction applied to vineyard conditions. Students will be assigned to a block in the university vineyard and participate in cultural practices and marketing the crop. This course must be taken twice to complete the project. Approved for ***RP*** grading. **FS**

VIT 199. Undergraduate Seminar (1; max total 4 units)
Seminar format in which professionals in the grape and wine industry will make 30- to 40-minute presentations. Afterwards, there will be five to 10 minutes reserved for questions. The seminars are intended to elicit considerable interaction among participants. The setting is informal. **F**

Viticulture and Enology (VEN)

VEN 210. Grape and Wine Chemistry (4 units)
Prerequisite: CHEM 150. Mechanistic basis for the chemistry and biochemistry of vines, grapes, yeast, and bacteria used in winemaking, wine spoilage, and health issues of alcohol and wine. Critical evaluation of the literature pertaining to the above subjects. **S**

VEN 229. The Graduate Seminar (1; max total 2 units)
Prerequisite: permission of instructor. Oral presentations on topics of current interest in viticulture and enology. Develops skills in critical review and analysis of current literature and recent advances. **FS**

VEN 250T. Topics in Viticulture and Enology (1-3; max total 6 units if no topic repeated)
Prerequisites: admission to a graduate program in Jordan College of Agricultural Sciences and Technology and permission of the instructor. Advanced studies of current topics in viticulture and enology selected by instructor. Students will be required to prepare oral and written presentations demonstrating an in-depth understanding of the chosen topic(s). Participation in classroom discussion will be required as part of the grade. **P**

VEN 280. Research in Viticulture and Enology (2 units)
Prerequisites: AGRI 200 and 220. History, current trends, and modern methodology for research in viticulture and enology. Exposure to funding opportunities and dissemination of research results in the grape and wine industry. Involves critical evaluation of published literature on grape and wine research. **FS**

VEN 290. Independent Study (1-3; max total 3 units)
See Academic Placement — *Independent Study*. Approved for ***RP*** grading. **FS**

VEN 299. Thesis (4 units)*
See *Criteria for Thesis and Project*. Prerequisite: advancement to candidacy. Preparation, completion, and submission of an acceptable thesis for the master's degree. Oral defense of thesis required. Approved for ***RP*** grading. **FS**

* For 298C and 299C courses, see *Graduate Studies*.

The College of Arts and Humanities

Music Building, Room 186, 559.278.3056
Vida Samiian, *Dean;* José A. Díaz, *Associate Dean*
http://artshum.csufresno.edu

The College of Arts and Humanities includes the departments of Art and Design, Communication, English, Linguistics, Mass Communication and Journalism, Modern and Classical Languages and Literatures, Music, Philosophy, and Theatre Arts. Armenian Studies, Classical Studies, Interdisciplinary Humanities, and the London Semester are integral programs of the college.

The Mission of the College

The study of the arts and humanities provides a foundation in vision, depth, and discernment for all areas of knowledge. From the "Know thyself" of philosophy to the "Get it right" of journalism, the arts and humanities illuminate everything from self to society.

Art, music, dance, creative writing, and theatre offer opportunities to participate in and absorb the full range of creative and interpretive experience. English and communication, letters and language, sum up the best that has been thought and said. Foreign languages and linguistics do all of that and more. Besides providing culture, in the Germanic sense of the term, knowledge of modern languages offers insights into whole new worlds of people. Linguistics offers the same opportunity through the English language, but from the opposite end of the telescope.

Journalism is best equipped to report on, comment on, and analyze the wisdom and folly of today. Philosophy deals with the wisdom of the ages — a heavy phrase for a discipline that teaches us how remarkable and timelessly "modern" the human mind has always been, from apple to Apple.

Given the broad spectrum of human concerns in the arts and humanities, it should come as no surprise that the classical studies and the humanities interdisciplinary minors are also housed in the college.

Interdisciplinary Minor in Media Arts

Media arts is the study of the theories and techniques involved in computer animation, graphic design, video and audio production, digital photography, music composition, digital storytelling, and Web design. It brings students and faculty together in the key areas of art and design, music, and digital media production. The Minor in Media Arts is a 20-21 unit program, with at least 12 upper-division units taken in residence. Students in the minor must maintain a minimum GPA of 2.5. The Media Arts Minor adviser must approve the program. Courses taken for the minor may count toward fulfilling General Education requirements, but not toward fulfilling the student's major.

	Units
Lower-Division Courses	**8-9**
Select two courses from: ART 13, GD 35, MCJ 30, MUSIC 9	
Select one course from:, MUSIC 47, ART 30, ART 37, GD 37	
Upper-Division Courses	**12**
Select four courses from: ART 107, ART 133, ART 185, ART 188, MCJ 106, MCJ 112, MCJ 115, MCJ 131, MUSIC 147	
Total	**20-21**

For more information and advising contact the Department of Mass Communication and Journalism 559.278.2087.

Interdisciplinary Minor in Middle East Studies

The Minor in Middle East Studies is a broad, interdisciplinary program designed to provide students from all disciplines with an introductory foundation of knowledge about different subjects related to the Middle East. Students will select from a variety of courses offered throughout the university that study the linguistic, social, cultural, artistic, literary, historical, political and economic factors that define this region of the world. Upon completion of the minor, students will be able to communicate in one of the languages spoken in the region, have a broad contextual understanding of the region, and be afforded the opportunity to gain in-depth knowledge in one or more areas of study related to the region. The minor is composed of 21-23 units. These include 3 units of a required lower-division introductory course MES 10; 6-8 units of lower-division courses in Middle Eastern languages selected from Arabic, Armenian, Hebrew, and Persian; and 12 upper-division units selected from courses offered by the departments participating in this program. Courses taken for the minor may count toward fulfilling General Education requirements, but not toward fulfilling the student's major. Students in the minor must maintain a minimum GPA of 2.5.

	Units
Required Course	**3**
MES 10 (fulfills G.E. Area D3)	
Lower-division Language Requirement	**6-8**
Select from: ARAB 1A-1B; ARM 1A-1B; HEBR 1A-1B; PERS 1A-1B (some courses fulfill GE Area C2)	
Electives (select 4 courses)	**12**
ANTH 135; ECON 183; ENGL 179, 193T; HIST 107, 109T, 110; MUSIC 171; PHIL 139, 158; PLSI 144T; SSCI 150T	
Total	**21-23**

Other courses can be used to fulfill electives upon approval by minor adviser.

College of Arts and Humanities Honors Program

For information about the College of Arts and Humanities Honors Program, please see *Humanities*.

COURSES

Interdisciplinary Arts Studies (IAS)

IAS 108. Interdisciplinary Arts Studies (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Basic theories and techniques in art education, including interdisciplinary studies in visual art, music, drama, and dance as they apply to the elementary curriculum. G.E. Integration IC.

Middle Eastern Studies (MES)

MES 10. Introduction to the Middle East (3 units)
Prerequisite: G.E. Foundation A2. A thematic introduction to the Middle East through examination of its geography, ethnicities, nationalities, cultures, art, literature, religions, history, politics, and economy. G.E. Brcadth D3. S

Armenian Studies

Armenian Studies

The Armenian Studies Program offers courses on Armenian history, Armenian language and literature, art and architecture, film, William Saroyan, the Genocide, and contemporary issues. Courses in Armenian history are also offered under the Department of History.

The Minor in Armenian Studies prepares students for teaching careers in one of the 25 Armenian schools in the United States, for administrative positions in Armenian cultural, social, and benevolent organizations, for study and volunteer work in the Armenian Republic, or for graduate work in Armenian doctoral programs at UCLA, Harvard, Columbia, Tufts, the University of Michigan, or Oxford University.

The Haig and Isabel Berberian Chair of Armenian Studies. The Berberian Endowed Chair provides financial support for a distinguished Armenologist. The endowment honoring the Berberians was established by a major gift from their son-in-law and daughter, Dr. Arnold H. and Dianne Gazarian. Other friends have made significant contributions to this endowment.

The Henry S. Khanzadian Kazan Visiting Professorship in Armenian Studies. This specially designed endowment allows the Armenian Studies Program to invite, for one semester each year, an internationally recognized scholar in contemporary Armenian affairs. The distinguished professor will teach a course related to modern Armenian history, including the Genocide of 1915 and the formation of the Armenian Republic. In addition, the scholar will present three public lectures on a single topic; these will be published as a volume in the Kazan Armenian Studies series.

The M. Victoria Karagozian Kazan Endowment Fund for the Armenian Studies Program. Thanks to a generous donation by Henry and Victoria Kazan, the university has received a special endowment to support Armenian Studies Program activities and to provide financial resources for research, publications, and conferences related to Armenian studies.

Pete P. Peters Endowment. In 1998, Mr. Pete Peters, a long-time supporter of Armenian Studies, offered the university a substantial endowment exclusively for helping with the program's outreach activities. For the first few years, proceeds from the endowment will be used for student scholarships. Proceeds from the endowment will be used for student scholarships.

The Leon S. Peters Foundation has generously supported the Armenian Studies Program by funding its Lecture Series, providing student scholarships, and providing general support for the program.

The Thomas A. Kooyumjian Family Foundation has provided general support for the Armenian Studies Program and support for special programs. It has also provided for students scholarships.

The Harry and Mary Topoozian Armenian Studies Merit Scholarship Fund was established by a gift from Mr. Harry Topoozian. An Outstanding Achievement Scholarship will be awarded to a student who has excelled in scholarship, leadership, and community service. Any student enrolled in Armenian Studies courses is eligible.

The Armenian Studies Program Dickran Kouymjian Writing Award. In 1997 the Armenian Studies Program Advisory Board decided to establish an endowment fund for excellence in writing from the proceeds of the 20th Anniversary Banquet honoring Professor Kouymjian. Each year a prize will be given for the best student essay, term paper, or literary work in any discipline on a topic related to Armenia or the Armenians.

The Norma and Bob Der Mugrdechian Armenian Studies Endowed Scholarship has been established to provide scholarships for students who are studying, or have declared a major, in the area of Armenian Studies.

Scholarships. Students working toward a minor or simply enrolling in Armenian courses are eligible for scholarships administered by the program. These include the Charles K. and Pansy Pategian Zlokovich Scholarship; the Nerces and Ruth Azadian Memorial Scholarship; the Yervant, Rose, and Hovannes Levonian Educational Grant; the Koren and Alice Odian Kasparian Scholarship; Telfeyan Evangelical Fund, Inc. Scholarship; the Kirkor and Mary Bedoian Memorial Scholarship; Charlie Keyan Endowed Scholarship; the Genevieve Tatoian Scholarship; Haig Tashjian Memorial Scholarship; Albert and Isabelle Kabrielian Scholarship for Armenian Studies; John and Lucille Melkonian Scholarship; Mary Nalchajian Scholarship; Thomas A. Kooyumjian Family Foundation Scholarship; Walter Sepetjian Memorial Scholarship; the Armenian Professional Society of San Francisco; the Leon S. Peters Foundation Scholarship; and the Bertha and John Garabedian Charitable Foundation Scholarship Fund.

Annual renewals are assured for students who continue to enroll in Armenian studies courses. In addition to these, full tuition scholarships and research-assistant grants are also available.

Office of the Dean
College of Arts and Humanities

Armenian Studies Program
Barlow Der Mugrdechian,
Coordinator, Armenian Studies Program; Director, Center for Armenian Studies

Peters Business Building, Room 384
559.278.2669 • FAX: 559.278.2129
http://armenianstudies.csufresno.edu

Minor in Armenian Studies

Upper-Division Honors Certificate

The Armenian Studies Program supports the Armenian Students Organization, the student and program newspaper *Hye Sharzhoom,* and the Armenian Studies Program Lecture Series.

Thanks to an exchange agreement between Fresno State and Yerevan State University, qualified students can study up to one year in Armenia while registering and paying tuition in Fresno.

Faculty

Barlow Der Mugrdechian,
Coordinator, Armenian Studies Program, Director, Center for Armenian Studies

Sergio La Porta, *Haig and Isabel Berberian Endowed Chair in Armenian Studies*

Additional staff:
Henry S. Khanzadian Kazan Visiting Professor of Armenian Studies

Armenian Studies Minor

	Units
ARM 1A, 1B, 2A, 2B	**6-8***
ARMS 45 or ARM 148	**3**
ARMS 10 and 20	**6**
ARMS 121 or 123	**3**
ARMS 120T	**3**
ARMS/HIST 108A or 108B	**3**
Total	**24-26**

* Students must take two of these courses in consultation with the program coordinator. Students who can speak, read, and write Armenian may elect to challenge one or two of these classes CBE (see Credit by Examination).

Note: The Armenian Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Upper-Division Honors Certificate

The Armenian Studies Upper-Division Honors Program provides the opportunity for highly qualified, advanced Armenian Studies Program students to pursue the Upper-Division Honors Certificate in Armenian Studies. Please see *www.fresnostate.edu/catoffice/current/armscert.html*.

COURSES

Armenian (ARM)

ARM 1A. Elementary Armenian (4 units)
Beginning course in conversational and written Armenian. Not open to students with two or more years of high school Armenian credit. 1A - **F**; 1A CBE - **S**

ARM 1B. Elementary Armenian (4 units)
Prerequisites: G.E. Foundation A2, ARM 1A or permission of instructor. Second semester course in conversational and written Armenian. Not open to those with three or more years of high school Armenian credit. G.E. Breadth C2.

ARM 2A. Intermediate Armenian (3 units)
Prerequisites: G.E. Foundation A2, ARM 1B or permission of instructor. Review of grammar and emphasis on conversation and reading. G.E. Breadth C2.

ARM 2B. Intermediate Armenian (3 units)
Prerequisites: G.E. Foundation A2, ARM 2A or permission of instructor. Advanced conversation, composition, and reading. G.E. Breadth C2.

ARM 148. Masterpieces of Armenian Culture (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Survey of outstanding examples of Armenian culture including literary works by Naregatsi, Toumanian, Siamanto, Varoujean, and others. Survey of Christian Armenian architecture and music. G.E. Integration IC. **S**

ARM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

Armenian Studies (ARMS)

ARMS 10. Introduction to Armenian Studies (3 units)
Prerequisite: G.E. Foundation A2. Introduction to the historical and contemporary experience of Armenians in American society. Examines issues of identity, ethnicity, immigration, genocide, and cultural heritage in the United States. G.E. Breadth D3. **FS**

ARMS 20. Arts of Armenia (3 units)
An introduction to Armenian architecture, painting, sculpture, ceramics, metal work, and textiles. All lectures are illustrated with slides. G.E. Breadth C1. **FS**

ARMS 45. William Saroyan (3 units)
The ethnic experience in America, especially the San Joaquin Valley, through the writings of William Saroyan. The author's major literary successes will be read and compared with films made of these same works. Writing assignments of at least 2,500 words.

ARMS 50T. Studies in Armenian Literature (3 units)
Various masterpieces of Armenian literature: David of Sassoun, Saroyan, historical literature, modern literature, Armenian American authors.

ARMS 105. Armenian Genocide in Comparative Context (3 units)
(See HIST 105.) Review of theory and characteristics of genocide. Study of the Armenian Genocide as an example and comparison with other genocides in the 20th century. Discusses the role of international constituencies and prevention and lessons of genocide.

ARMS 108A. Armenian History I: Ancient and Medieval (3 units)
(See HIST 108A.) History of Armenia and Armenians from prehistoric times to the beginning of the modern era. The historical process will be considered from Armenia's point of view as well as from that of its neighbors: Assyria, Iran, Rome, Byzantium, the Arabs, the Seljuk Turks, the Crusades, the Mongols, and various Turkic dynasties. **F**

ARMS 108B. Armenian History II: Modern and Contemporary (3 units)
(See HIST 108B.) Overview of modern and contemporary Armenian history, including Armenia's relations with Persian, Turkish, and Russian empires, the Armenian Renaissance, the "Armenian Question," the Genocide, the Armenian Republic, Soviet Armenia, the Second Armenian Republic, and diasporan communities in America, Europe, and the Middle East. **S**

ARMS 120T. Topics in Armenian Studies (1-3; max total 6 units)
Specialized topics in Armenian history, art, and culture, not normally covered in other Armenian Studies courses. Topics include the Armenian church, minor arts, film, the Diaspora, and the Genocide.

ARMS 121. Armenian Painting (3 units)
History and development of Armenian painting with special concentration on the art of manuscript illumination and the origins of Christian art. All lectures are illustrated with slides.

ARMS 123. Armenian Architecture (3 units)
History and development of Armenian architecture is presented in the context of early Christian architecture. There will be a survey of monuments from the 4th to the 17th centuries. All lectures are illustrated with slides.

ARMS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

Armenian Studies Honors (ARMS)

ARMS 190H. Honors Independent Study (3 units)
Designed for advanced undergraduate students who have successfully been admitted into the Armenian Studies Program's Honors Program. Students will work closely with assigned faculty to develop a research proposal and to complete an honors thesis ready for publication.

Art and Design

The Department of Art and Design offers many exciting and creative opportunities for students to nurture and expand their artistic and design senses. Entering the 21st century, the department provides a broad range of experiences that prepare its graduates for art- and design-related career opportunities and artistic endeavors. Students study and produce works that include state-of-the-art computer applications, conceptual art, graphic design, and interior design. The department has fine arts as its core and foundation, while offering areas of study that allow for occupational preparation in a variety of areas. The award-winning faculty is committed to the idea that a foundation in the crafts of art and design is an essential prerequisite to the production of works that show sophistication both conceptually and visually.

Studio Art. Students produce works that encompass a wide range of visual expression, from figurative, abstract, narrative, and mixed media, to leading edge conceptual and installation works. Experimentation is encouraged.

The history of art presents a platform for students to examine, identify, and appreciate the visual arts from prehistory to the present. Art history students acquire an understanding of great art works while developing critical thinking skills.

Graphic Design. Through a combination of traditional drawing and rendering techniques and state-of-the-art computer applications, the graphic design option and the B.F.A. prepare students for careers in the graphics and advertising fields, including graphic design, advertising, publishing, film, and web design.

Courses explore the many aspects of design, typography, illustration, computer graphics, Internet design, the history of graphic design, and the professional practices commonplace in the field.

Interior Design. The B.A. in Interior Design allows students many unique opportunities in the field of design. The interior design major is accredited by the Council for Interior Design Accreditation, formerly FIDER. Students use advanced computer-aided-design (CAD) and animation programs as well as traditional methods in developing sophisticated design solutions for a variety of architectural projects. Interior design students gain an excellent foundation in subjects such as color theory, space planning, presentation techniques, rendering, drawing, building systems and codes, and material and design for special populations. (Internship opportunities are available.)

Faculty and Facilities

The faculty of the department offer diverse, skilled, and professional approaches to art and design education. The methods of teaching reflect distinctive yet complementary ways and means of introducing their disciplines while guiding students through the program with a sense of dedication and commitment to the education of artists, designers, and scholars.

The facilities of the department not only include the requisite studios, state-of-the-art computer labs, and support facilities, but also include an art gallery and a lecture hall in an award-winning contemporary art building complex.

Career Opportunities

Completion of the art major — or interior design major — enables graduates to pursue advanced study leading to careers in fields such as:

- Art Education
- Art History
- CAD Design
- Computer Art
- Fine Arts
- Gallery Work
- Graphic Design
- Interior Architecture
- Interior Design
- Museum Work
- Studio Production

Prospective students should contact faculty in their area of interest to further explore specific career opportunities.

Students may also choose to pursue advanced degree work toward the M.A. in Art.

Faculty

Martin Valencia, *Chair*

Julia Bradshaw
Nancy K. Brian
Paula Durette
A. Sameh El Kharbawy
Paulette S. Fleming
Ed Gillum
Doug Hansen
Keith M. Jordan
Richard McQuone
Laura Meyer
Una Mjurka
Daniel G. Nadaner
Nicholas Potter
Stephanie Ryan
Joan Sharma
Charles Shields
Gina Strumwasser

College of Arts and Humanities

Department of Art and Design
Martin Valencia, *Chair*
Conley Art Building, Room 105
559.278.2516
www.fresnostate.edu/artanddesign/

B.A. in Art
Areas of Emphasis:
- Drawing/Painting
- Ceramics/Sculpture
- Printmaking/Photography
- Crafts/Design
- Animation/New Media
- Art History

Option:
Graphic Design

B.A. in Interior Design

M.A. in Art
Areas of study:
- Art Education
- Art History
- Interior Design
- Studio Art

B.F.A. in Graphic Design
Areas of Emphasis:
- Graphic Design
- Illustration
- Interactive Multimedia Design

Minor in Art

Interdisciplinary Minor in Media Arts

Single Subject Credential

Bachelor of Arts Degree Requirements

Art Major *Units*

Major requirements 54

Art and Design Core ..... (21)
- ARTH 10 and 11 ..... (6)
- ART 13 ..... (3)
- ART 14 ..... (3)
- ART 20 or ID 43..... (3)
- ART 24 or 30 or 40..... (3)
- ART 50 or 60 or 70 or 80.... (3)

Computer Imaging requirement
- ART 37 ..... (3)

Theory requirement
- ART 101 ..... (3)

Art Gallery requirement
- ART 112 ..... (3)

Art History requirement
- ARTH 132 or 136 and one additional 3-unit upper-division art history course ..... (6)

Area of Emphasis
(I, II, III, IV, V, VI) ..... (9)
- I. Drawing/Painting
  ART 120, 121, 140, 141
- II. Ceramics/Sculpture
  ART 152, 153, 155, 160, 161, 165
- III. Printmaking/Photography
  ART 125, 126, 127, 130, 133, 182, 183, 185
- IV. Crafts/Design
  ART 113, 116, 166, 170
- V. Animation/New Media
  ART 102, 107, 180, 188
- VI. Art History
  In consultation with their major adviser, students with an Art History Emphasis will complete an additional 3-unit upper-division art history course from each of the following areas:
  - Renaissance, Baroque (ARTH 120 or 122 or 124 or 126)
  - Modern, Contemporary (ARTH 131 or 132 or 136)
  - World Art (ARTH 160 or 170 or 173 or 175)

Art and Design
upper-division electives ..... (9)

General Education requirements..... 51

Electives and remaining degree requirements 15-21*
(See *Degree Requirements*); may be used toward a double major or minor.

Total 120

* This total indicates that a maximum of two courses (6 units) in G.E. Breadth C1 and G.E. Breadth E1 also may be applied to the art major. These courses include ARTH 10, 11; ART 20, 40, 50 (G.E. C1); and/or ART 13 (G.E. E1). Consult the department chair or faculty adviser for additional details.

Advising Notes

1. ***CR/NC*** grading is only permitted in ART 198, Internship.
2. General Education and elective units may be used toward a double major or minor (see *double major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. No General Education Integration course offered by the Department of Art and Design may be used to satisfy the General Education requirements for majors in the department.

Bachelor of Arts Degree Requirements

Art Major
Graphic Design Option *Units*

Major requirements 69

Art and Design Core ..... (18)
- ARTH 10 and 11 ..... (6)
- ART 13 ..... (3)
- ART 20 or ID 43..... (3)
- ART 24 or 30 or 40..... (3)
- ART 14 or 50 or 60 or 70 or 80* ..... (3)*

Lower-division requirements ..... (21)
GD 35, 37, 39, 41, 42, 50, 60

Upper-division requirements ..... (15)
GD 135, 150, 163; ART 116; MCJ 142

Upper-division electives..... (15)
Select from ART 101, 107, 125, 126, 127, 130, 133, 180*, 185, 188; ARTH 132, 136; GD 132; MCJ 131, 144, 146, 148

General Education requirements..... 51

Total 120

* See adviser for prerequisites.

Advising Notes

1. All courses required for the major must receive a letter grade.
2. Student work may be retained for a limited period for display and accreditation visits.
3. The upper-division writing skills requirement can be met by passing the university examination or by completing a ***W*** course with a letter grade of ***C*** or higher, to be taken no sooner than the term in which 60 units are completed.
4. No General Education course offered by the Department of Art and Design may be used to satisfy the General Education requirements for majors in the department.
5. A grade of ***C*** or higher in all graphic design coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of ***C*** or better before registration in the subsequent course.

Bachelor of Fine Arts Degree Requirements

The Bachelor of Fine Arts in Graphic Design is a professional program providing directed studies and is designed for students seeking in-depth preparation for specialized educational and career goals.

The curriculum explores the many aspects of graphic design, including the physical, cognitive, social, and cultural human factors. It will also explore theories, principles, and practice in relation to typography, illustration, computer graphics, Web design, motion graphics, history of graphic design, and creative critical visual thinking skills that are applicable to professional practice and to meet entrance requirements to graduate school.

Graphic Design Fine Arts Major *Units*

Major requirements 66*

Art and Design Core ..... (18)
- ARTH 10 and 11 .....(6)
- ART 13 ..... (3)
- ART 20 or ID 43 ..... (3)
- ART 24 or 30 or 40..... (3)
- ART 50 or 60 or 70 or 80***..... (3)

GD lower-division requirements .....(21)
GD 35, 37, 39, 41, 42, 50, 60

GD upper-division requirements.....(15)
GD 135, 179, 180; ART 116; ARTH 132 or 136

Area of Emphasis
(I, II or III) .....(18)
- I. Graphic Design
  GD 170, 171, 174, 175, 176, 178
- II. Illustration**
  GD 163, 165, 167, 169, 6 units of approved electives
- III. Interactive Multimedia Design
  GD 150, 153, 155, 157; ART 107, 180

General Education requirements..... 51

GD electives and remaining degree requirements **0-3**
Total units **120**

* This total indicates that a maximum of two courses (6 units) in G.E. Breadth C1 and G.E. Breadth E1 will be applied to the graphic design major. These courses include ARTH 10, 11; ART 20, 40, 50 (GE C1); and/or ART 13 (GE E1). Consult the department chair or faculty adviser for additional details.
** Please see adviser.
*** Interactive multimedia candidates - see adviser.

Advising Notes

1. A portfolio is required to apply to the B.F.A. in Graphic Design.
2. The portfolio needs to be submitted for review only after the student has completed the art and design core courses and all the lower-division graphic design required courses.
3. The student must pass the portfolio review to be admitted into the B.F.A. in Graphic Design.
4. For continuation in the B.F.A. in Graphic Design, all courses required for the major must receive a letter grade of *C* or higher.
5. Student work may be retained for a limited period for display and accreditation visits.
6. The upper-division writing skills requirement can be met by passing the university examination or by completing a *W* course with a letter grade of *C* or higher, to be taken no sooner than the term in which 60 units are completed.
7. The General Education requirement of 48 units may be exceeded depending upon the selection of courses; such excess units may be counted under the electives category toward the 120-unit degree.

Credential Program

The Single Subject Matter Preparation Program in Art at California State University, Fresno educates candidates broadly and deeply in the making of art, art history, art criticism, aesthetics, the connections among the arts and other disciplines, theories of development in art, and connections to professional futures. The program builds a personal sense of enthusiasm and lifelong commitment to the study of these components of art and trains candidates to be educated, highly motivated, and sensitive practitioners of the teaching of art to a multi-cultural population in the California public schools.

The program includes (a) 42 semester units of core coursework in art subjects and related subjects that are commonly taught in departmentalized classes in California public schools and (b) 24 semester units of coursework that provide breadth and perspective to supplement the essential core of the program. These requirements are elaborated below.

1. The core of the program includes two-dimensional art, three-dimensional art, new and emerging art, media art, art history, art criticism, and the history and theories of learning in art.

Credential Program

Core Courses	*Units*
ARTH 10	(3)
ARTH 11	(3)
ART 13	(3)
ART 14	(3)
ART 21	(3)
ART 24, 26, 27, 109T, 126, or 127	(3)
ART 40	(3)
ART 50	(3)
ART 60	(3)
ART 70 or 177S	(3)
ART 30, 182, 183, or 185	(3)
ART 37, 107, or 188	(3)
ART 112	(3)
ART 120	(3)
Core total	**42**

2. The 24 units of breadth coursework required by the program include courses that provide breadth and perspective to supplement the essential core of the program.

Credential Program

Breadth Courses	*Units*
ARTH 136	(3)
ARTH 120, 122, 124, 126, 131, 132, or 109T*	(3)
ARTH 160, 170, 173, 175, or 109T**	(3)
ART 101	(3)
ART 113, 116, 170, or 171	(3)
ART 140	(3)
ART 152, 153, 155, or 160	(3)
ART 179	(3)
Breadth courses	**24**

* Topics in Art History (European/Western.)
**Topics in Art History (Non-European/Non-Western.)

Advising Note

Students must earn no less than a *C* in all art classes required in the program. Students in the Subject Matter Preparation Program are required to meet with their faculty adviser for a portfolio assessment and interview at two points in their academic careers: (1) the lower-division review, including assessment of their portfolio and artist's statement after completing ART 37 and (2) the upper-division review, including a portfolio assessment, presentation, and interview after completing ART 112 and prior to exiting the program.

Art Minor

The Art Minor consists of a minimum of 21 units of which 9 must be upper division. A maximum of six units of *CR/NC* grading will be accepted.

	Units
ARTH 10 and 11	**6**
ART 13 and 20	**6**
ARTH elective (upper division)	**3**
ARTH or studio electives (upper division)	**6**
Total	**21**

Note: The Art Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Interdisciplinary Minor in Media Arts

The Minor in Media Arts is primarily designed for students pursuing degrees in art and design, mass communication and journalism, or music. *See college pages.*

Graduate Program

The Master of Arts in Art provides the opportunity for highly motivated art and design students to pursue study at an advanced level and attain a level of accomplishment in the visual arts and design. The graduate program emphasizes self-direction and focus within a specific area. The program builds upon the equivalent of the undergraduate major in art at California State University, Fresno. The program provides specifically for certain areas of interest: art education, crafts, computer art, interior design, drawing, painting, ceramics, photography, sculpture, art history, and theory. With prior approval, programs with multiple concentrations may be arranged. For specific requirements, consult the departmental graduate program director. For general requirements, see *Division of Graduate Studies.*

The Master of Arts degree program in Art assumes preparation equivalent to the undergraduate major in art at California State University, Fresno. Applicants must first complete university requirements for admission to the Division of Graduate Studies, including the Graduate Record Examination Aptitude Test. Applicants must also pass the Department of Art and Design Classified Standing Screening Review.

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements,* and *Criteria for Thesis and Project.*)

Graduate courses in art are open to holders of the B.A. in Art who have been conditionally classified by the Department of Art and Design. Interior Design majors must meet an art major undergraduate equivalency specific to their area. All other majors must meet a standard art major undergraduate equivalency.

Second-semester seniors in the undergraduate art program may also enroll in 200-series coursework in art subject to the approval of the instructor.

Master of Arts Degree Requirements

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the following framework:

	Units
Approved courses in art in the 200-series (see *Specific Requirements*)	**21-30**
Approved courses in art or related fields in the 100- or 200-series	**0-9**
Total	**30**

Specific Requirements. ART 230 or 260 (3 units) and ART 298 or 299 (2-6 units). Before being allowed to exhibit, candidates expecting to participate in ART 298 are required to have completed ART 112 or the equivalent approved by the gallery director.

For studio areas, additional units (3-9) in ART 240 or 220T are specifically recommended.

For art history areas, ART 230 and additional units (3-9) in ART 260 are specifically recommended.

Classified Standing. Concurrently with the departmental review and evaluation for classified standing, the student will submit a tentative program outline for approval by the screening committee.

Graduate Writing Skills Requirement. Before advancing to candidacy, the student must have completed the graduate writing requirement. This requirement is satisfied by passing the designated writing component of either ART 230 or ART 260. Please see the Department of Art and Design's *Graduate Guide* for more detailed information. Please note that the prerequisites for these courses may change according to the subject covered. Admission to the course is by permission of instructor.

Advancement to Candidacy. Prior to the completion of 20 units of the proposed program, the student will review the program of courses with an adviser from the selected area of concentration.

COURSES

Art and Design (ARTDS)

ARTDS 9T. Studio Topics in Art and Design (1-3; max total 9 if no topic repeated)
Specific introductory studio processes not covered in regular course offerings. Areas offered may be drawing, painting, ceramics, sculpture, photography, printmaking, design, crafts, motion picture, art education, computer graphics, graphic design, and interior design.

ARTDS 10T. Lecture Topics in Art and Design (1-3; max total 9 if no topic repeated)
Specific lecture area not normally covered in regular course offerings in art, graphic design, or interior design. Topics may include African American art, aesthetics of electronic imagery, careers in art and design, portfolio preparation, interior design, and graphic design.

Art History (ARTH)

ART HISTORY SURVEYS

ARTH 10. The Ancient and Medieval Worlds (3 units)
An introductory survey of the arts of the ancient and medieval worlds, beginning with the Paleolithic and including Near Eastern, Egyptian, and European (Aegean, Greek, Roman, medieval) traditions through the mid-14th century. G.E. Breadth C1. **FS**

ARTH 11. The Early Modern World (3 units)
An introductory survey of Western art from the Renaissance through the 18th century, including Mannerism, Baroque, Rococo, and Neoclassicism from the mid-14th century to the end of the 18th century. G.E. Breadth C1. **FS**

ARTH 109T. Topics in Art History (1-3; max total 3 if no topic repeated)
Specific areas in art history not normally covered in the regular course offering. Possible topical areas include Arts of the South Pacific, Buddhism, Chinese Painting, Happenings, History of Modern Art through Film, Museums and Monuments of Europe, Fountains of Baroque Rome, Popes and Patrons of Renaissance Europe, 17th Century Holland, and the Rise of the Secular in Art.

WESTERN ART SURVEYS

ARTH 120. Italian Renaissance (3 units)
Artistic revival of classical antiquity in Italy between 1300-1550.

ARTH 122. Northern Renaissance (3 units)
Painting and sculpture from the Netherlands, France, and Germany between 1300-1550. **F**

ARTH 124. Italian Baroque (3 units)
Baroque art from its conception in Rome to its dispersal throughout Italy from 1600-1750.

ARTH 126. Northern Baroque (3 units)
Diffusion of Italian Baroque art to the Netherlands, France, Spain, Germany, and Austria between 1600-1750.

ARTH 131. Nineteenth Century Modern Art (3 units)
A more developed critical look at modern art in its relationship to the needs of the social political context of the 19th century. **F**

ARTH 132. Twentieth Century Modern Art (3 units)
A more developed critical look at modern art in its relationship to the needs of the social political context of the 20th century, up to the mid-1950s. **F**

ARTH 136. Contemporary Art (3 units)
A comprehensive survey of contemporary art focusing on the issue of postmodernism from the mid-1950s onward. **S**

WORLD ART SURVEYS

ARTH 160. Africa (3 units)
Sculpture, painting, architecture, festivals, and personal adornment of sub-Saharan Africa. **S**

ARTH 170. Native North American (3 units)
Arts of the indigenous North American cultures from the Arctic to the American Southwest.

ARTH 173. Pre-Columbian Mexico (3 units)
Art of the Olmec through the Aztec cultures.

ARTH 175. Pre-Columbian Andes (3 units)
Art of the Chavin through the Inca cultures.

ARTH 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

Studio (ART)

ART 1. Art Forms (3 units)
Slide lecture-discussion. An introduction to art/seeing and appreciating the visual world around us. G.E. Breadth C1. (Course fee, $5) **FS**

ART 13. Design (3 units)
Exploration of basic art concepts through two- and three-dimensional design problems. Field trips may be required. G.E. Breadth E1. (6 lecture-lab hours) **FS**

ART 14. Three-Dimensional Design (3 units)
Prerequisite: ART 13. Introduces students to the basic elements and principles of three-dimensional design. Students will develop the ability to apply these elements and principles to their own design or artwork within the context of a given project. (6 lecture-lab hours) (Formerly ART 109T)

ART 20. Drawing (3 units)
Introductory experiences in drawing using observation, imagination, and expressive means. Fundamentals of form, space, techniques, and composition will be studied. G.E. Breadth C1. (6 lecture-lab hours) **FS**

ART 21. Figure Drawing (3 units)
Introductory course in the basic concepts of figure drawing problems and techniques. Drawing from the nude model, both male and female, is basic to this course. (6 lecture-lab hours) (Course fee, $35) **FS**

ART 24. Printmaking (3 units)
Introduction to the printmaking processes of intaglio, lithography, and woodblock printing. (6 lecture-lab hours) (Course fee, $50) **FS**

ART 26. Intaglio Processes (3 units)
Studio class offering in printing in the intaglio process using such techniques as etching, drypoint, aquatint, and soft-ground on metal plates. Printing in black ink as well as color will be covered. (6 lecture-lab hours) (Course fee, $30)

ART 27. Screenprinting (3 units)
Investigation into techniques of printing with a screen. Paper, film, tusche, and glue techniques for creating printing stencils will be covered. (6 lecture-lab hours) (Course fee, $50) **F**

ART 30. Introduction to Photography (3 units)
Introductory course in photography. Basic theoretical and practical aspects of the photographic process as an art form. Introduction to historical and contemporary photographic practices in art. Digital camera with adjustable aperture and shutter speed controls required. (6 lecture-lab hours) (Course fee, $25) **FS**

ART 35. History and Contemporary Issues in Photography (3 units)
Introduction to the history of photography from the early 19th century to the present. Examines contemporary issues in photography and the role of photography as a social commentary on culture as an approach to cultivate lifelong learning. G.E. Breadth E1.

ART 37. Introduction to Computer Art (3 units)
Prerequisite: ART 13. Introduction to the practice of creating art through the use of the computer. Integrates concepts from painting, drawing, design, and computer-specific processes. (Course fee, $35) (6 lecture-lab hours)

ART 40. Painting (3 units)
Introduction to painting processes through creative experiences and critiques. Emphasis on concepts and processes of contemporary painting. G.E. Breadth C1. (6 lecture-lab hours) **FS**

ART 45. Watercolor (3 units)
Introduction to techniques in watercolor painting with emphasis on transparencies. (6 lecture-lab hours)

ART 50. Beginning Sculpture (3 units)
Introductory course in the experiential application of the methods and materials of sculpture. Creative expression and exploration of sculptural form through ideas and aesthetic concepts. Studio safety. G.E. Breadth C1. (6 lecture-lab hours) (Course fee, $25) **FS**

ART 60. Beginning Ceramics (3 units)
A survey of ceramic materials and their functions in the arts. Basic studio practices in the handbuilding processes, glazing, and throwing on the potter's wheel. (6 lecture-lab hours) (Course fee, $30) **FS**

ART 70. Crafts (3 units)
Fundamental exploration of several media (may include any of fiber, wood, leather, clays, paper) with emphasis on understanding the potential of the various materials for crafts. Field trips may be required. (6 lecture-lab hours)

ART 80. Beginning 3D Digital Art - Modeling (3 units)
Prerequisite: ART 14 or ID 112; ART 37. Introduction to three-dimensional digital modeling, lighting, and rendering in a fine arts context. Techniques explored include polygons, NURBS, subdivision surfaces, procedural materials, raytracing, and mental ray.

ART 100T. Topics in Art (1-3; max total 3 if no topic repeated)
Specific lecture area not normally covered in regular course offerings or in art history. Topics may include but are not limited to: African American art, Chicano art, cinema art, urban aesthetics, formalism in art, economics of art, careers in art, portfolio preparation.

ART 101. Content and Form (3 units)
Introduces students to the problems of the modern/postmodern debate through first, a historical analysis of structuralism and post-structuralism, and second, the application of these ideas to art production. **FS**

ART 102. Ideas of Visual Culture: Art, Media, and the Computer (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Overview of ideas in visual culture and critical theory. Examines visual culture in the form of video, film, new works in visual art, the computer, and visual spectacles in contemporary culture. G.E. Integration IC. (3 lecture-lab hours) **S**

ART 106. Art Tours (3; max total 6 units)
Explore the extraordinary art and artistic experience in California by touring museums and galleries in Los Angeles and San Francisco. Two weekend trips include exposure to diverse collections of art in the state. (Course fee, $220)

ART 107. 2-D Computer Art and Animation (3; max total 9 units)
Prerequisite: ART 37, GD 37, or permission of instructor. ART 20 and 40 recommended. Building upon material from ART 37 with an emphasis on animation and time-based

digital processes. (6 lecture-lab hours) (Course fee, $35) **FS**

ART 109T. Topics in Studio Art (1-3; max total 3 if no topic repeated)
Prerequisite: permission of instructor. Specific advanced studio processes not normally covered in regular course offerings. Areas offered may be drawing, painting, ceramics, sculpture, photography, printmaking, design, crafts, motion-picture, art education, computer graphics. (6 lecture-lab hours)

ART 112. Gallery Techniques (3; max total 9 units)
Introduction to museum practices related to exhibition selection, design, and installation techniques. Field trips, lectures, projects, and critiques. (6 lecture-lab hours) **FS**

ART 113. Design (3; max total 9 units)
Prerequisite: ART 13. Continuation of the exploration of two- and three-dimensional design problems. (6 lecture-lab hours) **FS**

ART 116. Interaction of Color (3 units)
Interaction of color as developed by Joseph Albers; basic design principles in connection with color work. (6 lecture-lab hours) **FS**

ART 120. Drawing (3; max total 9 units)
Prerequisite: ART 20. Investigation of advanced concepts through the techniques of the drawing medium. (6 lecture-lab hours) **FS**

ART 121. Figure Drawing (3; max total 9 units)
Prerequisite: ART 21. The human figure and its relevancy to advanced drawing concepts and techniques, emphasis on individual exploration in studio problems. Drawing from the nude model, both male and female, is basic to this course. (6 lecture-lab hours) (Course fee, $35) **S**

ART 125. Lithography (3; max total 9 units)
Prerequisite: ART 24. Studio class designed for advanced work in stone and metal plate printing in both black as well as color inks. Emphasis placed on imagery development. (6 lecture-lab hours) (Course fee, $50)

ART 126. Intaglio Processes (3; max total 9 units)
Prerequisite: ART 24 or 26. Studio class designed to offer advanced work in intaglio printing processes such as etching, drypoint, and aquatint in black ink as well as color. Multiple plate printing will also be covered. Emphasis placed on imagery development. (6 lecture-lab hours) (Course fee, $50) **S**

ART 127. Screenprinting (3; max total 9 units)
Prerequisite: ART 27. Investigation into techniques of screenprinting. Paper, film, tusche, glue, and photo techniques for creating printing stencils will be covered. Emphasis placed on imagery development. (6 lecture-lab hours) (Course fee, $50)

ART 130. Intermediate Black and White Photography (3; max total 9 units)
Prerequisite: ART 30 or equivalent and permission of the instructor. Emphasis on black and white photography in the darkroom. Increased exploration into the medium for individual expression and discovery. Further studies in photographic history, theory, and contemporary issues. (6 lecture-lab hours) (Course fee, $55) **FS**

ART 133. Alternative Approaches to Digital Imagery (3; max total 6 units)
Prerequisite: ART 30 and 37 or equivalent. Approaches to non-traditional photography and the manipulated image in digital photography with an emphasis on producing personal imagery. Introduction to contemporary issues in digital photography. (6 lecture-lab hours) (Course fee, $50)

ART 140. Intermediate Painting (3 units)
Prerequisite: ART 40. Individual investigation of advanced aesthetic concepts; continued search into personal direction. (6 lecture-lab hours)

ART 141. Advanced Painting (3; max total 9 units)
Prerequisite: ART 140. Designed primarily for students with two or more semesters of experience in painting. Emphasis on individual involvement in the painting process aiming toward advanced formal and technical expression. (6 lecture-lab hours)

ART 152. Intermediate Sculpture (3 units)
Prerequisite: ART 50. Continued investigation in the experiential application of selected methods and materials of sculpture. Emphasis on promoting a greater awareness of sculptural form and development of ideas and aesthetic concepts. (6 lecture-lab hours) (Course fee, $25) **FS**

ART 153. Advanced Sculpture (3; max total 9 units)
Prerequisite: ART 152. Individual involvement in the studio practice of sculpture. Emphasis focused on conceptual development, refinement of technique, choice of materials, professional presentation, and portfolio. (6 lecture-lab hours) (Course fee, $25) **FS**

ART 155. Sculpture: Foundry (3; max total 9 units)
Prerequisite: ART 50 or permission of instructor. Foundry techniques: mold-making, wax sculpting, metallurgical technology, and patination. Research of historical and contemporary approaches to the art of metalcasting. (6 lecture-lab hours) (Course fee, $50) **FS**

ART 160. Intermediate Ceramics (3; max total 9 units)
Prerequisite: ART 60. Emphasis will be on promoting a greater awareness of form as developed on the potter's wheel. A concentrated study of surface treatments and their integration with clay forms. (6 lecture-lab hours) (Course fee, $30) **FS**

ART 161. Advanced Ceramics (3; max total 9 units)
Prerequisite: ART 160. Advanced study in ceramic art. Individual projects in selected ceramic areas with emphasis on showing and portfolio presentation of work. (6 lecture-lab hours) (Course fee, $30)

ART 165. Ceramic Glazes (3; max total 9 units)
Prerequisites: ART 160, permission of instructor. Concentrated study in glazes through the empirical methods with some discussion on historical and technical integration of glazes with clay forms. (6 lecture-lab hours) (Course fee, $40)

ART 166. Glass Blowing Studio (3; max total 9 units)
Prerequisites: ART 13, 20, and 60, or permission of instructor. A course in studio glass blowing techniques with technical information on glass compositions, furnace design, and construction. (6 lecture-lab hours) (Course fee, $50)

ART 170. Crafts (3; max total 9 units)
Prerequisite: ART 70. Advanced design in a variety of materials. Study of contemporary designer craftsmen. (6 lecture-lab hours)

ART 171. Textile Design: Dyeing and Printing (3; max total 9 units)
Design relating to fabrics, tie dye, batik, and silk screen. Field trips may be required. (6 lecture-lab hours) (Course fee, $15)

ART 177S. Community Crafts Workshop (1-3; max total 9 units)
Introductory studio experiences in traditional crafts media in community service-learing settings. Fundamental exploration of several media (eg. clays, plaster, fibers, leather, wood.) Understanding materials; historical and cultural context of art products. Field trips required. (Formerly ART 109T)

ART 179. Development of Artistic Expression (3; max total 9 units)
Art materials and techniques, as they apply to the elementary school curriculum; introduction to current philosophies in art education, theories of the development phases of artistic expression in children. Field trips may be required. (6 lecture-lab hours) (Course fee, $15)

ART 180. Intermediate 3D Digital Art - Animation (3; max total 6 units)
Prerequisites: ART 80 and 107, or permission of instructor. Building upon ART 80 and ART 107, this course explores 3D digital animation in a fine arts context. Processes include particles, dynamics, and keyframe/hierarchical animation. (6 lecture-lab hours)

ART 182. Large Format Photography (3; max total 9 units)
Prerequisite: ART 30 or equivalent and permission of instructor. Study of the large format camera and its creative application. Emphasis on individual assistance in both field and laboratory work. Introduction to selective exposure and development control, optical effects, and applied compositional design. (2 lecture, 3 lab hours) (Course fee, $25)

ART 183. Extended Projects in Photography (3; max total 12 units)
Prerequisite: ART 30 or equivalent and permission of instructor. Individual formulation of exploratory multi-image essays on a specific theme. Emphasizes individual conceptual goals and acquiring communicative skills appropriate to medium. Further photographic theory and its practical application to individual creative objectives. (6 lecture-lab hours) (Course fee, $25)

ART 185. Color Photography (3; max total 9 units)
Prerequisite: ART 30 or equivalent. Introduction to contemporary color photography. Emphasis is on both technical and aesthetic expression of digital color photography, from initial image capture to finished print, along with color symbolism and composition. (6 lecture-lab hours) (Course fee, $55)

ART 188. Digital Video Art (3; max total 9 units)
Introduction to the medium of video art. Students will examine video concepts and forms through production, readings, and discussions, as well as by viewing students' and artists' works. (6 lecture-lab hours) **F**

ART 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Course fee, $30) **FS**

ART 198. Internship in Art (1-6; max total 6 units)
Prerequisites: permission of instructor and sponsoring agency. Experience in art related professions with agency under the Department of Art and Design supervision. Maximum credit toward an art major, 6 units. ***CR/NC*** grading only. (Minimum of 3 field hours per week per unit.)

GRADUATE COURSES

(See *Catalog Numbering System.)*

Art (ART)

ART 220T. Topics in Studio Processes (3; max total 9 units)
Prerequisite: permission of instructor. Investigation of advanced studio topics selected by the department. Coursework includes studio productions, their critiques and evaluations.

ART 230. Seminar in Art Theory (3; max total 9 units)
Prerequisite: permission of instructor. Theories of the visual arts as developed by artists, critics, and philosophers, and their application to art criticism in our time. Oral presentation and defense of critical papers required. Meets the graduate writing skills requirement.

ART 240. Seminar in Art Studio (3; max total 15, max 9 in one area)
Prerequisite: permission of instructor. Work individually with selected staff in chosen area of concentration. Concurrent obligation to meet regularly scheduled seminars for group progress reports and critiques.

ART 241. Graduate Painting (3; max total 9 units)
Prerequisite: ART 141 or portfolio for review. Studio course in painting for graduate students. Selected concepts and problems in contemporary painting. Emphasis on individual exploration and development of personal direction. (6 lecture-lab hours)

ART 253. Graduate Sculpture (3; max total 9 units)
Prerequisite: ART 153 or submission of portfolio for review. Faculty guided independent research and studio practice. Includes consultation, critiques, and portfolio development. Relates sculptural form to ideas, aesthetic concepts, and contemporary issues. Emphasis on professionalism and personal direction. (6 lecture-lab hours)

ART 260. Seminar in Art History (3; max total 9 units)
Prerequisites: 6 units of upper-division art history and permission of instructor. Research problems applicable to art history students or studio artists. Meets the graduate writing skills requirement.

ART 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Course fee, $30)

ART 298. Project (2-6; max total 6 units)*
Prerequisite: permission of the Art and Design Department graduate coordinator; see *Criteria for Thesis and Project.* Preparation, production, design, and installation of original works produced while engaged in the graduate program. Exhibit committee must approve of the work, location, and quality of installation. Abstract required. Approved for ***RP*** grading. (Course fee, $30)

ART 299. Thesis (2-6; max total 6 units)*
Prerequisite: permission of the Art and Design Department graduate coordinator; see *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSE

(See *Course Numbering Systems.*)

Art (ART)

ART 343. Contemporary Approaches in Art (1-3; repeatable for credit)
Advanced processes not normally offered in regular courses. Areas may include art education, drawing, painting, ceramics, sculpture,

photography, printmaking, design, crafts, and motion picture.

COURSES

Graphic Design (GD)

GD 35. Visual Communications Fundamentals (3 units)
Foundational visual and cognitive organizational processes for the practice of visual communication, presented through lectures and applied through studio exercises. Includes visual perception and organization, visual ideation, and visual problem-solving processes, techniques, and principles. (2 lecture, 2 lab hours) (Course fee, $30) **F**

GD 37. Graphic Design: Computer Imaging (3 units)
Prerequisites: ART 13, GD 35. Emphasis on basic skills, theories, and principles of graphic design, including photo manipulation and illustration software applications as related to the graphic design field. (6 lab hours) (Course fee, $30) (Formerly GD 40)

GD 39. Graphic Design: Computer Layout Design (3 units)
Prerequisite: ART 13, GD 37. Exploration and application of layout design and prepress software as related to the graphic design field through projects encompassing the basic skills, theories, and principles of graphic design. (6 lab hours) (Course fee, $30)

GD 41. Typography (3 units)
Prerequisites: ART 13, GD 37. Typographic principles, elements, and techniques. Type classification, selection, design, and layout. Computer projects. (6 lab hours) (Course fee, $30) **FS**

GD 42. Graphic Design (3 units)
Prerequisite: GD 35 and 41 or concurrently. Advertising and graphic design projects taken through steps from thumbnail sketches through rough layouts to computer-generated comprehensive presentations. Emphasis on evaluation of market and audience and development of aesthetic solutions to communication problems. (6 lab hours) (Course fee, $30) **FS**

GD 50. Internet Design (3 units)
Prerequisites: GD 41, 42. Introduction to Internet design for graphic designers focusing on Web site structure. Emphasis on professionally designed, visually integrated Web sites utilizing contemporary software for Web design, image creation, and manipulation. (6 lab hours) (Course fee, $30) (Formerly GD 140)

GD 60. Illustration Techniques (3 units)
Prerequisites: ID 43 or ART 20. Introduction to various traditional drawing and painting techniques. Emphasis on the application of rendering solutions to graphic design problems. (6 lab hours) (Course fee $5) (Formerly GD 143)

GD 135. History of Graphic Design (3 units)
Prerequisites: ARTH 10 and 11. A survey of characteristic design approaches, solutions, materials, and technologies, their relationship to popular culture and trends, and their social and political history. Course includes lectures and studio projects. (2 lecture and 2 lab hours) (Course fee, $30) **FS**

GD 150. Advanced Internet Design (3 units)
Prerequisites: GD 41, 42, 50. Advanced application and exploration of Web standards-based Web site design. Emphasis on the aesthetics and structure of Web site development. (6 lab hours) (Course fee, $30) **FS**

GD 153. Interactive Design (3 units)
Prerequisite: GD 41, 42, 50. Interactive design for graphic designers. Use of contemporary software to develop professionally designed, visually integrated, interactive graphics and content for Web and multimedia applications. (6 lab hours) (Course fee, $30)

GD 155. Advanced Interactive Design (3 units)
Prerequisite: GD 153. Integration of advanced and complex interactive content for Web and multimedia applications. Emphasis on experimentation and concept development incorporating elements from different thematic structures. (6 lab hours) (Course fee, $30)

GD 157. Motion Graphics (3 units)
Prerequisite: GD 153. Application of software to create visually integrated, concept-driven motion graphics and interactive content and Web multimedia applications. Emphasis on research and production on advanced projects. (6 lab hours) (Course fee, $30)

GD 163. Illustration (3 units)
Prerequisite: GD 60 and ART 116. Understanding how illustration functions with text. Experiences in the conceptualization and organized development of illustrative images. Creative illustrative strategies applied to design situations. (6 lab hours) (Formerly GD 146)

GD 165. Digital Illustration Techniques (3 units)
Prerequisites: GD 42, 60, and 163. Introduction to digital illustration; appreciation of its strengths. Applying basic digital illustration techniques to characteristic graphic design problems and formats. (6 lab hours) (Course fee, $30) (Course fee, $30) (Formerly GD 147)

GD 167. Advanced Illustration (3; max total 6 units)
Prerequisite: GD 163. Advanced techniques in non-digital illustration. Creating illustrative visual solutions to a range of problems in graphic design, including complex and abstract subjects. Developing distinctive individual work. (6 lab hours)

GD 169. Advanced Digital Illustration (3 units)
Prerequisites: GD 163, 165. Advanced digital illustration techniques. Analyzing and applying components of a visual style. Combining traditional and digital illustrative components. (6 lab hours)

GD 170. Typographic Design (3 units)
Prerequisites: GD 41, 42. Advanced principles of typography, including design of typefaces utilizing contemporary software. Exploration of sophisticated typographical projects incorporating commercial and student designed fonts. Emphasis on typographical experimentation. (6 lab hours) (Course fee, $30) (Formerly GD 141)

GD 171. Advanced Typographic Design (3 units)
Prerequisite: GD 170. Creation of unique typefaces for use in typographic solutions to projects such as brand identity, packaging design, environmental graphics, and publication design. (6 lab hours) (Course fee, $30)

GD 174. Graphic Systems (3 units)
Prerequisites: GD 41, 42. Examination of the structures of primary/secondary and co-equal communication systems as applied to identity, packaging, and other graphic design projects. (6 lab hours) (Course fee, $30) (Formerly GD 142)

GD 175. Graphic Concept Development (3 units)
Prerequisite: GD 174. Examination of the importance of an underlying concept development to successful graphic design solutions. Emphasis placed on the production of strong concepts in projects such as identity applications and environmental graphics. (6 lab hours) (Course fee, $30)

GD 176. Packaging Design (3 units)
Prerequisites: GD 171, 175. Advanced projects in packaging with emphasis on the application and exploration of the socio-cultural, physical, and legal requirements of packaging systems. (6 lab hours) (Course fee, $30)

GD 178. Professional Advertising Design (3 units)
Prerequisites: GD 171, 174. Advanced advertising/graphic design projects from concept development to finished product. Emphasis on complex methods and approaches relating to advertising media, production procedures, and professionalism. (6 lab hours) (Course fee, $30) (Formerly GD 148)

GD 179. Professional Practices (3 units)
Prerequisites: GD 176 and 178, or 155 and 157, or 167 and 169. Advanced exploration of the fields of graphic and advertising design, as well as the standards and practices common in advertising agencies and design studios. Covers workplace structures, time and record-keeping, estimating, self-promotion, and working with vendors and employees. (6 lab hours) (Course fee, $30) (Formerly GD 149)

GD 180. Graphic Portfolio Development (3 units)
Prerequisites: GD 176 and 178, or GD 155 and 157, or GD 167 and 169. Organization and creation of a professional portfolio. Advanced approaches and production of various media and professional applications, including practices encompassing the portfolio, exhibitions, and competitions. (6 lab hours)

GD 190. Independent Study in Graphic Design (3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

GD 198. Internship in Graphic Design (1-6; max total 6 units)
Prerequisites: permission of instructor and supervising agency. Experience in graphic design related professions with a design studio, with an advertising agency, or for a publication under the supervision of graphic design faculty. Maximum credit toward a graphic design option is 6 units. ***CR/NC*** grading only. (Minimum of 3 field hours per unit.)

Bachelor of Arts Degree Requirements

Interior Design Major	*Units*
Major requirements	**82**
Art and Design Core	(15)
ARTH 10 or 11	(3)
ART 13	(3)
ART 20 or ID 43	(3)
ART 24 or 30 or 40 or GD 37	(3)
ART 50 or 60 or 70	(3)
Interior Design requirements: ID 7, 70, 71, 77, 110, 111, 112, 113; ID 116 or IT 115; ID 120, 130, 131, 133, 134 or 145, 136, 137, 138, 149, 150, 152, 155	(67)
General Education requirements (including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed) Consult the *Class Schedule* for a current list of approved General Education courses.)	**51**
Total units	**124***

*This total indicates that a maximum of three courses (9 units) in G.E. Breadth C1 and G.E. Breadth E1 also may be applied to the interior design major. These courses include ARTH 10 or 11; ART 20, 40, 50 (G.E. C1); and/or ART 13 (G.E. E1). Consult the department chair or faculty adviser for additional details. Also, the upper-division writing skills requirement is to be met by exam or by an additional *W* course.

Advising Notes

1. All courses required for the major must receive a letter grade.
2. Student work may be retained for a limited period for display and accreditation visits.
3. No General Education Integration course offered by the Department of Art and Design may be used to satisfy the General Education requirements for majors in the department.
4. A grade of ***C*** or higher in all interior design coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with grade of ***C*** or better before registration in the subsequent course.
5. See also advising notes listed under the B.A. in Art.

COURSES

Interior Design (ID)

ID 7. Design Studio I (4 units)
Basic design concepts and drafting techniques. Working drawings, introduction to codes and standards, lettering, metric and imperial systems. (8 lab hours) **FS**

ID 43. Design Graphics I (3 units)
An introductory course in design graphics/visualization. Includes conceptual/expressive sketching, analytical/diagrammatic drawing, 2D/3D drawing, and visual perception/communication for artists/designers. Includes mixed media. (6 lab hours) (Course fee, $5) **FS**

ID 70. Design History, Theory, and Criticism I (3 units)
Aesthetic and functional aspects of interior design. Integration of design principles: color, space planning, furniture selection, creative expression, product information, and design process. **FS**

ID 71. Residential Interior Design (3 units)
Prerequisite: ID 7, 70 (or concurrently). Introductory residential interior design of living spaces, kitchens, baths, and support spaces. Studio work, creative aesthetics, spatial arrangements, design process programming. (6 lab hours) (Course fee, $5) **FS**

ID 77. Interior Graphics (3 units)
Prerequisites: ID 43, 71 (or concurrently). Introduction to basic black and white interior graphic communication techniques including one- and two-point perspective sketch techniques, graphic charts, material representation, plan and elevation graphics; emphasis on composition, shade, shadow, lighting, and texture. (6 lab hours) **FS**

ID 110. Building Systems, Construction Documents, and Codes (2 units)
Prerequisite: ID 7, 71. Fundamentals of building systems and codes; construction drawings and documents, acoustics, electrical, mechanical, plumbing, and HVAC. May include field trips. (1 lecture, 2 lab hours) **FS**

ID 111. Design Graphics III (3 units)
Prerequisites: ID 7, 43, 77. Topics include computer-aided design, computer media, 2D/3D modeling, rendering, lighting, and environmental effects. (6 lab hours) (Course fee, $5) **FS**

ID 112. Design Studio III (4 units)
Prerequisites: ID 7, 71, 111. Design programming, schematic planning/sequencing, code application, and antropometrics in medium-scale, mixed-use projects. Emphasis is on design research directed toward social/cultural contexts. (8 lab hours) (Course fee, $5) **FS**

ID 113. Design History, Theory, and Criticism II (3 units)
A sampling of architecture and interior space. Tours include northern, central, and southern California architecture. Residential and contract showrooms visited. Expenses for required off-campus visits incurred by the student. (6 lecture-lab hours) (Course fee, $220) **F semi-annually**

ID 116. Design Graphics IV (3 units)
Prerequisites: ID 77, 111. Advanced topics in digital design and multi-media art. Topics include advanced modeling, materials, lighting, environmental effects, and animation. (6 lab hours) (Course fee, $25) **FS**

ID 120. Design History/Theory and Tours III (3 units)
Prerequisites: ID 70, 113. The intellectual, stylistic, and cultural characteristics of art, design, and architecture up to the modern times with emphasis on global contexts. Includes field trips in California. (2 lecture, 2 lab hours) **F**

ID 130. Lighting Design (2 units)
Prerequisites: ID 7, 70, 110. Lighting design and details. Includes schematic design, reflected ceiling plans, laboratory testing, and lighting calculations. (1 lecture, 2 lab hours) (Course fee, $10) **FS**

ID 131. Design Materials and Specifications (3 units)
Prerequisite: ID 70. Selections, specifications, and computations for design materials. (2 lecture, 2 lab hours) (Course fee, $10) **FS**

ID 132T. Topics in Interior Design (1-4; max total 12 if no topic repeated)
Topics related to interior design. Some topics may have labs.

ID 133. Professional Practices (2 units)
Prerequisites: ID 70, 131, 138. Principles and procedures of organizing and executing design projects from client contact to final billing and collecting — in collaboration with architects, product/furniture designers, and public/private organizations. Includes developing a portfolio of design work. (1 lecture, 2 lab hours) (Course fee, $10) **S**

ID 134. Restoration and Preservation (3 units)
Prerequisites: ID 112 and permission of instructor. Principles and methods of restoration, case studies of the restoration and preservation of historically significant structures in the United States. Working drawings, details, and specifications. (6 lab hours) (Course fee, $5) **F**

ID 136. Contemporary Furniture and Millwork (3 units)
Prerequisite: ID 7, 112; ART 13. Furniture, cabinet, and millwork design and construction drawings for residential, commercial, and institutional installations. Studio work to include free standing and built-in units. Plans, elevations, sections and millwork detailing using a variety of materials. (6 lab hours) **S**

ID 137. Interior Architectural Graphics and Models (3 units)
Prerequisites: ID 77, 111; and 112 (or concurrently). Three dimensional interior architectural models and graphic techniques integrating color and composition and its impact on design communication; media to include illustration board, balsa wood, photography, markers, color pencil, pastel, and watercolor. (6 lab hours) **S**

ID 138. Advanced Residential Interior Design (3 units)
Prerequisites: ID 111 (may be taken concurrently); 130, 131; IT 115 or ID 116, 137 (or concurrently). Creative design solutions for residential environments including new construction and remodeling for diverse clients and budgets. Hand and AutoCAD working drawings, presentations, and specifications. (6 lab hours) (Course fee, $25) **FS**

ID 145. Design Studio VI-c: Human/Environmental Topics (4 units)
Prerequisite: ID 138. Studio to cover topics in human and environmental design and/or healthcare facilities and systems. Projects may also engage topics such as green design, aging, illness, and wellness. (8 lab hours) **S** (Formerly GID 132T section)

ID 149. Design Studio VII: Advanced Design (4 units)
Prerequisites: ID 137 or 145, ID 138. Advanced design projects covering public, civic, cultural, institutional, educational, commercial, administrative, and related themes. Emphasis is on critical and multidisciplinary thinking, mature, communication, social responsibility, and global awareness. (8 lab hours) (Course fee, $25) **F**

ID 150. Senior Thesis Exhibits (2 units)
Prerequisites: ID 149 (ID 155 concurrently.) Discussion and gallery presentation of senior thesis projects. Includes group discussions and conferences with faculty on senior projects. Culminates in the Senior Exhibit. (4 lab hours) (Course fee, $10) **S**

ID 152. Design Practicum and Entrepreneurship (3 units)
Prerequisites: ID 131 (ID 149 or 155 concurrently.) Supervised professional practice in architecture/design or related industry. Experience with diverse methods of job costing, profit/loss analysis, and project management. **S F**

ID 155. Design Studio VIII: Senior Thesis (4 units)
Prerequisites: ID 149 (ID 155 concurrently.) Capstone design thesis studio. **S**

ID 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

Classical Studies - Interdisciplinary Minor

Greek and Roman Studies

The College of Arts and Humanities has coordinated a variety of courses in several disciplines that allow comprehensive study of the Greek and Roman world. For students interested in classical studies, two alternatives are available.

First, a student may petition for a special major based on guidelines available from the coordinator of classical studies. Students are strongly urged to read carefully the policy for the special major for the bachelor's degree. (See *Degree Requirements — Special Major for the Bachelor's Degree.*) Second, the university offers a classical studies minor with three areas of interest.

Classical Studies Minor

The Classical Studies Minor is an interdisciplinary program designed for students interested in classical civilization and for those who wish to teach classical languages and culture or who wish to enter a graduate program in which such a minor would give a sound foundation for further work.

The minor allows for three areas of interest: Latin, Greek, and Classics (Greek and Latin).

Latin	*Units*
HIST 112 or HUM 110	3
LATIN 1A, 1B	6
LATIN 131T (2)	6
Approved electives	9
Total	**24**

Greek	*Units*
HIST 111 or HUM 108	3
GRK 1A, 1B	6
GRK 131T (2)	6
Approved electives	9
Total	**24**

Classics	*Units*
HIST 111 or HUM 108, HIST 112 or HUM 110	6
LATIN 1A, 1B	6
GRK 1A, 1B	6
LATIN 131T or GRK 131T	3
Approved electives	3
Total	**24**

Note: The Classical Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Approved Course Electives

The following list includes the elective courses most directly concerned. For further information, consult Honora H. Chapman or Bruce S. Thornton.

Art History:

ARTH 10	The Ancient and Primitive World (3)
ARTH 109T	Topics in Art History (1-3; max 3 per area)

Drama:

DRAMA 185	History of the Theatre and Drama (3)

Humanities:

HUM 108	Humanities in Classical Athens (3)
HUM 110	Humanities in Republican and Imperial Rome (3)

English:

ENGL 112	World Literature: Ancient (4)

Foreign Language:

GRK 1A, 1B	Elementary Greek (3, 3)
GRK 131T	Greek Literature (3; max total 12 if no topic repeated)
GRK 190	Independent Study (1-3)
LATIN 1A, 1B	Elementary Latin (3, 3)
LATIN 131T	Latin Literature (3; repeatable with different topic)
LATIN 132	Classical Mythology (3)
LATIN 190	Independent Study (1-3)

College of Arts and Humanities

Department of Modern and Classical Languages and Literatures

Honora H. Chapman, *Coordinator*
Peters Building, Room 433
559.278.8160

Kristi A. Eastin
Peters Building, Room 335
559.278.1108

Victor D. Hanson, Emeritus

Bruce S. Thornton
Peters Building, Room 437
559.278.2386

Minor in Classical Studies

History:

HIST 1	Western Civilization I (3)
HIST 103	History of Early Christianity (3)
HIST 110	Ancient Near East (3)
HIST 111	Ancient Greece (3)
HIST 112	Ancient Rome (3)
HIST 116	Greek and Roman Religion (3)
HIST 119T	Studies in Ancient History (1-3; max total 6 if no topic repeated)
HIST 190	Independent Study (1-3)

Philosophy:

PHIL 101	Ancient Philosophy (3)

Kinesiology:

KINES 111	The Olympic Games (3)

Political Science:

PLSI 110	Seminar in History of Political Thought to Macchiavelli (3)

Communication

College of Arts and Humanities

Department of Communication
Douglas M. Fraleigh, *Chair*
Speech Arts Building, Room 15
559.278.2826
FAX: 559.278.4113
www.fresnostate.edu/comm/

B.A. in Communication

M.A. in Communication

Minor in Communication

Single Subject Teaching Credential in Speech/English

Communication Skills for Professionals Certificate

The Department

Our aim is to prepare students to understand and provide leadership in a competitive communication-oriented society. We offer a balance of humanistic and scientific instruction in communication skills people need to function effectively in teaching, business, law, nonprofit organizations, public service and administration, public relations, government, and management. Outside the workplace, these skills will also enhance students' ability to be active in civic engagement and community service.

Our program requires a comprehensive understanding of the breadth and depth of our discipline, as well as its major theoretical frameworks and research methodologies. Both the major and minor are grounded in the fundamental communication contexts including public, interpersonal, group, organizational, instructional, and intercultural communication. Additionally applied contexts in business communication, gerontology communication, technology, and leadership are available. Students investigate problems in diverse cultural settings, which make the San Joaquin Valley — with its tremendous ethnic diversity — an ideal location for study.

The Communication Skills for Professionals Certificate program recognizes development in such areas as presentational speaking, problem solving and decision making, leadership, and interpersonal communication.

Our program offers a variety of exciting activities to enrich students' educational experience. We have an active student organization, the Professional Communication Association, and a debate team that participates in competitive intercollegiate tournaments and hosts public debates on campus. Our annual Peach Blossom Festival brings more than 5,000 elementary-age students to campus to present prose and poetry.

We offer you personalized advising. Our major builds on a sound core of foundation courses and is completed by courses selected to meet your needs and career objectives. Our major requirements are flexible and easily integrated into a host of minors.

Career Opportunities

In the new millennium, a degree in communication opens a great number of career doors. Increasingly, we see a wide variety of job descriptions across professional disciplines which list *competence in communication* as the highest priority. An essential goal for us is to help you develop as a competent communicator.

In addition, we try to provide an educational base for our majors and minors for specific careers requiring competencies in oral and written communication and in interpersonal and managerial situations.

Communication graduates are employed as public relations consultants, personnel managers, political campaign directors, management analysts, teachers, counselors, lawyers, ministers, human resource specialists, and marketing representatives. We offer students a discipline widely suited to today's uncertain job market. National placement studies reveal that communication majors are finding jobs with reasonably high job satisfaction and above average pay rates, and that their rate of promotion is significantly faster.

The pursuit of a career is of great concern to students today, but it is important to recognize that the quality of your education will determine your success in life as well as how to make a living. More than half of college graduates do not enter fields directly tied to their majors.

As you begin making decisions about your life and what you want to do with it, remember that we will be happy for you to join us in the most exciting and fundamental discipline of all — the study of human communication.

Faculty

Douglas M. Fraleigh, *Chair*
Katherine L. Adams
Kevin Ayotte
Diane M. Blair
Craig Fowler
Kevin Kuswa
Scott D. Moore
Shane Moreman
Marnel N. Niles
Robert G. Powell
Devendra Sharma

Bachelor of Arts Degree Requirements

Communication Major

The communication major is designed to provide broad-based competencies in oral and written communication, critical analysis of human discourse, and social scientific and humanistic research methods. The major also emphasizes how this theoretical knowledge is applied in specific contexts ranging from personal relationships to business management to public advocacy.

	Units
Major requirements	**42**
Fundamental communication processes and skills	(6)
Select two from COMM 3, 4, 5, 7, 8, 15	
Core competencies	(12)
COMM 100, 140, 142, 166	
Personal and professional communication	(18)
Select a minimum of two courses in each area	
Personal and relational settings: COMM 108, 120, 150, 161, 162, 164	
Advocacy in public settings: COMM 103, 105, 115**, 148, 149, 163, 170	
Organizational and professional settings: COMM 165, 167, 168, 176, 179	
Electives in major	(6)**
Select a minimum of two upper-division courses from settings above and/or COMM 114, 115, 160, 169, 171, 188T, 189, 190	
General Education requirements	**51**
Electives and remaining degree requirements	**27-33***
Total	**120**

* See *Advising Note 1*.

** See *Advising Note 2*.

Advising Notes

1. This total indicates that 6 units of COMM 3, 5, 7 and/or 8 also may be applied to fulfill General Education Foundation A1 and A3 requirements.
2. No more than 3 units from COMM 15 and 6 units from COMM 115 can count toward fulfillment of the communication major. No more than 3 units from COMM 115 can be applied to the Advocacy inn Public Settings Area.
3. *CR/NC* grading is not permitted in the communication major with the exception of COMM 179 (Internship).
4. No more than 6 units of COMM 179 (Internship) may be applied toward completion of the communication major.
5. Students in the major are allowed only 3 units of COMM 190 and no more than 6 units toward the baccalaureate degree.
6. No General Education Multicultural/International course offered by the Communication Department may be used to satisfy the General Education requirements for majors in the department.

Teaching Credential

Students requesting a Single Subject Teaching Credential with the English-Speech emphasis should consult with the credential adviser in the Communication Department. Students pursuing this option will be required to select the English-Credential for their Bachelor of Arts and should refer to the English Department section of the catalog concerning the state-approved subject matter preparation program for the English-Speech emphasis.

Communication Minor

Increasingly, oral and written communication, problem solving and decision making, leadership, and conflict resolution skills are being recognized as vital skills for professionals in all fields of work. The Communication Minor is designed to develop these competencies in order to help students better meet their particular career goals. While a specific minor is recommended, you may wish to consult with your department adviser about designing a minor to suit your special objectives.

	Units
Core requirements	**15**
COMM 5, 7, 8, 100, 140	
Electives	**6**
Approved upper-division communication courses	
Total	**21**

Note: The Communication Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Communication Skills for Professionals Certificate

Proficiency in communication skills is essential in virtually any professional career. The Communication Program offers a structured sequence of courses leading to a certificate of special study recognizing the focused development of professional communication skills in such areas as presentational speaking, problem solving and decision making, leadership, and interpersonal communication. Upon completion of the certificate requirements, the department will award a certificate.

Certificate Prerequisites: upper-division standing and completion of the General Education basic speech requirement.

Certificate Requirements. Check with department prior to beginning certificate requirements regarding program status.

	Units
Communication Theory: COMM 100	**3**
Professional Writing Skills: BA 105W, ENGL 164, MCJ 10	**3-4**
Business and Professional Speaking: COMM 170	**3**
Communication Training and Development: COMM 176	**3**
Elect 6 units from COMM 103, 108, 162, 167, 168, 169	**6**
Total	**18-19**

The new Communication Skills for Professionals Certificate Program is designed to enable students to achieve recognition of development in such areas as presentational speaking, problem solving and decision making, leadership, and interpersonal communication.

Graduate Program

The Master of Arts program in Communication is designed to be a comprehensive program reflecting the history and breadth of the communication discipline. Four objectives serve as measures for competent M.A. graduates of the program. First, all graduates will have a comprehensive understanding of the historical and philosophical assumptions of the communication discipline, as well as the various theoretical perspectives underlying scholarship in the discipline. Second, all graduates will recognize and be able to use appropriate communication strategies in formal, informal, professional, and personal contexts. Third, all graduates will understand quantitative and qualitative methods of research in communication. Fourth, all graduates will understand various communication perspectives and will have a clear understanding of their own personal perspective and ideologies.

Master of Arts Degree Requirements

The graduate program in communication is designed to extend the competencies of students in the study of human communication. Graduate teaching assistantships provide students with opportunities for financial assistance and additional educational experiences.

The graduate program in communication assumes undergraduate preparation equivalent to a California State University, Fresno major or minor in communication. The Communication Department offers a 30 unit Master of Arts degree with coursework in three areas of human communication: rhetoric and public address, communication, and applied communication. Coursework in these areas provides preparation for a variety of career opportunities including teaching and doctoral work in communication and rhetoric,* business and industry, public service, law, and government.**

Program Requirements

Admission Requirements for Classified Standing. See *Admission to Graduate Degree Programs with Graduate Standing* in the *Division of Graduate Studies* of this catalog.

	Units
COMM 241 and 262	**6**
COMM 205, 214, 215, 242M, 243, 262, 263, 264M, 265, 266, 268, 275, 276 or 290	**15**
Electives	**3-9**
Culminating experiences	**0-6**
Select one of the following:	
A. *Comprehensive Examination* (0 units; take at least 9 units of approved electives)	
B. *COMM 298: Graduate Project* (3-6 units; additional approved communication electives if needed)	
C. *COMM 299: Thesis* (3-6 units; additional approved communication electives if needed)	
Minimum total	**30**

* For those individuals pursuing careers in teaching and doctoral work, the Communication Department highly recommends selecting 12 units from among the following core requirements: COMM 205, 214, 215, 242M, 243, 263, 264M, 265, and 266.

** For those individuals pursuing professional careers such as business and industry, public service, law, and government, the Communication Department highly recommends selecting 12 units from among the following core requirements: COMM 214, 215, 263, 264M, 265, 266, 268, 275, and 276.

Advising Notes

1. At least 21 units in the student's program of study must be in 200-level (seminar) communication courses.
2. One methods seminar (COMM 242M or 264M) is required in every program.
3. In order to fulfill the university's Graduate Writing Skills Requirement, students are asked to submit an academic writing sample for evaluation prior to advancement to candidacy. Consult the department's *Graduate Handbook* or graduate coordinator for further details on the policy.
4. Elective requirements can be met by any approved communication seminar, upper-division undergraduate communication course, or appropriate course outside the department. Any undergraduate course counted toward the M.A. must include additional work to make it commensurate with a graduate-level experience; verification is the responsibility of the student and the student's graduate adviser. Elective requirements are approved by the student's graduate adviser and the graduate coordinator.

COURSES

Communication (COMM)

COMM 3. Fundamentals of Public Communication (3 units)
Theories of human communication and their function in contemporary public settings; experiences designed to enhance fundamental communication skills — research, organization, reasoning, listening, and problem solving — through a series of oral presentations. G.E. Foundation A1. **FS**

COMM 4. Introduction to Interpersonal Communication (3 units)
Introduction to various theories of interpersonal communication; participation in experiences designed to enhance competence in interpersonal relationships. **FS**

COMM 5. Argumentation (3 units)
Logical analysis, evidence, reasoning, and proof used in arriving at rational decisions as demonstrated through presentation of public speeches and debates. G.E. Foundation A3. **FS**

COMM 7. Persuasion (3 units)
Analysis and practice of the use of persuasion as a social tool for resolving controversy and forming opinions from the perspectives of both the persuader and the persuaded. G.E. Foundation A1. **FS**

COMM 8. Group Discussion (3 units)
Communication in group thinking and problem solving through preparation and presentation of panels and symposia on public issues. G.E. Foundation A1. **FS**

COMM 10T. Topics in Communication (1-3; max total 9 units)
Contemporary problems and issues in communication; sections include such topics as freedom of speech, parliamentary procedure, special communication skills, rhetoric of protest and response, and communication processes.

COMM 15. Forensics Laboratory (3; max total 6 units)
Experience in the presentation of debates, oral interpretation programs, persuasive

and expository speaking. Intramural and intercollegiate competition in forensics.

COMM 100. Theories of Human Communication (3 units)
Survey of major theories of human communication, philosophical issues, and applications; theories include interpersonal, group, organizational, intercultural, linguistic, and persuasion. **FS**

COMM 103. Advanced Public Speaking (3 units)
Advanced principles of expository and persuasive speaking; development of skills through analysis, preparation, organization, and delivery of various types of speech. **S even**

COMM 105. Argumentation Theory (3 units)
Analysis of the theories and techniques of argumentation, including models of argument, relationships between persuasion and argumentation, and the effects of argumentative discourse. **F**

COMM 108. Communication and the Small Group (3 units)
Analysis of group communication theories and their application to small group behavior in specific variables such as leadership, power, conflict-resolution, conformity, cohesiveness, and related group processes. **S**

COMM 114. Communication and Learning (3 units)
(Same as CI 158.) The nature of communication and its relationship to learning and instruction; management of oral communication strategies in the educational setting. **FS**

COMM 115. Advanced Forensics Laboratory (3; max total 6 units)
Experience in the presentation of debates, oral interpretation programs, persuasive and expository speaking. Intramural and intercollegiate competition in forensics.

COMM 120. Gender Communication (3 units)
Exploration of gender variables that affect human communication behaviors, focusing on behaviors that have some mythical or factual bases in sex similarities and differences. **F**

COMM 140. Rhetorical Theory (3 units)
An examination and analysis of significant theories and theorists of rhetoric from the classical to the modern period. Emphasis on preparation of research papers reflecting rhetorical principles of communication. **FS**

COMM 142. Communication Criticism (3 units)
An examination of historical and contemporary communication events using principles of critical evaluation from rhetorical, artistic, and media perspectives. Written papers and presentations of analyses utilizing critical principles from these perspectives. **FS**

COMM 148. American Public Address (3 units)
An examination of significant American speakers and speeches set in an environment of social and political history. The course is designed to acquaint students with the role of public address within the forces of American history. **S**

COMM 149. Freedom of Speech (3 units)
Examines the tradition of freedom of speech and expression in the American democracy. Focuses upon the First Amendment to the Constitution and major case laws which impact contemporary standards for public discourse, politics, broadcast, and journalism. **F**

COMM 150. Communication and Aging (3 units)
(Same as GERON 150.) Focusing on the communication aspects of the aging process, organized around the major communication components of intrapersonal, interpersonal, and mass communication with addition of such topics as attitudes, stereotypes, nonverbal, and the communication aspects of health care. **F**

COMM 160. Meaning, Language, and Communication (3 units)
A review and analysis of the various approaches to the study of human symbolic behavior, with focus on such theories as: General Semantics, Psycholinguistics, Sociolinguistics, Epistemology, and other philosophical and scientific enquiries into the nature of language and meaning. **F**

COMM 161. Family Communication (3 units)
Examines communication theories and empirical findings related to interaction in relationships, such as parent-child, sibling, romantic, and grandparent-grandchild. Coverage also includes blended and non-traditional family forms. Investigates positive and sub-optimal processes, including conflict, relational dissolution, and abuse. **S**

COMM 162. Interpersonal Communication (3 units)
An examination, analysis, and application of communication theories and variables involved in interpersonal contexts such acquaintanceships, courtships, friendships, and families. Attention is given to communicative practices involved in the effective management of interpersonal relationships over time. **FS**

COMM 163. Social Influence and Attitude Change (3 units)
Seminar on the nature and effects of social influence, with special emphasis on attitude formation and change, conformity, behavior, "brain washing," prejudice, and propaganda as functions of communication. **FS**

COMM 164. Intercultural Communication (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Analysis of cultural variables and factors in the communication process and strategies for the resolution of intercultural problems; consideration of implications for education and programs necessarily involving intercultural communication. G.E. Multicultural/International MI. **FS**

COMM 165. Computer Applications in Communication (3 units)
Survey of information technologies and computer applications in human communication professions, including word processing, spreadsheets, graphics, presentation visuals, e-mail, and Internet. Advanced techniques for creating Web pages, reports, training, presentations, brochures, and newsletters. **FS**

COMM 166. Communication Research Methods (3 units)
Application of behavioral research principles to problems in quantification, design, and analysis of data in communication research. **FS**

COMM 167. Leadership in Groups and Organizations (3 units)
Theory and practice of selected leadership variables in groups and organizations; functions of leadership in formal and informal structures, understanding and analysis of role-playing techniques. **F odd**

COMM 168. Communication in Organizations (3 units)
Examination of organizational communication from a multiple discipline perspective. Through the study of theory and experiential learning in simulations, students develop skills

necessary for planning, staffing, developing, decision-making, and problem-solving in organizations. **FS**

COMM 169. Communication and Conflict (3 units)
Examination of the role of communication in conflict in interpersonal, small groups, organizational, and societal settings. Through experiential learning, case study analyses, and practice of intervention skills, students address conflict styles, strategies, tactics, third-party intervention, and mediation techniques. **S**

COMM 170. Business and Professional Speaking (3 units)
Development of communication skills necessary for success in business, government, and the professions. Includes theory and practice of interviewing, job instruction training, work group leadership, and proposal presentations. Class activities are adapted to students' career goals. **S**

COMM 171. Communication and Planning Change in the Social System (3 units)
Provides students with an understanding of the communication processes involved in the evolution of social systems. Students will examine a full range of social settings (small groups, organizations, cultures, etc.) from a variety of theoretical and analytical perspectives. **F even**

COMM 176. Communication Consulting and Training (3 units)
Development of skills necessary for effective communication consulting in business, government, and the professions. Includes theory and practice of needs assessments, planning and conducting training activities, and evaluation of educational activities; topics relating to adult education and client-consultant relationships. **S**

COMM 179. Internship (1-6; max total 12 units)
Prerequisites: major in communication, at least 75 units completed and permission of instructor. Supervised work experience in government, business, social agencies, or nonprofit organizations. *CR/NC* grading only. **FS**

COMM 188T. Topics in Communication (1-3; max total 9 units)
Selected topics in communication. **FS**

COMM 189. Projects in Communication (1-3; max total 6 units)
Prerequisite: permission of instructor. Projects in communication. (4 hours activity)

COMM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

GRADUATE COURSES

(See Catalog Numbering System.)

Communication (COMM)

COMM 205. Seminar in Argumentation (3 units)
Prerequisite: COMM 105, 140, or permission of instructor. Examination of traditional and contemporary argumentation theory and research. Analysis of argument fields, theories of argument, argument as epistemic, argument and persuasion, argument and critical thinking.

COMM 214. Seminar in Instructional Communication (3 units)
An examination of the relationships of learning theories to communication study and research. Research in instructional communication, teaching strategies in communication education, and techniques for applying these concepts in educational and training settings.

COMM 215. Seminar in Communication Arts (3; max total 9 units)
Research and individually directed work within one area of specialization. Approved for ***RP*** grading.

COMM 241. Seminar in Rhetorical Theory (3 units)
Prerequisite: COMM 140, equivalent, or permission of instructor. A seminar which deals with the development of specific principles by selected theorists.

COMM 242M. Seminar in Contemporary Criticism (3 units)
Prerequisite: COMM 142, equivalent, or permission of instructor. The role of rhetorical criticism in contemporary society.

COMM 243. Seminar in Public and Strategic Address (3 units)
A detailed study of the theory and practice of public discourse used to persuade audiences regarding the nature and resolution of political, social, religious, and economic problems.

COMM 262. Seminar in Communication Theory and Research (3 units)
Prerequisite: COMM 100, equivalent, or permission of instructor. An examination and evaluation of mathematical, philosophical, sociological, psychological, and rhetorical theories of human communication. Emphasis upon the assumptions and implications of various theories, models, and constructs.

COMM 263. Seminar in Group Communication (3 units)
Prerequisite: COMM 108, equivalent, or permission of instructor. A critical examination of the scientific research and theories in group communication including research variables and methodologies. Implications of research findings for contemporary communication problems.

COMM 264M. Seminar in Communication Research Methods (3 units)
Application of quantitative, qualitative, and/or critical methodologies to a variety of problems studied in human communication. Discussion of design, analysis, and interpretation of quantitative data and/or qualitative experiences.

COMM 265. Seminar in Interpersonal Communication (3 units)
Prerequisite: COMM 162, equivalent, or permission of instructor. An examination of current quantitative and qualitative theory and research in interpersonal communication. Implications and applications to various kinds of human relationships and various aspects of those relationships, e.g., stages, relational communication, attraction, conflict, self-disclosing.

COMM 266. Seminar in Communication and Culture (3 units)
An examination of current critical, humanistic, and/or social scientific approaches to studying the communicative construction, negotiation, and performance of cultural identities and practices.

COMM 268. Seminar in Organizational Communication (3 units)
Prerequisite: COMM 168, equivalent, or permission of instructor. Theory and application of organizational communication, including interpersonal and group communication in planning, staffing, development and decision making in complex organizations; organizational systems and environments; recognizing, diagnosing, and solving organizational problems.

COMM 275. Seminar in Applied Communication (3 units)
An extended examination of theories, research methodologies, and professional practices regarding communication in a specific applied context (e.g., health communication, risk communication, legal communication, etc.).

COMM 276. Seminar in Communication Training and Development (3 units)
Prerequisite: COMM 176, equivalent, or permission of instructor. In-depth view and application of approaches to training in communication skills in organizations including needs assessment for training, workshop and seminar development, and evaluation of interventions.

COMM 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

COMM 298. Project (2-6; max total 6 units)*
Prerequisite: prior advancement to candidacy, appropriate methodological tools (COMM 242M or 264M), equivalent, or permission of student's committee. See *Criteria for Thesis and Project*. Preparation, design, conduct, and evaluation of project applying rhetorical and communication theories; e.g., communication campaign for public agency, communication audit of corporate organization, extensive consulting or training activities, etc. Requires scholarly report similar in format to thesis and final oral defense. Approved for ***RP*** grading.

COMM 299. Thesis (2-6; max total 6 units)*
Prerequisite: appropriate methodological tools (COMM 242M or 264M), equivalent, or permission of student's committee. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

Note: Students must have earned at least a ***C*** in all courses considered as meeting the prerequisite requirements.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See Catalog Numbering System.)

Communication (COMM)

COMM 303. Topics in Communication (1-3; max total 12; repeatable with different topics)
Prerequisite: permission of instructor. Application of the theories in communication.

English

College of Arts and Humanities

Department of English
Lisa Weston, *Chair*
Dianna Meyer, *Department Administrative Support Coordinator*
Peters Business Building, Room 382
559.278.2553
FAX: 559.278.7143
www.fresnostate.edu/english/

B.A. in English
Options:
- English Major
- English Education

M.A. in English
Options:
- Composition Theory
- Literature

M.F.A. in Creative Writing

Minor in English

Minor in Creative Writing

Credential Program

Certificate of Special Study in Creative Writing

Certificate of Advanced Study in Composition

The Department

English is a general major or minor designed to give proficiency in skills that traditionally have been among the most highly prized by society: an ability to read with comprehension and critical judgment; to communicate accurately and clearly both orally and in writing; to grasp difficult ideas and think logically; to do research and organize materials; to make ethical and moral judgments from an historical and humanistic framework; and to appreciate literature and the arts.

The core of the English major consists of four basic kinds of courses in the upper division: literary history courses, literary genre courses, literacy seminars, and writing courses. The masterpiece courses apply to the minor and may meet General Education requirements. The department also offers courses in mythology and folklore, methods of research, film, and women's studies.

The Subject Matter Program for teaching credential candidates contains a number of specific prerequisites and special required courses, some of which are outside the Department of English. For specific program requirements, consult with the credential adviser each semester.

Faculty and Facilities

The English Department consists of 24 full-time faculty whose teaching fields cover every area of literary studies and the humanities, including film and folklore. Most of the faculty have published books, textbooks, and articles in their disciplines, five have received outstanding teaching awards at the university, and one has received an outstanding teaching award for the entire CSU system. In addition, the faculty includes a number of lecturers, part-time instructors and teaching assistants, and the department operates an English writing lab staffed by tutors trained to work with students on an individual basis.

Career Opportunities

English has a broad application to a variety of vocations: teaching, law, journalism, editing and publishing, business management, data processing, public office, professional careers in writing, and many others. English majors and minors are looked upon today with special favor by employers in professional and industrial fields because of their skills in writing and thinking, their ability to communicate clearly to others, and their general knowledge of people and experiences gained from the study of literature.

The English Department maintains an Internship Program whereby our majors and minors, while working toward a degree, are placed in vocational positions requiring English skills. Job opportunities through this program have included positions with such organizations as the American Cancer Society and Older Americans Organization, businesses such as computer software firms and publishers of national trade newsletters, and such various employers as local congressmen, assemblymen, charitable organizations, and arts centers.

Faculty

Lisa Weston, *Chair*

Linnea M. Alexander
Steven Adisasmito-Smith
Craig Bernthal
John Beynon
Steven Church
Virginia Crisco
Alex Espinoza
Magdalena Gilewicz
Kathleen Godfrey
Corrinne Hales
John R. Hales
Rick Hansen
Laurel Hendrix
Chris Henson
Asao B. Inoue
Randa Jarrar
Ruth Y. Jenkins
J. Lyn Johnson
Samina Najmi
Analola Santana
Tim Skeen
Clare-Marie Wall
James E. Walton
Bo Wang
Toni Wein

Bachelor of Arts Degree Requirements

English Major

Each student seeking a Bachelor of Arts with a major in English must fulfill the lower-division core, core competencies, and all requirements listed under the English major degree option. Students also must fulfill the university's General Education requirements (51 units). The English Department requires two college-level courses in the same foreign language for *both* English major degree options. No General Education integration course offered by the Department of English may be used to satisfy the General Education requirements for English majors.

English Major	*Units*
Major requirements	**48-57**
Lower-division core	(8)
ENGL 31, 32	
Core competencies	(8)
ENGL 105 and 189 (or approved topics course in Shakespeare)	
Options	(32-41)
I. The English Major	(32)
II. English Education	(39-41)
Electives and remaining degree requirements	**12-21**
(See *Degree Requirements*); may be used toward a double major or minor.	
General Education requirements	**51**
Total	**120**

Degree Options

I. The English Major

From the following three literature categories, select at least two courses before 1865.*

	Units
British Literature	(8)
Select two: ENGL 146, 147, 150, 151, 152, 156, 184, 187	
American Literature	(4)
Select one: ENGL 153, 154, 155	
World Literature	(4)
Select one: ENGL 112, 113, 114, 167	
Literature of Diversity	(4)
Select one approved course: ENGL 168T, 178, 179, 193T, 194T	
Approved upper-division electives in major	(12)
See adviser	
Total	**32**

* Definition of a course before 1865: ENGL 112, 113, 116, 146, 147, 150, 151, 153, 184, 187.

Advising Notes

1. A course may fulfill the requirement in more than one of the above content categories but will not reduce the number of total units required for the major.
2. The English Department requires that students take at least one senior seminar (ENGL 193T or 194T) in their senior year. This may fulfill an upper-division requirement or an elective.
3. ***CR/NC*** grading is not permitted in the English major with the exception of 4 units total of ENGL 175T and 186.
4. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. Not more than 6 units by extension and correspondence courses may be applied toward the English major; correspondence courses may be applied only if they are acceptable for the major at the college where the course is offered.
6. English majors are advised to select a course in English history as one of their upper-division electives.
7. English majors considering eventual graduate degrees should consult the graduate adviser.

Credential Program

This is a state-approved subject matter preparation program for the Single Subject Teaching Credential. It authorizes students to teach English in grades 7-12.

II. English Education

The following 28 units are required of all English credential majors regardless of extended studies emphasis.

	Units
ENGL 131	(4)
LING 146	(3)
LING 141	(3)
DRAMA 138A	(3)
COMM 103, 105, 114, or 115 (3 units)	(3)
ENGL 167 or 112	(4)
ENGL 193T or 194T	(4)
Literature of Diversity Select one approved course: ENGL 112, 113, 114, 178, 179, 193T (selected topics), 194T	(4)
Total	**28**

Select one of the following English education major extended studies emphases.

Literature Emphasis ..... ***(16)***

Creative Writing ..... (4)
Select one: ENGL 41, 43, 44, 161, 163, 164

Literature ..... (12)
Select a minimum of three approved courses: ENGL 112, 113, 114, 115W, 116, 146, 147, 150, 151, 152, 153, 154, 155, 156, 167, 168T, 169T, 171, 176T, 177, 179, 181, 183T, 184, 187, 193T, 194T

Composition and Rhetoric Emphasis ..... ***(15)***

Creative Writing ..... (4)
Select one: ENGL 41, 43, 44, 161, 163, 164

Theory ..... (11)
Select one: COMM 105, 140, 142
Select two: ENGL 181, 175T (Tutoring), 175T (Comp. Theory) or other approved courses

Creative Writing Emphasis ..... ***(16)***

Select two of the following sequences:
ENGL 41 and 161 ..... (8)
ENGL 43 and 163 ..... (8)
ENGL 44 and 164 ..... (8)

Linguistics Emphasis ..... ***(15)***

LING 100 ..... (3)
LING 147 ..... (3)
Select three courses in one of the following sequences: ..... (9)
Language Awareness Strand: LING 132, 138, 139, 142, 143, 144, 145, 148
Teaching English as a Second Language Strand: LING 132, 155, 165, 171

Theatre Education Emphasis ..... ***(17)***

DRAMA 32 or 33 ..... (3)
DRAMA 34* ..... (3)
DRAMA 110* ..... (3)
DRAMA 139 ..... (3)
DRAMA 185 or 186 ..... (3)
DRAMA 115 ..... (2)

*Requires DRAMA 115 to be taken concurrently.

Speech Emphasis ..... ***(15)***

Select two: COMM 3, 5, 7, 8 .... (6)
Select two: COMM 108, 162, 164 ..... (6)
Select any upper-division speech course not used in previous electives ..... (3)

Advising Notes

1. The English Education Program constitutes a pathway toward the English major for those students who wish to teach in California schools. This program combines the lower-division core, core competencies, English credential option, and selected extended studies emphasis.
2. Courses within the major cannot fulfill two requirements.
3. Courses may double-count in G.E. and extended studies emphasis.
4. Recommended G.E. courses for all English credential majors are as follows:
   - G.E. Area C1 - DRAMA 22, 62
   - G.E. Area C2 - LING 10 or foreign language courses
   - G.E. Area E - DRAMA 32
   - G.E. Area IC - DRAMA 163; PHIL 120, 150 or 151
   - G.E. Area ID - MCJ 178
   - G.E. Area MI - LING 147
5. Students must receive grades of either ***A*** or ***B*** in ENGL 105, 131, and 193/194T; earn a ***C*** or above in all other major classes; and maintain a GPA of 2.67 to be eligible to enter the credential program after earning a bachelor's degree.
6. Students must also complete a portfolio and interview in order to be subject matter competent in the eyes of the state of California.
7. Students must provide evidence of successful completion of an appropriate pre-program field experience or EHD 50 - Introduction to Teaching.
8. Credential candidates must take 1 unit of ENGL 182 concurrently with both EHD 155A and EHD 155B when completing professional education requirements necessary for the Single Subject Teaching Credential.
8. Students fulfilling the competency requirement by taking the CSET exam should make an appointment with a credential adviser to obtain a list of additional requirements.

English Minor

Students in many vocational fields often realize that special skill in writing may be of great use in their future work — and such skill can best be obtained through an English minor. The English Minor requires 20 units above ENGL 5B or 10, at least 12 of which must be upper division, and 4 of these units must be from 189 or 193T/194T. ENGL 160W does not apply to the English Minor. Courses taken as ***CR/NC*** may not apply to the minor with the exception of 4 units total of 175T and 186.

	Units
ENGL 189, 193T, or 194T	4
Other upper-division English courses (not including ENGL 160W)	8
Other English courses (not including ENGL 5B or 10)	8
Total	**20**

Note: The English Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Creative Writing Minor

The Creative Writing Minor offers substantial training for students wishing to supplement their major area work, prepare themselves better for graduate work, prepare for classroom teaching and other fields, or who simply have an interest in the art of literary writing. The Creative Writing Minor requires 20 units, at least 12 of which must be upper-division units. Courses taken as *CR/NC* may not apply to the minor.

	Units
Lower Division	
ENGL 41, 43, or 44	4-8
(Select a minimum of one course; transferrable credit acceptable)	
Upper Division	
ENGL 161, 163, or 164	8-12
(Select a minimum of two courses; if lower division was transferred, select three courses. Each course may be repeated one time.)	
Literature	
Select one: ENGL 101, 102, or 103	4
Total	**20**

Note: The English Minor also requires a 2.0 GPA and 8 upper-division units in residence. Prerequisites for courses may be waived only with permission of adviser and specific course instructor on the basis of an adequate writing sample.

Graduate Program

The Master of Arts program in English language and literature serves several categories of students: those teaching high school and community college; those anticipating doctoral studies; those studying creative or expository writing; and those simply interested in extending and intensifying the knowledge acquired in their undergraduate studies.

Admission to the Master of Arts program in English language and literature assumes preparation equivalent to an undergraduate major in English or a related field in the liberal arts. Courses which do not count toward the English major may not be used for the M.A.

Students who do not already have a bachelor's degree in English will need to take 16 units of upper-division undergraduate preparation in order to attain classified standing and before being allowed to enroll in graduate 250T literary seminars. These courses are prerequisites and will not count toward the 30 units of the M.A. Such students must successfully complete the following prerequisite courses:

1. ENGL 105, Introduction to Literary Analysis
2. British Literature: One of ENGL 146, 147, 150, 151, 152, or 156
3. American Literature: One of ENGL 153, 154, or 155
4. World Literature: One of ENGL 112, 113, 114, or 167.

In lieu of meeting the above undergraduate course requirements for classified standing, students may take the Subject Graduate Record Exam and submit a score above the 50th percentile. In the Literature and Composition Theory options, the advanced GRE (in literature) is not required, but it is recommended for students intending to pursue a doctorate.

To reach classified standing, both English and non-English majors must have achieved a GPA of 3.0 or better in their major. Foreign students must also submit TOEFL scores. In addition, all candidates must submit a writing sample to the graduate committee, whose approval is necessary for admission to the program. This writing sample is due to the department by March 1 for admission the following fall semester, or by Sept. 15 for admission the following spring. The writing sample must entail one 12- to 20-page essay that demonstrates a sustained analysis of literature; clarity, comprehensibility, and organization; appropriate research; and an ability to incorporate secondary and primary sources and to cite them according to MLA style guidelines.

If the writing sample submitted with the application to the program is not approved by the departmental graduate committee, the candidate may submit one additional revised or new writing sample for committee review. If the second writing sample is not approved, the candidate will not be admitted to the program. Approval of the writing sample satisfies the M.A. program's Graduate Writing Skills Requirement — see English Department's Advising Booklet for more information.

Consult the graduate adviser every semester for program planning.

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, Foreign Language Requirements,* and *Criteria for Thesis and Project.)*

Master of Arts Degree Requirements

Literature Option

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the following framework:

	Units
ENGL 250T and/or 280T	12
Other courses in English (see specific requirements)	4
ENGL 299 (Thesis)	2
Approved electives in English or other fields	12
Total	**30**

No more than 8 upper-division units will count toward the graduate degree.

Specific Requirements. The following areas must be covered by graduate or undergraduate courses (may be satisfied in undergraduate preparation): English literature (2 courses), American literature, world literature, Shakespeare, and Chaucer (1 course each).

In addition to the general Graduate Division requirements, advancement to candidacy requires a reading knowledge of one foreign language, to be demonstrated by examination, and a review by the graduate committee of the work already completed.

An interdisciplinary major may be constructed in consultation with the graduate adviser in which up to 12 units may be taken in departments other than English when such a program demonstrates a coherent program of study.

Composition Theory Option

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the following framework:

	Units
ENGL 250T or 280T	12
ENGL 270	4
ENGL 281	4
Approved electives in English or other fields	7-8
ENGL 299 (Thesis — writing theory or pedagogy)	2
ENGL 282	1
Total	**30-31**

No more than 8 upper-division units will count toward the graduate degree.

Teaching Requirement. At some period before the completion of the M.A. composition option, the candidate must be engaged in teaching or co-teaching a course with a strong writing component. While most candidates would be teaching in the English Department, other teaching assignments will apply with prior approval of the departmental graduate adviser. Enrollment in ENGL 282 should take place in the same semester that the student is fulfilling the teaching requirement.

In addition to the general Graduate Division requirements, advancement to candidacy requires a reading knowledge of one foreign language, to be demonstrated by passing an examination, and a review by the graduate committee of the work already completed.

Master of Fine Arts in Creative Writing

The M.F.A. in Creative Writing offers advanced degree training to talented students who wish to gain expertise in the writing of poetry, fiction, or creative nonfiction. It assumes that, as in music or the visual arts, the best education for the artist includes: training in the history and traditions associated with the student's discipline, training in theoretical and formal approaches to the craft, and extensive practice with critique of student work by peers and faculty writers. The program combines studio and academic approaches, providing the student with substantial critical workshop experience and a solid background in theory and literature.

Admission Requirements

Admission to the Master of Fine Arts in Creative Writing program requires: a baccalaureate degree from an accredited institution with a GPA of 3.0 or better in the undergraduate major (foreign students must score 600 or better on the TOEFL); three letters of recommendation from teachers, editors, or others familiar with the applicant's writing and academic skills; and a writing sample of the student's creative work (up to 10 poems or 20 pages of prose) to be evaluated by the creative writing admissions committee. The advanced GRE is not required.

Degree Requirements

In consultation with the M.F.A. adviser, each student prepares and submits a coherent program individually designed within the following framework:

London Semester

London will become your campus as you embark on this adventure in learning. You will see stage plays, tour the world's great art museums, watch the Houses of Parliament at work, visit Stonehenge, Stratford-upon-Avon, Canterbury Cathedral and historical villages as part of your class activities. A travel week in February lets you explore more of England, Scotland, or Ireland.

The semester begins in early January and ends in mid-April. The cost is not much more than a normal semester on campus. A typical semester offers 11 courses to select from, including London Art Tours, British Theatre, Shakespeare on Stage, English Writing Workshop, and courses which may meet General Education and major and minor requirements.

Program information, fees, and costs may be obtained form the London Semester Office, College of Arts and Humanities, Music Building, Room 186.

Call 559.278.3056
or e-mail *carla_millar@csufresno.edu*

	Units
ENGL 261 or 263 or 265	**16**
ENGL 241, 243, or 245 (one course in the student's focus genre and one in either of the other two genres)	**8**
ENGL 250T or 280T	**12**
Approved electives (upper-division or graduate level courses)	**12-14**
ENGL 299 (Thesis)	**4-6**
Total	**54**

Note: At least 70% (38 units) of coursework must be at graduate (200) level.

Specific Requirements

Thesis. The thesis for the M.F.A. in Creative Writing consists of a single book-length manuscript of fiction, a collection of poems, or creative nonfiction that works together to make a unified body of work. The thesis committee works closely with the student on style as well as content; it adheres to a high standard of publishable quality work. In lieu of a formal defense, the graduating student is required to give a public reading from his or her work.

Graduate Writing Requirement. Before advancement to candidacy, the student must also satisfy the Graduate Writing Skills Requirement. This requirement is met by submission and approval of a sample of scholarly writing. (This is distinct from the sample of creative work required for program admission.) See English Department's Advising Booklet for more information.

Subject Examination. In addition to the general Graduate Division requirements, students are required to pass the M.F.A. exit examination with a grade of ***B*** or above. Each student works with his or her adviser to create a reading list which will be approved by a three member committee. The exam consists of essay questions that allow the student to demonstrate a theoretical and critical knowledge of the craft, through using texts from his or her approved reading list.

Certificate of Special Study in Creative Writing

The Certificate of Special Study in Creative Writing is a 12-unit program intended for those persons who wish to study the art of literary writing in addition to earning a degree in English or another area, or without matriculating for a degree.

Admission to the program requires the consent of both the creative writing program coordinator and the chair of the department. The certificate program will comprise a minimum of 12 units of upper-division work. The required courses for the certificate program include

- ENGL 161: Advanced Writing of Poetry
- ENGL 163: Advanced Writing of Fiction
- ENGL 164: Advanced Writing of Creative Nonfiction (formerly Advanced Prose Writing)

Students may take 12 units composed of two courses in one genre (courses may be repeated one time) and one in either of the other genres; ***or*** students may take one course in each of the three genres.

Recommended: at least one course at the upper-division level in an area of contemporary literature.

Note: Prerequisites for the certificate may be waived only with permission of the adviser and specific course instructor.

Certificate of Advanced Study in Composition

The Certificate in Composition is a postbaccalaureate course of study in the theory and pedagogy of teaching writing. It is designed for Valley classroom teachers, those considering doctoral study in English, candidates for the M.A. in English, and community college teachers.

	Units
ENGL 270	4
ENGL 281	4
Electives (LING 237, 244, 251; COMM 214; ENGL 265 or other electives approved by graduate adviser. Some of the courses may have prerequisites)	6-8
Total	**14-16**

The student must earn a grade of ***B*** or better in all certificate of advanced study coursework. Students who fail to earn at least a ***B*** in a course may repeat it for an improved grade. Please note that grade substitution is not permitted at the graduate level and that a GPA of at least 3.0 must be accumulated for certificate of advanced study coursework.

COURSES
Early Start English (ESE)

ESE 1. Introduction to Academic Literacy (1 unit)
Meets the Early Start Requirement. Designed to prepare students for the university's first-year writing requirement by teaching students a variety of academic reading and writing strategies. *CR/NC* grading only.

ESE 3. English Strategies (3 units)
Exposure to a variety of texts. Quoting, paraphrasing, summarizing, and synthesizing ideas. Attention to vocabulary development and grammar/editing. Application of learning strategies and reflection on use of these strategies. Meets the university remediation requirement.

COURSES
English (ENGL)

ENGL RS. Writing Skills Application (1-3; max total 3 units)
Covers fundamental composition elements to aid the development of basic writing skills; not applicable toward baccalaureate degree requirements. *CR/NC* grading only. **FS**

ENGL 1L. Writing Tutorial (1 unit)
May be taken concurrently with ENGL 5A, 5B, 10, or 160W. Students work in a small group of two to three students with a tutor. They discuss writing assignments and collaborate by giving each other feedback and sharing strategies for revision. The tutor acts as a "personal trainer" by helping students understand and fulfill the demands of their assignments according to their individual needs. *CR/NC* grading only. (2 hours) **FS**

ENGL 2. Writing Workshop (1-4; max total 4 units)
Practical assignments and individual coaching on specific writing problems. For selected students this workshop may be required to be taken concurrently with, or as prerequisite to, other courses. **FS**

ENGL 5A. Academic Literacy I (3 units)
Practice in reading and writing processes; making literacy decisions based on audience, context, and purpose. Direct instruction on reading comprehension; genre analysis; planning, composing, and revising writing; research strategies; paragraph development, sentence competence, and grammatical conventions. With ENGL 5B, equivalent to ENGL 10. *CR/NC* grading only. **FS**

ENGL 5B. Academic Literacy II (3 units)
Prerequisite: completion of ENGL 5A with a grade of ***C*** or better. Continued study of reading and writing in various genres. Focus on research, analysis, synthesis, argument, and evaluation. Students are guided to analyze the rhetorical qualities of academic literacy and language. Longer papers, portfolio assessment. G.E. Foundation A2. With ENGL 5A, equivalent to ENGL 10. **FS**

ENGL 10. Accelerated Academic Literacy (3 units)
Reading and writing in academic and public genres; special attention to rhetorical decision-making and critical analysis. Guided instruction in reading and responding to texts. Participation in public and academic conversations via research in primary and secondary sources. G.E. Foundation A2. **FS**

ENGL 20. Introduction to Literature (4 units)
Prerequisites: G.E. Foundation A2 (ENGL 5B or 10). Introduction to literary appreciation and criticism through reading and close written analyses of short stories, novels, drama, and poetry from diverse Western and non-Western cultures. G.E. Breadth C2. **F**

ENGL 30. Masterpieces (4 units)
Prerequisites: G.E. Foundation A2 (ENGL 5B or 10). Introduction to literary appreciation and criticism through discussion and written analyses of widely influential poetic, dramatic, and fictional works by British, American, and world authors (Western and non-Western), including the cultural contexts for those works. G.E. Breadth C2. **FS**

ENGL 31. Readings in British Literature (4 units)
Prerequisite: ENGL 5B or 10. Chronological survey of British literature from medieval to contemporary. Discussion and written analyses of influential poetry, drama, fiction, and nonfiction, including historical and cultural contexts. Required for English majors. **FS**

ENGL 32. Readings in American Literature (4 units)
Prerequisite: ENGL 5B or 10. Chronological survey of U.S. literature from Native American oral traditions to contemporary writings. Discussion and written analyses of influential poetry, drama, fiction, and nonfiction, including historical and cultural contexts. Required for English majors. **FS**

ENGL 41. Poetry Writing (4 units)
Beginning workshop in the writing of poetry; appropriate reading and analyses. G.E. Breadth C1. **FS**

ENGL 43. Fiction Writing (4 units)
Beginning workshop in the writing of fiction; appropriate reading and analyses. G.E. Breadth C1. **FS**

ENGL 44. Creative Nonfiction Writing (4 units)
Beginning workshop in lyric essay, memoir, and other forms of creative nonfiction writing; appropriate readings and analysis. G.E. Breadth C1. **FS**

ENGL 50T. Studies in Literature (1-4; max total 8 if no topic repeated)
(Same as WS 50T, Women in Novels section.) Prerequisite: ENGL 5B or 10. Sections designated as emphasizing certain writers, types, or themes, e.g., Shakespeare, The Poem, Literature of Protest, Women in Novels. Appropriate readings and analyses.

ENGL 100W. Writing Skills (1 unit)
Credit obtained only by passing the Upper-Division Writing Skills Examination and upon request. *CR/NC* grading only. **FS**

ENGL 101. Masterpieces of World Literature (4 units)
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of influential poetry, drama, fiction, and nonfiction (in translation) from throughout the world, including historical and cultural contexts. Not applicable to the English major. G.E. Integration IC. **FS**

ENGL 102. Masterpieces of English Literature (4 units)
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of influential poetry, drama, fiction, and non-fiction by British authors as well as colonial and post-colonial works influenced by English literature. Historical and cultural

contexts of literary works. Not applicable to the English major. G.E. Integration IC. **FS**

ENGL 103. Masterpieces of American Literature (4 units)
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of influential drama, fiction, and nonfiction by American authors and representing the cultural diversity of the nation. Historical and social contexts of literary works. Not applicable to the English major. G.E. Integration IC. **FS**

ENGL 104. Children's and Adolescent Literature (4 units)
Survey of the major forms and genres of children's literature. Designed primarily for future elementary school teachers. May not be used for credit toward the English major. **FS**

ENGL 105. Introduction to Literary Analysis (4 units)
Prerequisites: ENGL 31 and 32. The theory and practice of literary analysis. Examination of the concept of literary tradition; consideration of research methods; application of critical theory to textual analysis and the writing of literary criticism. Required for English majors. **FS**

ENGL 112. World Literature: Ancient (4 units)
Prerequisites: G.E. Foundation and Breadth Area C. Analysis of texts (in translation) from circa 1650 BCE - 750 CE, from areas such as China, India, Egypt, Israel, Greece, and Rome. Possible topics: epics and empires, civilization and wilderness, lyric experience, dramatizations of love and terror, and quests for wisdom. G.E. Integration IC. **FS**

ENGL 113. World Literature: Medieval and Renaissance (4 units)
Prerequisites: G.E. Foundation and Breadth Area C. Analysis of texts (in translation) from circa 750-1650, from areas such as Japan, Mali, Mexico, Spain, and Persia. Possible topics: travelers' tales and intercultural encounters, satire and social critique, poetic and narrative self-fashioning, patronage and eroticism in court poetry. G.E. Integration IC. **F**

ENGL 114. World Literature: Modern (4 units)
Prerequisites: G.E. Foundation and Breadth Area C. Analysis of texts (Anglophone and in translation) from c. 1650 to the present, from areas such as Africa, Asia, Europe, and Latin America. Possible topics: imperialism and resistance, enlightenment, Romanticism, nationalism, modernism, postcolonialism, globalization, migration, evolving cultural and sexual identities. G.E. Integration IC. **FS**

ENGL 115W. Literature of the New Testament (3 units)
(See PHIL 133W.) Meets the upper-division writing skills requirement for graduation.

ENGL 116. Literature of the Old Testament (4 units)
(See PHIL 134.)

ENGL 117W. Writing from Children's Literature (3 units)
Prerequisite: satisfactory completion of G.E. Foundation and Breadth Area D. Includes intensive, inquiry-based writing that emerges from the study of children's literature from grades K-6. Meets upper-division writing requirement. Enrollment limited to liberal studies majors.

ENGL 131. Literacy Studies (4 units)
Corequisite: ENGL 105. Examines current issues in the field of literacy studies pertaining to English education. Particular emphasis given to literacy acquisition, adolescent literacy, and the discourses of literary analysis and writing pedagogy. Required for English credential majors. **S**

ENGL 146. Medieval Literature (4 units)
Corequisite: ENGL 105. Analysis of British texts, c. 500-1500 A.D. Topics may include oral and manuscript cultures; religious, linguistic, and political conversion; and class, gender, and sexuality in the literatures of monastery, court, and marketplace. **F**

ENGL 147. English Renaissance Literature (4 units)
Corequisite: ENGL 105. Analysis of British texts, 1500-1660 A.D. Topics may include Renaissance humanism, Reformation, Counter-Reformation, New World exploration, conflicting political and social cultures of court and city, the rise of print, the advent of English theater, and the development of vernacular literary forms. **S**

ENGL 150. Restoration and 18th Century Literature (4 units)
Corequisite: ENGL 105. Analysis of British texts, 1660-1800 A.D. Topics may include commerce and mercantilism, colonialism and global trade, crime and poverty, and an increased emphasis on feminine domesticity and masculine civic virtue. **F**

ENGL 151. British Romantic Literature (4 units)
Corequisite: ENGL 105. Analysis of texts, 1789-1832 A.D., period of the French and Industrial Revolutions. Topics examine how expansions in the literary marketplace intersect with the growth of domestic ideology and the idea of "natural" rights to form national identity. **S**

ENGL 152. Victorian Literature (4 units)
Corequisite: ENGL 105. Analysis of British texts, 1832-1901 A.D. Topics may include the condition of England, the spiritual crisis and science, empire and travel, cultural identity, and the "Woman Question." **F**

ENGL 153. American Literature to 1865 (4 units)
Corequisite: ENGL 105. Analysis of texts, pre-contact to the Civil War. Topics may include American Indian creation stories and oral narratives, exploration, colonialism, Puritanism, frontier life, transcendentalism, and slavery. **S**

ENGL 154. American Literature 1865 to World War I (4 units)
Corequisite: ENGL 105. Analysis of texts from Reconstruction to 1918. Topics may include the women's rights movement, realism and naturalism, urbanization and industrialization, and migration and immigration. **S**

ENGL 155. Modern and Contemporary American Literature (4 units)
Corequisite: ENGL 105. Analysis of texts since World War I. Topics may include alienation and disillusionment, self-conscious experimentation, the impact of the media and technology, social movements and identity politics, globalization, and postmodernism. **FS**

ENGL 156. Modern and Contemporary British Literature (4 units)
Corequisite: ENGL 105. Analysis of texts since 1901. Topics may include the collapse of empire, exiles and immigrants, postcolonialism and the commonwealth, the effects of industrialization and urbanization, feminist and sexual liberation movements, and modernism and postmodernism. **FS**

ENGL 160W. Writing Workshop (4; max total 8 units)
Prerequisite: satisfactory completion (*C* or better) of the ENGL 5B or 10 graduation requirement. Practical assignments in writing, directed according to each student's individual needs. May be elected as preparation for special composition requirements. Does not apply to the English major or minor. Meets the upper-division writing skills requirement for graduation.

ENGL 161. Advanced Writing of Poetry (4; max total 8 units)
Prerequisite: ENGL 41. Intensive workshop in the writing of poetry; appropriate readings and analyses. **FS**

ENGL 163. Advanced Writing of Fiction (4; max total 8 units)
Prerequisite: ENGL 43. Intensive workshop in the writing of fiction; appropriate readings and analyses. **FS**

ENGL 164. Advanced Writing of Creative Nonfiction (4; max total 8 units)
Prerequisite: ENGL 44. Intensive workshop in memoir, lyric essay, and all other forms of creative nonfiction writing; appropriate readings and analyses. **FS**

ENGL 167. Mythology and Folklore (4 units)
Discussion and written analyses of the structure, content, and function of myth and folklore in world literature, with particular emphasis on the relationships among language, myth, and culture. **S**

ENGL 168T. Women and Literature (4; max total 8 if no topic repeated)
(Same as WS 168T.) Prerequisite: ENGL 20. Discussion and written analysis of literature by and about women. Special emphasis on 19th and 20th Century authors including the Brontes, George Eliot, Emily Dickinson, Edith Wharton, Virginia Woolf, and contemporary writers. **S**

ENGL 169T. Forms of Literature (1-4; max total 8 if no topic repeated)
Sections designated as emphasizing poetry, drama, novel, short story, perhaps limited to a specific period or subclass; for example, 18th Century English Novel, 20th Century British and American Poetry, Modern Short Stories, 20th Century Drama, Tragedy, Folklore, Mythology. Discussion and written analyses are required. **S**

ENGL 171. Biography and Autobiography (4 units)
Reading, discussion, and written analyses of selected biographical or autobiographical works, including such topics as literary biography, the autobiographical essay, memoirs, and issues of gender and ethnicity in biographical form. **F**

ENGL 174. Popular Fiction (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Survey of major types of popular genre fiction (detective, horror, spy, science fiction, Western, fantasy, etc.) Discussion; writing. Examination of works in cultural and historical context and as literary and commercial art. G.E. Integration IC. **FS**

ENGL 175T. Lectures in Literature (1-4; max total 8 if no topic repeated)
Lectures in a selected topic in literature or related fields by the regular faculty and/or visiting lecturers.

ENGL 176T. Genre Film: Form and Function (1-4; max total 8 if no topic repeated)
(Same as WS 176T.) Discussion and close written analyses of selected topics, including such types as comedies, musicals, horror films, westerns, etc. **S**

ENGL 177. Literature, Cinema, and the Liberal Arts (4 units)
Explores humanistic themes and motifs through comparative analysis of works of literature, drama, and contemporary cinema. Examines how film and the other arts shape and reflect American values. Two essay midterms. Final project/paper. Five thousand word writing requirement.

ENGL 178. Lesbian and Gay Literature (4 units)
Prerequisite: ENGL 105 or permission of the instructor. Discussion and written analysis of literature that explores lesbian, gay, bisexual, transgender, and/or queer identities and experience. Also considers how cultural and historical forces shape current notions of sexual identity and community. (Formerly ENGL 193T)

ENGL 179. Multi-Ethnic American Literature (4 units)
Prerequisite: ENGL 5B or 10. Discussion and written analysis of selected poems, plays, fiction, and memoirs by authors from several American ethnic backgrounds, such as African American, American Indian, Latino/Hispanic American, and Asian American. **S**

ENGL 181. Literary Theory and Criticism (4 units)
A survey of literary theory, including Marxism, feminism, psychoanalysis, deconstruction, structuralism, and post-structuralism. Topics also include the history of literary criticism and the practice of interpretation. Discussion, lectures, written analyses. **FS**

ENGL 182. English Workshop (1-4; max total 8 units)
Seminar in composition and learning. Discussion and practical exercises concerning theory, evaluation, and improvement of language learning and composition. ***CR/NC*** grading only. **FS**

ENGL 183T. Seminar in Literature (1-4; max total 8 units)
Prerequisite: appropriate upper-division literature course. Designed for students interested in in-depth study of a literary topic; recommended for liberal studies majors. Seminar in an aspect of literary history, type, period, movement, individual author. Reports and written analyses required.

ENGL 184. Chaucer (4 units)
Reading, discussion, and written analyses of the major works of Geoffrey Chaucer. **F**

ENGL 185. English Internship Seminar (2 units)
Prerequisite: permission of instructor. Seminar to be taken concurrently with ENGL 186 during the first semester of enrollment in program. Group and individual analyses of writing done in internship assignments. Discussion of the rhetorical problems of writing for public agencies, magazines and journals, and private industry. **FS**

ENGL 186. Internship in English (2-6; max total 6 units)
Prerequisite: permission of instructor. No more than 2 units of ENGL 186 may apply to the English major. See also ENGL 185. Supervised work experience in public agencies and private industry to provide an opportunity to develop professional writing skills. Approved for ***RP*** grading. ***CR/NC*** grading only. **FS**

ENGL 187. Milton (4 units)
Reading, discussion, and written analyses of the major works of John Milton. **S**

ENGL 189. Shakespeare (4 units)
(Same as DRAMA 194.) Reading and written analyses of the major works of Shakespeare. **FS**

ENGL 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

ENGL 191. Supervised Independent Reading (1-4; max total 4 if no topic repeated)
Prerequisite: permission of instructor. Reading works from a literary period (for example, Beowulf to Marlowe, American Literature to Whitman, World Literature: Ancient and Medieval) and discussion in individual conferences. **FS**

ENGL 192. Projects in English (1-4; max total 8 units)
Not applicable to English major. Individual projects in problems related to teaching English composition and literature; for example, tutoring minority students, investigating the effectiveness of programs in English composition and literature, devising new approaches to teaching English. ***CR/NC*** grading only.

ENGL 193T. Seminar in Literary Studies (4; max total 8 if no topic repeated)
No more than 12 units of ENGL 193T-194T may be applied to the English major. Sections designated by topic. Individual projects; reading, discussion, and writing of papers on individual writers (for example, Milton, D.H. Lawrence), short periods of literary history (for example, Romantic Poets, Modern Novel), literary themes and traditions (for example, Transcendental Vein in American Literature, Arthurian Tradition) literary criticism (for example, Problems in Modern Criticism, Archetype and Myth), and other special topics. ENGL 193T should ordinarily not be taken until 3 upper-division courses in English have been completed. **FS**

ENGL 194T. Seminar in Women and Literature (4; max total 8 if no topic repeated)
(Same as WS 194T.) May be substituted for ENGL 193T in the English major; no more than 12 units of ENGL 193T-194T applicable to the major. Sections designated by topic. Individual projects; reading, discussion, and writing papers on individual women writers or some aspect of women in literature; for example, Doris Lessing, Myth and Archetypes of Women. ENGL 194T should ordinarily not be taken until 3 upper-division courses in English have been completed.

GRADUATE COURSES

(See *Catalog Numbering System.*)

English (ENGL)

ENGL 241. Seminar in Form and Theory: Poetry (4; max total 12 units)
Prerequisite: normally limited to students enrolled in the graduate creative writing program; others admitted by permission of instructor. Seminar in literary craft designed primarily for the graduate writing student to provide intensive study of current and traditional formal, stylistic, and technical issues and controversies in the genre (for example, traditional prosody, non-traditional poetics, and contemporary lyric).

ENGL 242. Literary Editing and Publishing (4; repeatable)
Prerequisite: normally limited to students enrolled in the graduate creative writing program; others admitted by permission of instructor. Seminar in evaluating literary manuscripts, including but not limited to poetry collections submitted for the annual Philip Levine Prize in Poetry. Issues of aesthetic, book manuscript development, literary contest administration, and poetry book production and marketing.

ENGL 243. Seminar in Form and Theory: Fiction (4; max total 12 units)
Prerequisite: normally limited to students enrolled in the graduate creative writing program; others admitted by permission of instructor. Seminar in literary craft designed primarily for the graduate writing student to provide intensive study of current and traditional formal, stylistic, and technical issues and controversies in the genre (for example, narrative theory and non-traditional fictional forms).

ENGL 245. Seminar in Form and Theory: Creative Nonfiction (4; max total 12 units)
Prerequisite: normally limited to students enrolled in the graduate creative writing program; others admitted by permission of instructor. Seminar in literary craft designed primarily for the graduate writing student to provide intensive study of current and traditional formal, stylistic, and technical issues and controversies in the genre (for example, traditional and nontraditional essay forms, memoir, prose theory).

ENGL 250T. Seminar in Literature (4; repeatable with different topics)
Prerequisites: major or minor in English; permission of instructor. Seminar in an aspect of literary history, type, period, movement, or an individual author (for example, Fiction, Seventeenth Century Lyric Poetry, The Irish, Dickens).

ENGL 261. Seminar: Writing Poetry (4; repeatable)
Prerequisite: permission of instructor. Advanced individual projects in the writing of poetry.

ENGL 263. Seminar: Writing Fiction (4; repeatable)
Prerequisite: permission of instructor. Advanced individual projects in the writing of fiction.

ENGL 265. Seminar: Writing Creative Nonfiction (4; repeatable)
Prerequisite: permission of instructor. Advanced individual projects in the writing of creative nonfiction.

ENGL 270. Writing Workshop for Teachers (4 units)
Prerequisites: major or minor in English; permission of instructor. Workshop emphasizing writing theory. Study of current writing theory and pedagogical techniques will be integrated with discussions of writing produced during the course.

ENGL 278T. Seminar in Composition Studies (4; max total 8 units)
Seminar exploring focused topics in composition studies, including but not limited to research methods in the field, literacy theory, rhetorical theory, stylistics, genre studies, writing assessment, teaching with technology, and the intersections of culture and writing.

ENGL 280T. Seminar in Critical Theory (4; max total 12 if no topic repeated)
Prerequisites: major or minor in English; permission of instructor. Seminar in literary criticism (for example, Literary Critics).

ENGL 281. Current Writing Theory (4 units)
Prerequisites: major or minor in English; permission of instructor. Designed to acquaint the student with current key issues in composition theory and the theoretical implications for course design and pedagogy.

ENGL 282. Practicum in the Teaching of Writing (1 unit)
Prerequisite: permission of instructor. Discussion of theoretical issues as they apply to the writing classroom. Normally taken concurrently with the composition option teaching requirement. ***CR/NC*** grading only.

ENGL 286S. Practicum in Literary Arts Publishing and Programming (1-6; 6 units max total)
Limited to students enrolled in the MFA program. Supervised work on editorial staff of professional magazine; projects in arts programming and service-learning. Repeatable for credit. Letter grade only. (Formerly ENGL 286)

ENGL 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

ENGL 291. Supervised Independent Reading (1-4; max total 4 if no topic repeated)
Prerequisite: permission of instructor. Reading works from a literary period (for example, More to Milton, 20th Century American Literature, World Literature, Renaissance-Modern) and discussion in individual conferences. Approved for ***RP*** grading.

ENGL 298. Project (2 units)*
Prerequisite: See *Criteria for Thesis and Project.* Revising, amending, and editing of three original scholarly papers produced while enrolled in graduate seminars, with the goal of creating publishable journal articles. The student's committee must approve of the scope and quality of the papers. Abstract required. Approved for ***RP*** grading.

ENGL 299. Thesis (2-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

English (ENGL)

ENGL 300. English Colloquium (2; max total 6 units)
Credit is not applicable to degrees or major requirements in credentials. Prerequisite: teaching experience. Problems in composition, literature, or linguistics in relation to teaching.

Humanities - Interdisciplinary

College of Arts and Humanities

Office of the Dean
Music Building, Room 186A
559.278.3056

Bruce S. Thornton, *Coordinator*
559.278.2386

Honora H. Chapman
559.278.4757

Kristi A. Eastin
559.278.1108

Humanities Interdisciplinary Minor

College of Arts and Humanities Honors Program

The College of Arts and Humanities Honors Program is designed to provide the opportunity for advanced interdisciplinary studies for upper-division students with outstanding scholarly and creative achievements. The program also provides interaction with a community of intellectual peers in arts and humanities and related disciplines. The program consists of a three-course commitment (9-10 units), beginning with the 3-unit Honors Seminar (Arts and Humanities 100H) taken in the second semester of the junior year. Each participating department will then provide courses or an independent study option for honors students for the subsequent first semesters of the senior year, culminating in the student's completion of a research/creative project in the second semester of the student's senior year. A 3-unit Honors Colloquium (Arts and Humanities 101H) will serve as a culmination experience for students to present and discuss their research/creative projects. This program will encourage students to cross traditional disciplinary boundaries through discussion with faculty and fellow students in different departments and to work closely with faculty toward the completion of a research or creative project of the student's choice.

Application Criteria. Students with a 3.5 cumulative GPA in the last 60 units are eligible to apply. Application for the Honors Program includes the following: a current copy of transcript, a written personal statement, a substantial sample of the student's writing and/or creative work, and a letter of recommendation/nomination from a Fresno State faculty member willing to serve as mentor/adviser to the student for the honors thesis/project. The student must successfully complete and earn a grade of *A* in the Arts and Humanities Honors Seminar (AH 100H) to continue in the program.

Applications are accepted in September for the following spring semester.

The Minor

The Humanities Interdisciplinary Minor surveys relationships among philosophy, literature, music, architecture, sculpture, and painting. It also makes some use of science, popular culture, contemporary events, and whatever else is relevant that may come to hand in order to explore as richly as possible the interrelationships among arts and ideas. And it does so for entire cultures, subdivided, of course, into their major periods.

Humanities Interdisciplinary Minor	*Units*
HUM 10 and 11	**6**
HUM 15 or 104 or 118	**3**
HUM 108 and 110	**6**
Approved Electives (select from remaining humanities courses or from other pertinent courses approved by the faculty adviser)	**6**
Total	**21**

Note: The Humanities Minor also requires a 2.0 GPA and 6 upper-division units in residence.

COURSES

Arts and Humanities (AH)

AH 1T. Topics in Arts and Humanities (1-2; max total 2 units)
Combination of relevant study of cultural and critical topics with strong reasoning skills designed for high school students who are members of the Academic Decathlon teams in Fresno and surrounding counties. (Formerly HUM 1T)

AH 100H. Arts and Humanities Honors Seminar (3 units)
Investigation of arts and humanities issues such as communication of ideas, language, theatrical and musical expression, myth, memory, identity (gender, race, nationality), reason and emotion, love and sex, violence and war, nature and the environment, and happiness. (Formerly HUM 101T)

AH 101H. Arts and Humanities Honors Colloquium (3 units)
Refinement, completion, and presentation of honors thesis/project. (Formerly HUM 101T)

AH 116. Humanities in the Modern Era (3 units)
An examination of art, literature, philosophy, and music and their interrelationships in the Western world during the 19th and 20th centuries up to the present day.

Humanities (HUM)

HUM 1T and 101T. Topics in Humanities (1-4; variable; max total 12 if no topic repeated)
Selected topics in the humanities not normally covered by regular course offerings. 1T - **FS**; 101T - **SF**

HUM 10. Humanities from Antiquity to the Renaissance (3 units)
Prerequisite: G.E. Foundation A2. Interrelationships among art, literature, music, and philosophy, from Greece and Rome through the Renaissance. G.E. Breadth C2. **FS**

HUM 11. Humanities from the Baroque to the Modern (3 units)
Prerequisite: G.E. Foundation A2. Interrelationships among art, literature, music, and philosophy, from the 17th century Age of Reason to the present. G.E. Breadth C2. **FS**

HUM 15. Classical Myth and World Humanities (3 units)
Prerequisite: G.E. Foundation A2. A study of classical myth and its themes and ideas in the context of modern world humanities. Study in the techniques of analyzing myth in primary works, from diverse media and cultures. Two thousand word writing requirement. G.E. Breadth C2. **FS**

HUM 20. Introduction to Hispanic Literature (3 units)
Prerequisite: G.E. Foundation A2. Reading of Hispanic fiction, poetry, and drama with the goal of understanding the close relationship between Hispanic literature and culture. Instruction in techniques of literary criticism. Taught in English using English translations of important works of Hispanic literature. G.E. Breadth C2. **FS**

HUM 21. Introduction to Literature of Portuguese-speaking Peoples (3 units)
Readings of fiction and poetry from Portuguese-speaking (Lusophone) countries with the goal of understanding the close relationship between Lusophone literature and culture. Instruction in techniques of literary criticism. Taught in English using translations of representative works of Lusophone literature.

HUM 50. Critical Thinking on Global Issues (3 units)
Students identify and critically examine the seven areas of change expected to be most "revolutionary" in the coming decades, including population, resources, technology, information, economic integration, security and conflict, and governance. Focuses on how these areas inter-relate and how students can enable a more preferable future.

HUM 104. Humanities in the Middle Ages and Renaissance (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. An examination of art, literature, philosophy, and music and their interrelationships in European culture during the Middle Ages and Renaissance. G.E. Integration IC. **SF**

HUM 108. Humanities in Classical Athens (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. An examination of the unique cultural environment of the ancient city, its art, architecture, literature, social and political structures, and their interrelationships as manifested in fifth century Athens. G.E. Integration IC. **SF**

HUM 110. Humanities in Republican and Imperial Rome (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. An examination of the unique cultural environment of the ancient city, its art, architecture, literature, social and political structures, and their interrelationships as manifested during Republican and Imperial Rome. G.E. Integration IC. **SF**

HUM 118. Folklore in Contemporary Life (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Interdisciplinary study of the role of folklore in contemporary life, its power to communicate critical issues through expressive culture, e.g., jokes, legends, folk songs, graphic arts and festival; special focus on the intellectual currents influencing the study of folklore. G.E. Integration IC. **SF**

HUM 130. Latin American Cultures and Traditions (3 units)
A study of Hispanic cultural and aesthetic trends and practices as seen in the popular and formal arts and other styles of Hispanic thought, feeling, and expression.

HUM 140. Tradition and Change in China and Japan (3 units)
(See ANTH 125.) G.E. Multicultural/International MI.

HUM 150. Indic Cultures and Traditions (3 units)
Study of the cultures and traditions of the Indian Subcontinent as part of the common human heritage, and for informed perspectives on international issues. Understanding of peoples of South Asia: their lifestyles, world views, and experiences; the development of their intellectual, aesthetic, and spiritual traditions; and their current aspirations and problems.

HUM 177. Global Challenges (3 units)
Helps students become more globally competent by looking at different countries, cultures, and ethnicities through the lens of seven large global challenges: population, resources, technology, information, economic integration, security and conflict, and governance.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Humanities (HUM)

HUM 300T. Topics in Humanities (1-3; max total 12 if no topic repeated)
Selected areas in humanities.

Linguistics

College of Arts and Humanities

Department of Linguistics
Xinchun (Jean) Wang, *Chair*
Denise Bissett, *Administrative Support Coordinator*
Peters Business Building, Room 383
559.278.2441

B.A. in Linguistics
Options:
- Teaching English as a Second Language
- General Linguistics
- Computational Linguistics
- Interdisciplinary Language Studies

M.A. in Linguistics
Option:
- Teaching English as a Second Language

Minor in Linguistics

Minor in Chinese

Minor in Computational Linguistics

Minor in Cognitive Science
(See Special Programs)

Minor in Japanese

Minor in Teaching English as a Second Language

Undergraduate Certificate in TESOL

Graduate Certificate in TESOL

The Department

Language is an essential part of our life. Nothing characterizes humanity more than the ability to use language. Linguists analyze sounds, words, sentences, and texts. Linguists also make valuable contributions to practical fields such as K-12 teaching, second and foreign language teaching, language planning, translation, computer science, forensic linguistics, and language disorders.

Computational applications of linguistics, such as speech synthesis, speech recognition, and machine-assisted translation, have also become increasingly important.

Our undergraduate and graduate programs develop intellectual skills that are essential to professional careers or advanced degrees. Our courses provide analytical tools that can be applied to virtually any subject. They also help enhance critical thinking, satisfy broad intellectual interest, and enrich personal knowledge.

Our majors can be applied directly to various professional fields. They also serve as excellent preparation for pursuing advanced degrees in linguistics and other fields such as English, anthropology, psychology, sociology, computer science, and foreign languages. TESL is an important part of our program and especially compatible with degrees in education and liberal studies. A Japanese minor can be profitably combined with majors in such areas as business, international relations, linguistics, and literature.

Minors in Chinese and Japanese are also available for students with plans to pursue careers in various areas, such as international business, marketing, economics, art and literature, etc., where a knowledge of language and culture would be useful.

The B.A. Option in Computational Linguistics is for those students interested in text processing, forensic linguistics, software design, machine translation, and other professions dealing with the interface between computers and humans.

Facilities

The Department of Linguistics has a computer lab for computer-assisted language learning (CALL), for language study, for the analysis of speech sounds, and for displaying the operation of the organs of speech. Computers are used for simulating speech and for mapping the geographical extent of language features, as well as for storing the data needed for the making of grammars and dictionaries. The Linguistics Department provides practical classroom teaching experience for qualified ESL students through employment in the American English Institute. For more, see American English Institute in the *Special Programs* section of this catalog. Also associated with the Linguistics Department is the Forensic Linguistics Institute (FLI). The FLI provides analyses in linguistic stylistics to extramural clients, thereby giving Fresno State linguistics majors opportunities for work, study, and research.

Career Opportunities

Many of our B.A. students want to pursue careers in education. There are several ways to do this. Students interested in teaching grades 7-12 can enroll in the English Department Credential Program with a linguistics emphasis. Students can double major in linguistics and liberal studies, or minor in linguistics with a liberal studies major to lead to a Multiple Subject Credential for K-6 instruction. Students who pursue a major in linguistics by itself may enter the Multiple Subject Credential Program with satisfactory completion of the CSET Exam. Many linguistics graduates find jobs teaching English overseas.

Students with a B.A. or M.A. in Linguistics can go on for further education in a wide variety of fields. In law or criminology, they have a special understanding of legal issues involving language or the use of language evidence in litigation (forensic linguistics). With additional work in computer science, the linguistics student can find employment in software development working with computer language or making the interface smoother between human and computer. After further training, some linguistics students work for the Central Intelligence Agency, the National Security Agency, the Peace Corps, the United States Information Agency, the military, or the State Department monitoring foreign news or doing cryptography, language instruction, or translation. Many corporations recruit linguistics majors into management, development, and marketing positions. Enterprising linguistics students have developed service-related businesses in consulting, interpretation, translation, or communication.

After the Master of Arts in Linguistics, many of our students are accepted into Ph.D. programs in the best research universities in the U.S. in applied or theoretical linguistics, ESL, education, anthropology, psychology, or other majors. The M.A. Option in TESL prepares students for Ph.D. programs or teaching/administrative positions overseas, in community colleges, and in adult schools.

Faculty

Xinchun (Jean) Wang, *Chair*
Sean Fulop, *Graduate Adviser*

Brian Agbayani
Barbara Birch
Jidong Chen
Chris Golston
Ellen Lipp
Vida Samiian

Bachelor of Arts Degree Requirements

Linguistics Major

A B.A. with a major in linguistics requires 36-55 units completed in one of the options outlined below, the General Education requirement, specific course/skill requirements, and electives and remaining degree requirements totaling at least the 120 units required for a B.A.

The B.A. program in Linguistics is diversified but integrated. Four options are available: (1) Teaching English as a Second Language, (2) General Linguistics, (3) Computational Linguistics, and (4) Interdisciplinary Language Studies. In each option, students receive a basic grounding in the nature and structure of human language.

	Units
Major requirements	**36-55**
A. Core	**18**
LING 100, 139, 142, 143, 148, 165	
B. Options	**18-37**
I. *Teaching English as a Second Language*	*18*
LING 132, 141, 146, 155, 171	(15)
Elective: any upper-division course in linguistics	(3)
II. *General Linguistics*	*18*
LING 134, 139, 145, 149, 152	(15)
Elective: any upper-division course in linguistics	(3)
III. *Computational Linguistics*	*36-37*
Prerequisites: CSCI 40, 41, 60; MATH 75	(16)
LING 139, 149, 152	(9)
CSCI 117, 119	(8)
Elective: select from any upper-division course in linguistics or CSCI 115, 130, 164, 166, 186	(3-4)
IV. *Interdisciplinary Language Studies*	*18*
Choose Plan A or Plan B	
A. *Depth Plan* in one language (Spanish, French, Japanese, or German)	
Required for Spanish: SPAN 130, 137, 139. Electives approved by the adviser (9 units).	
Required for French: FREN 103 (6 units), 132. Electives approved by the adviser (9 units).	
Required for Japanese: JAPN 1A, 1B, 2A, 2B, 100; LING 120	
Required for German: GERM 1A, 1B, 2A, 2B, GERM 101, 150	
See advising notes 5 and 7.	
B. *Breadth Plan* lower-division and/or upper-division courses in various languages (American Sign Language, Armenian, Chinese, French, German, Greek, Hmong, Italian, Japanese, Latin, Portuguese, Sanskrit, and/or Spanish.) See advising notes 5, 6, and 7.	
General Education requirements	**51**
Electives and remaining degree requirements	**14-33**
Total	**120**

Advising Notes

1. No General Education Integration course offered by the Department of Linguistics may be used to satisfy the General Education requirements for linguistics majors.
2. *CR/NC* grading is not permitted in the linguistics major.
3. General Education and elective units can be used toward a double major or minor. (See *Double Major* or departmental minor.) Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. See adviser for list of approved electives.
5. Students who have studied a language in high school or community college, or who by culture and experience have a certain level of proficiency, must consult with an adviser in the language to determine their placement in lower- or upper-division coursework.
6. Students must fulfill the 18 units by taking language courses in a minimum of two languages and not more than three languages. Students must maintain a *B* average in the languages taken.
7. Literature courses in the language may be used with permission of adviser. Except for LING 120, courses taught in English do not count toward the required courses for Plan A or Plan B.

Minors

Each of the four minors also requires a 2.0 GPA and 6 upper-division units in residence.

Linguistics Minor

	Units
LING 10 or 100, 134 or 146	**6**
Approved electives	**15***
Total	**21**

Chinese Minor

	Units
Select from CHIN 1A, 1B, 2A, 2B, 100, and LING 190	**15**
Approved elective	**3**
Select from ANTH 124, 125, 126, or a course approved by the Chinese program coordinator	
Total	**18**

The Chinese minor also requires a 2.0 GPA and 6 upper-division units in residence.

Computational Linguistics Minor

	Units
LING 100, 149, 152	**9**
LING 139 and 142 or 143 and 144	**6**
Total	**15**

Advising Note

A strong background in computer science is necessary for the Computational Linguistics Minor. It is open to computer science majors or by consent of the Linguistics Department chair.

Japanese Minor

	Units
JAPN 1A, 1B, 2A, and 2B	**12**
Approved electives	**6***
Select the elective courses from JAPN 100, LING 120, LING 190 (Independent Study) or other courses approved by the Japanese minor coordinator.	
Total	**18**

Teaching English as a Second Language Minor

	Units
LING 134 or 146, 141, 171, 147	**12**
Approved electives	**6***
Total	**18**

*See *Advising Note 4* above.

Certificate in TESOL

The Certificate of Special Study in Teaching English as a Second Language is intended for local and international students who wish to specialize in English as a Second Language methods.

LING 100
LING 141
LING 171
LING 155

Advising Note: We strongly recommend that international students also take LING 6 or LING 110W prior to or concurrently with LING 141.

General Education Linguistics Credit

The following courses will meet General Education requirements: CHIN 1A/B, HMONG 1B, JAPN 1A/B, LING 10 (Area C); LING 30 (Area E); LING 115, 130 (Integration IC); LING 147 (Multicultural/International).

Graduate Program

The Department of Linguistics offers an M.A. in Linguistics and an M.A. in Linguistics with an option in Teaching English as a Second Language. At California State University, Fresno, students may also get a Master of Science in Interdisciplinary Studies with a focus on Computational Linguistics or Cognitive Science. Department faculty will assist students in planning such a program. For specific requirements, see *Degree Requirements* in the copy that follows; for general requirements see *Division of Graduate Studies*.

The Master of Arts program in Linguistics assumes a baccalaureate degree major in an appropriate field and at least three upper-division courses in linguistics as prerequisites. Graduate students are required to complete at least 30 units of courses with a minimum of 21 units of graduate level courses, and to pass a comprehensive examination or complete a thesis.

Graduate Level Writing Competence. Students who are conditionally classified may be required to take the Undergraduate Writing Exam as a condition for classification. California State University, Fresno requires that students have graduate level writing abilities before being advanced to candidacy for the M.A. Students demonstrate these abilities by passing the Qualifying Examination.

Qualifying Examination. The Department of Linguistics requires that students pass a qualifying examination on general linguistics before being advanced to candidacy for the M.A. The examination consists of essay questions on linguistic topics and is given once each semester. A student who does not pass on the first attempt may petition to receive a second opportunity, but this will only be granted in extraordinary circumstances.

(See also *Admission to Graduate Standing, Advancement to Candidacy,* and *Program Requirements*.)

Master of Arts Degree Requirements

Students who do not already have a sufficient background in linguistics need to take upper-division linguistics courses to attain classified standing in the department. These include LING 100, 139, 142, 143, 148, 165, (all students) and 141 and 171 (TESL students).

The graduate program consists of at least 30 units, 21 of which must be 200-level courses. Note the following requirements:

Linguistics	*Units*
Core:	
LING 239, 242, 243, 248, 265	15
Required: LING 249	3
Electives:	6-12
Two to four additional courses, depending upon chosen culminating experience.	

TESL Option

Core:	
LING 239, 242, 243, 248, 265	15
Required:	
LING 236, 237, 241, 244	12
Electives:	3
One additional course is required for TESL option students selecting the Comprehensive Exam.	
All students select one of the following culminating experiences:	
A. Thesis: LING 299A-B (6 units)	
B. Comprehensive Exam	

Highly recommended electives are LING 151 and LING 145 and LING 165. Highly recommended electives for TESL students are LING 132 and 148.

Upon examination of the student's record other courses will be specified to produce a coherent program.

Graduate Certificate in TESOL

Certificate of Advanced Study in Teaching English to Speakers of Other Languages. This certificate is designed to train participants in the theory and practice of TESOL, with application to a wide variety of teaching circumstances. In addition to prerequisites (LING 100, 141, and 171), required courses are LING 237, 241, 244, and 236 or an approved graduate course. Students must maintain a GPA of 3.0 or better in the program.

See graduate adviser for prerequisites.

Requirements 12
LING 236, 237, 241, 244

COURSES

Linguistics (LING)

LING 5. College Reading and Academic Language (3 units)
College reading and academic language competencies necessary for success in academic subject coursework, including active reading and vocabulary development strategies, summarizing, and elements of academic culture. **FS** (Formerly LING 40T)

LING 6. Advanced English Strategies (3 units)
Meets the university remediation requirement. Introduces strategies that ease transition to college reading and writing. Assists multilingual students with paraphrasing, summarizing, and essay writing; helps students build academic reading strategies. Credit cannot be used toward the linguistics major or minor. **FS** (Formerly ESL 30)

LING 10. Introduction to Language (3 units)
Prerequisite: G.E. Foundation A2. The study of language — including its nature, structure, use, history, and acquisition — with the goal of imparting (1) an understanding of the importance of language in human affairs, including social and cultural functions and (2) an appreciation of its complexity and diversity. G.E. Breadth C2. **FS**

LING 11. Linguistics for Teachers (3 units)
Open to liberal studies majors only. Prerequisite: G.E. Foundation A2. Covers basic linguistic analysis methods; introduces the subjects of phonetics, phonology, morphology, syntax, and semantics exemplified by English and other languages. Meets the linguistic educational needs of K-6 teachers as mandated by state policy. **FS**

LING 30. Language through the Lifespan (3 units)
Physiological, psychological, and social aspects of language development and use during infancy, childhood, adolescence, adulthood, and old age. First and second language acquisition, language and identity, and language and relationship. G.E. Breadth E1. **FS**

LING 40T. Topics in Linguistics (1-4; max total 12 if no topics repeated)
Topics to be offered at the discretion of the department.

LING 100. General Linguistics (3 units)
Linguistics methodology: phonology, morphology, syntax, and semantics. Language history: variation and change. **FS**

LING 110W. Advanced Composition for Foreign Students (3 units)
Prerequisite: satisfactory completion (*C* or better) in ENGL 10 or 5B. Review of selected points of English usage. Conventions of writing essays formal research reports. Practice in paraphrasing and summarizing. Writing complex sentences in concise form. Meets the upper-division writing skills requirement for graduation. Credit cannot be used toward the linguistics major or minor. **FS** (Formerly ESL 110W)

LING 111W. Academic Writing Workshop (3 units)
Meets the upper-division writing skills requirement for graduation. Increases language awareness. Focuses on punctuation, usage, and the conventions of writing academic prose using style manuals. Credits may not be used toward the linguistics major or minor. **FS**

LING 115. Language, Culture, and Society (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Studies the relationship between language, culture, and thought; cultural traditions and language arts; cultural norms and interactional styles; language and the development of ethnic and national identity; meanings of social variation in language; discourse styles; and social roles/relations. G.E. Integration IC. **FS**

LING 120. Japanese Language and Culture (3 units)
Understanding of the Japanese language in relation to the culture and society. Historical and sociocultural background, origin of Japanese, development of writing system, language variation, vocabulary, idioms and proverbs, discourse functions, levels of politeness, male-female speech, and cross-cultural communication. **S**

LING 130. Language and Gender (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. A critical examination of the relationship between language and gender; sexism in linguistic structure and oral and written discourse; gender-based variation in linguistic norms and practices in different cultures and social groups; and social, educational, and political implications. G.E. Integration IC. **FS**

LING 132. Linguistics and Reading (3 units)
The linguistics background necessary for teaching reading in English. The English spelling system; the grammar and vocabulary of written English; preparation and evaluation of materials for teaching reading. **FS**

LING 138. History of the English Language (3 units)
Prerequisite: LING 10, 100 or 134. Study of the development of the sound system, grammar, vocabulary, and writing system of English.

LING 139. General Phonetics (3 units)
Prerequisite: LING 100. Introduction to the phonetic properties of human languages; descriptive analysis of the speech sounds in a wide variety of languages; articulatory and acoustic aspects of speech; practice in production, perception, and transcription of speech sounds. Introduction to experimental techniques. (2 lecture, 2 lab hours) **FS**

LING 140T. Topics in Linguistics (1-4; max total 12 if no topic repeated)
Topics to be offered at the discretion of the department.

LING 141. Teaching English to Speakers of Other Languages (TESOL) (3 units)
Theories and methods of teaching English to speakers of other languages. **FS**

LING 142. Phonology (3 units)
The sound patterns of human language. Phonemic theory and analytical techniques. Distinctive feature theory and analysis. Major phonological processes and their description. **FS**

LING 143. Syntax (3 units)
Prerequisite: LING 100. Theory and practice in the description of grammatical systems. Comparison of approaches. Practical experience with data. **FS**

LING 144. Discourse Analysis (3 units)
Prerequisite: LING 100. Basic concepts in the study of discourse, including conversational structure; structure of narrative and expository texts; information flow; differences between spoken and written language; and implications for the study of grammar and for the teaching of language.

LING 145. Historical Linguistics (3 units)
Prerequisite: LING 100. Explanation of similarities among languages; methods of reconstructing past languages and investigating relationship and grouping among languages. Comparison of approaches to language change. **S**

LING 146. Practical English Grammar for Language Teachers (3 units)
English grammar from the perspective of the teacher. Format designed to be compatible with classroom needs of language arts and ESL teachers. By analyzing English structures, students gain confidence in their ability to teach English grammar to ethnically diverse students. **FS**

LING 147. Bilingualism (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Examines bilingualism as an individual and societal phenomenon. Looks at language and identity, bilingual language acquisition, and bilingual education. Survey of bilingual and multilingual situations and current issues associated with language diversity in the United States and elsewhere in the world. G.E. Multicultural/International MI. **FS**

LING 148. Sociolinguistics (3 units)
Prerequisite: LING 100. Methods of investigation and major findings in the study of the relationship among languages of the world and social class, race, age, sex, and other social subcategories. Political and educational implications. Interaction between linguistic and social factors in linguistic variations. **FS**

LING 149. Corpus Linguistics (3 units)
Prerequisite: LING 100. Covers the development and use of large language corpora as they are used in theoretical and empirical research in linguistics. Corpus linguistics is useful for students with an interest in ESL, syntax, semantics, computational linguistics, forensic linguistics, language variation, spelling, and reading.

LING 151. Languages of the World (3 units)
A survey of the linguistic features of the languages and language families of the world with an introduction to sound patterns, word structures, and sentence constructions. (Formerly LING 140T)

LING 155. Computer-Assisted Language Learning (3 units)
Prerequisite: LING 100. Current theory, research, and practice in computer-assisted language learning. Some minimal experience in using computers is assumed. (2 lecture, 2 lab hours) **F**

LING 165. Language Acquisition (3 units)
Prerequisite: LING 100. An examination of the first and second language acquisition. Overview of current research in the field and implications for areas of applied linguistics, psychology, education, and sociology. **FS**

LING 171. Practicum in TESL (3 units)
Prerequisite: LING 141 (may be taken concurrently). Provides practice in teaching English as a Second Language listening, speaking, reading, and writing; includes class visitation, classroom demonstrations, and lesson planning. Introduces students to cross-cultural communication issues. **FS**

LING 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

FOREIGN LANGUAGE COURSES

Arabic (ARAB)

ARAB 1A. Elementary Arabic A (3 units)
Beginning course in modern standard Arabic focusing on elementary conversational and written Arabic and cultural traditions of Arabic speaking people. G.E. Breadth C2. (Formerly LING 40T) **F**

ARAB 1B. Elementary Arabic B (3 units)
Prerequisite: ARAB 1A or consent of professor. Beginning course in modern standard Arabic focusing on developing conversational and written skills, vocabulary, and grammar. Studies cultural heritage of Arabic speaking people with emphasis on poetry as an important cultural expression. (Formerly LING 40T) G.E. Breadth C2. **S**

ARAB 2A. Intermediate Modern Arabic 2A (3 units)
Prerequisite: ARAB 1B or consent of instructor. First semester intermediate course in modern standard Arabic focusing on grammar and development of writing, reading, and speaking skills. Studies cultural heritage of Arabic speaking people with emphasis on Arabic contemporary poetry and prose. (Formerly LING 40T)

ARAB 2B. Intermediate Modern Arabic 2B (3 units)
Prerequisite: good working knowledge of Arabic or consent of instructor. Second course in intermediate Arabic focusing on development of proficiency in conversational, written, and reading skills. Studies the cultural heritage of the Arabic speaking world with emphasis on Arabic classical and contemporary poetry and prose. (Formerly LING 40T)

Chinese (CHIN)

CHIN 1A. Elementary Chinese (3 units)
Prerequisite: G.E. Foundation A2. Beginning course in modern Mandarin Chinese, including basic communication skills, cultural traditions (literature, music, philosophy, and lifestyle) of the Chinese people, and appreciation/practice of the most important Chinese art form: calligraphy. G.E. Breadth C2. **FS**

CHIN 1B. Elementary Chinese (3 units)
Prerequisite: G.E. Foundation A2. Not open to students with previous training. Beginning course in spoken and written Mandarin Chinese including developing and understanding of the traditions and lifestyles of the speakers of the language. G.E. Breadth C2. **FS**

CHIN 2A-B. Intermediate Chinese (3-3)
Prerequisite: CHIN 1B. Intermediate grammar, speaking, reading, and writing. 2A - **F**; 2B - **S**

CHIN 100. Advanced Chinese (3 units)
Advanced Mandarin Chinese course focusing on the skills of listening, speaking, reading, and writing, as well as the traditions and culture of the Chinese people. (Formerly LING 140T)

Hebrew (HEBR)

HEBR 1A-B. Basic Hebrew (3-3 units)
Basic structure and pronunciation of Hebrew; practice in reading, writing, speaking, and grammar; suitable introduction to both Biblical and modern Hebrew.

Hmong (HMONG)

HMONG 1A-B. Basic Hmong (3-3 units)
Prerequisite: G.E. Foundation A2 for HMONG 1B. Beginning course in spoken Hmong. Covers listening comprehension and oral practice, basic grammar, vocabulary, and traditions and lifestyle of the speakers of the language. HMONG 1B is G.E. Breadth C2. 1A - **FS**

HMONG 4. Beginning Literacy for Hmong Speakers (3 units)
For the native speaker of Hmong. Emphasis on basic reading and composition skills. Includes practice in reading and writing simple texts. Covers the traditions and lifestyles of the speakers of the language.

HMONG 100. Intermediate Reading and Composition (3 units)
Prerequisite: HMONG 4 or equivalent. Further development of reading and composition skills. Includes practice in reading expository texts and review of grammatical structures.

HMONG 101. Advanced Reading and Composition (3 units)
Prerequisite: HMONG 100 or equivalent. Emphasis on strategies for complex texts. Enhancement of composition fluency and grammatical accuracy.

Japanese (JAPN)

JAPN 1A. Elementary Japanese A (3 units)
Prerequisite: G.E. Foundation A2. Not open to native speakers of Japanese. First course in modern Japanese, including basic communication skills, cultural traditions of the Japanese people, and appreciation/practice of calligraphy. G.E. Breadth C2. **FS**

JAPN 1B. Elementary Japanese B (3 units)
Prerequisites: G.E. Foundation A2; JAPN 1A. Not open to native speakers of Japanese. Second course in modern Japanese, including basic communication skills, cultural traditions of the Japanese people, and appreciation/practice of calligraphy. G.E. Breadth C2. **FS**

JAPN 2A-B. Intermediate Japanese (3-3)
Prerequisite: JAPN 1B. Further development of communicative skills in conversational Japanese. Also covers reading and writing in Kana and 200 Kanji characters. 2A - **F**; 2B - **S**

JAPN 100. Advanced Japanese (3 units)
Prerequisite: JAPN 2B or its equivalent. Enhancement of oral communicative fluency as well as grammatical accuracy. Includes practice in reading some expository writing. Covers 150 Kanji characters. **S**

Persian (PERS)

PERS 1A. Elementary Modern Persian A (3 units)
Prerequisite: G.E. Foundation A2. Beginning course in modern Persian focusing on elementary conversational and written Persian and cultural traditions of Persian speaking people. G.E. Breadth C2. (Formerly LING 40T) **F**

PERS 1B. Elementary Modern Persian B (3 units)
Prerequisites: G.E. Foundation A2; PERS 1A or consent of professor. Beginning course in modern Persian focusing on developing conversational and written skills, vocabulary, and grammar. Studies cultural heritage of Persian speaking people with emphasis on poetry as an important cultural expression. G.E. Breadth C2. (Formerly LING 40T) **S**

PERS 2A. Intermediate Modern Persian 2A (3 units)
Prerequisite: PERS 1B or consent of professor. First semester intermediate course in modern Persian focusing on grammar and development of writing, reading, and speaking skills. Studies cultural heritage of Persian speaking people with emphasis on Persian contemporary poetry and prose. (Formerly LING 40T)

PERS 2B. Intermediate Modern Persian 2B (3 units)
Prerequisite: good working knowledge of Persian or consent of professor. Second course in intermediate Persian focusing on development of proficiency in conversational, written, and reading skills. Studies cultural heritage of Persian speaking world with emphasis on Persian classical and contemporary poetry and prose. (Formerly LING 40T)

Sanskrit (SKT)

SKT 10A-B. Sanskrit (3-3)
Introduction to the Sanskrit language and the Devanagari script. Core grammatical structure and vocabulary. Reading of Sanskrit texts. Literary tradition and lifestyle of the speakers of the language, and relationship with Greek, Latin, and Germanic languages.

English as a Second Language (ESL)

Newly arrived international students are required to take the University English Exam (UEE) during their on campus orientation. They are exempted from or placed into an ESL course based on their performance on this test. (See *Special Programs* section for English courses for speakers of other languages offered through the Linguistics Department.)

GRADUATE COURSES

(See *Catalog Numbering System.*)

Linguistics (LING)

LING 231T. Seminar in Linguistics (3; max total 12 if no topic repeated)
Prerequisite: LING 100 and permission of instructor. Topics to be offered at the discretion of the department.

LING 232T. Seminar in English Linguistics (3; max total 12 if no topic repeated)
Prerequisite: LING 100 and permission of instructor. Topics to be offered at the discretion of the department.

LING 236. Teaching Listening, Speaking, and Pronunciation to Speakers of Other Languages (3 units)
An overview of the current theory, research, and practice in teaching listening, speaking, and pronunciation in a second language. Topics also include introduction to basic instrumental analysis of speech data in teaching L2 pronunciation. (Formerly LING 231T)

LING 237. Teaching Reading and Writing to Speakers of Other Languages (3 units)
An overview of theory, research, and practice in the teaching and learning of vocabulary, reading, and writing in a second language.

LING 239. Phonetics (3 units)
Prerequisite: LING 100 or consent of instructor. A graduate class on phonetics that provides advanced instruction and entry to the primary literature on two topics: the phonetics of English and acoustic phonetic analysis. No previous phonetics course is assumed of students. (Formerly LING 231T)

LING 241. Seminar in Teaching English as a Second/Foreign Language (3 units)
Prerequisite: LING 141. Overview of research, theory, and pedagogy in the field; includes culture, second language acquisition, and professional issues.

LING 242. Seminar in Phonology (3 units)
Prerequisite: LING 142. Covers current theories of how to structure sounds and syllables; the relation of sound structure to other parts of the grammar (words, sentences) and to first and second language acquisition. Data from a wide variety of languages.

LING 243. Seminar in Syntax (3 units)
Prerequisite: LING 143. Current theories of how sentences are structured; the relation of sentence structure to other parts of the grammar (words, meaning) and to first and second language acquisition. Data from a wide variety of languages.

LING 244. Curriculum Design and Classroom Evaluation (3 units)
Covers techniques for designing language courses including assessment of needs, formulation of objectives, and evaluation of student learning; includes theory and methods of designing effective instruments for L2 classroom assessment.

LING 245. Seminar in Historical Linguistics (3 units)
Prerequisite: LING 145. Contribution of recent work on general linguistics, sociolinguistics, and language acquisition studies to our understanding of diachronic grammar and its reconstruction. Other topics include the insights provided by language variation, language universals and typology, and discourse analysis.

LING 248. Seminar in Sociolinguistics (3 units)
Prerequisite: LING 148 or consent of instructor. A critical survey of current research in sociolinguistics; research methodologies; theoretical issues concerning the relationship between linguistic variation and social variables, such as social class, ethnicity, gender, and social relations; bilingualism, multilingualism, world Englishes, and language planning; implications for language teaching.

LING 249. Field Methods (3; max total 6 if no topic repeated)
Prerequisite: LING 142 or 143 or consent of instructor. First-hand experience in collecting and analyzing linguistic data. Exact nature of data varies by semester and may include less well-known languages, children's language, interlanguage, classroom interaction, etc.

LING 251. Seminar in Discourse Analysis (3 units)
Prerequisite: LING 144 or consent of instructor. Exploration and analysis of the functional and other linguistic bases for the organization of units larger than the sentence.

LING 265. Seminar in Language Acquisition (3 units)
A critical survey of current research in both first and second language acquisition; research methodologies; major theoretical issues in first and second language acquisition; firsthand experience in collecting and analyzing L1 and L2 acquisition data; implications for language teaching. (Formerly LING 231T)

LING 290. Independent Study (1-3; max total 6 units)
See *Academic Placement—Independent Study*. Approved for ***RP*** grading.

LING 299A-B. Thesis (3-3)
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. (A) Thesis design. (B) Thesis writing. A and B may be taken concurrently. Approved for ***RP*** grading.

Mass Communication and Journalism

College of Arts and Humanities

Department of Mass Communication and Journalism
Katherine Adams, *Interim Chair*
McKee Fisk Building, Room 236
559.278.2087
FAX: 559.278.4995
www.fresnostate.edu/MCJ/

B.A. in Mass Communication and Journalism

Options:

- Advertising
- Journalism
- Multimedia
- Public Relations

M.A. in Mass Communication and Journalism

Minor in Mass Communication and Journalism

Interdisciplinary Minor in Media Arts

The Department

Contemplating an exciting career in mass media? Check out the Department of Mass Communication and Journalism. Graduates of the program are well represented on the staffs of many of America's finest newspapers, radio and television stations, broadcast and film production companies, advertising agencies, and public relations firms.

MCJ graduates in print journalism are working for newspapers such as the *New York Times*, *USA Today*, the *Los Angeles Times*, the *San Francisco Chronicle*, the *Fresno Bee*, and other major newspapers. Graduates in broadcast journalism are heavily represented on the staffs of Fresno radio and television stations. They also can be found at CNN, ABC, NBC, CBS, ESPN, and PBS. Graduates in advertising are working for agencies that include J. Walter Thompson, Chiat/Day, Publicis and Hal Riney, and Foote, Cone, and Belding. Public relations graduates have obtained jobs with American Airlines, Caltrans, Coca-Cola, and other nationally known entities.

The department's advertising students regularly finish high in regional and national competitions sponsored by the American Advertising Federation. The students have drawn high praise from corporations participating in these competitions.

Broadcast production students have won awards in the California State University Media Arts Festival, Charleston International Film/Video Festival, the Silver State Documentary Festival, The Telly, The Communicator, and Videography Awards competitions. The campus radio station, KFSR-FM, has received a Gold record from Columbia Records, as well as various other awards.

Students have a choice of career options: advertising, broadcast journalism, digital media, electronic media production, print journalism, and public relations.

Affiliations

The department is a member of the Association of Schools of Journalism and Mass Communication, the Broadcast Education Association, and the California Newspaper Publishers Association.

Student organizations include chapters of the American Advertising Federation, Kappa Tau Alpha (a national journalism scholarship society), the National Press Photographers Association, and the Public Relations Student Society of America.

The department hosts the annual high school competitions for the San Joaquin Valley Scholastic Press Association.

Faculty and Facilities

All MCJ faculty members serve as career and academic advisers to students. Faculty members maintain close ties with the professional community and help students find internships and jobs. The faculty has substantial professional experience and several members are recognized nationally for writing textbooks and conducting research. Most are involved in media operations of various types at both local and national levels. Several have won awards.

The department maintains studios and laboratories for audio production; video production and editing; still photography; and computerized research, writing, and design. The department produces a student-run newspaper, *The Collegian*, in both paper and on-line versions. The department also oversees a student-run campus radio station, KFSR-FM, and produces television programs and video projects through a student organization called B# Video.

Katherine Adams, *Interim Chair*
Kelley Campos McCoy,
Graduate Coordinator

Roberta R. Asahina
Candace L. Egan
Betsy Hays
Tamyra A. Pierce
Gary H. Rice

Bachelor of Arts Degree Requirements

Mass Communication and Journalism Major

Majors must complete a minimum of 33 semester units of mass communication and journalism courses with a grade of *C* or better in each course. To ensure that students obtain a broad academic background, additional coursework outside of the department is required.

In addition to completing the university's General Education requirement of 51 units, students must also complete 15 units from the department's Liberal Arts and Sciences Course List. The Liberal Arts and Sciences Course List is available from the student's faculty adviser and on the MCJ website at *http://mcj.csufresno.edu/programs/advising/liberal-arts-and-science-courses-2/*.

The department's requirements for study outside the major meet the communications industries' preference for graduates with strong grounding in the liberal arts and sciences.

Degree Summary	*Units*
General Education requirements	51
Major requirements	33
Liberal Arts and Sciences block	15
General Electives	21
(Units may come from courses taken in the major and/or outside the major.)	
Total	**120**

Specializing within the major

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising, journalism, multimedia, and public relations. The courses required for each option are listed under *Major Requirements.*

Advising Notes

In addition to the above requirements, MCJ majors must observe the following:

1. Before enrolling in any of the department's writing or editing courses, all students must have passed the Department Qualification Exam (DQE). The DQE is administered by the department and tests fundamentals of grammar, spelling, and punctuation. Students are permitted three attempts to pass the DQE but after two unsuccessful attempts, they must take MCJ 5.
2. MCJ majors are not permitted to enroll for *CR/NC* grading in MCJ courses applied to the major, except for courses that require such grading.
3. No General Education course offered by the Department of Mass Communication and Journalism may be used to satisfy the General Education requirements for MCJ majors. MCJ courses which may not be used for General Education are MCJ 1, 175, 176, 178, and 179. Consult the *Class Schedule* for a current list of approved General Education courses.
4. Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W, a "W" course from another department, or the Upper-Division Writing Exam.

Major Requirements for the Degree

	Units
Major Requirements	**33**
Select one option	
Advertising	
MCJ 1, 10, 142, 143, 144, 146, 148, 172, or 173	(24)
One MCJ elective numbered between 163 and 179	(3)
Two additional MCJ course electives selected from MCJ 30, 104, 105, 106, 115, 124, 131, 152S, 158S, 159S, 164, 191	(6)
Journalism	
MCJ 1, 10, 30, 102W, 104 or 124, 108 or 126, 105 or 128, 172, 173	(27)
One MCJ elective numbered between 163 and 179	(3)
One additional MCJ course elective selected from MCJ 17, 104, 105, 106, 108, 113, 115, 124, 126, 128, 131, 178, 190, 191	(3)
Multimedia	
MCJ 1, 10, 30, 102W or 124, 106 or 113, 115, 118S or 131, 163 or 178	(24)
One MCJ elective numbered between 163 and 179	(3)
Two additional MCJ course electives selected from MCJ 17, 104, 105, 106, 112, 113, 116, 118S, 124, 126, 128, 131, 163, 190, 191	(6)
Public Relations	
MCJ 1, 10, 102W, 152S, 158S,159S, 164, 172 or 173, 191	(27)
One MCJ elective numbered between 163 and 179	(3)
One additional MCJ course elective selected from MCJ MCJ 30, 104, 105, 106, 115, 124, 131, 142, 144, 146, 148	(3)

Mass Communication and Journalism Minor

	Units
Required	**6**
MCJ 1, 10	
Minimum Electives	**12**
Any four or more courses selected with the advice and consent of a member of the departmental faculty	
Minimum Total	**18**

Note: The Mass Communication Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Certificate in Marketing

Students majoring in MCJ may earn a certificate in marketing by taking the following courses:

	Units
Take the following courses: MKTG 100S, 160	8
Select 7-8 units from the following: MKTG 101, 110, 114, 130, 132, 134, 140, 144, 150, 153, 188, or approved 189T	7-8
Total	**15-16**

MCJ students note: Marketing courses cannot be used in the liberal arts and sciences block, but can be used as electives.

Certificate in Mass Communication and Journalism
(For Marketing Option students only. See *Marketing and Logistics.*)

Interdisciplinary Minor in Media Arts

The Minor in Media Arts is primarily designed for students pursuing degrees in art and design, mass communication and journalism, or music. *See college pages.*

Mass Communication and Journalism Graduate Study

The department offers a flexible, academically oriented program of study leading to the master of arts. The program prepares students for positions of leadership and influence in professional and academic careers. It also gives students a broadly-based understanding of mass communication in contemporary society and encourages continuing intellectual growth.

Admission. Admission by the university does not imply acceptance to the master of arts in the Mass Communication program. A department graduate admissions committee reviews all files before admittance. To be considered for admission to the graduate program, the candidate must submit the following materials and meet the following criteria: evidence of a baccalaureate degree in mass communication, journalism, or related area from an accredited institution; official transcripts of all college work with a grade point average of 3.0 or better (last 60 semester units); scores from the GRE (450V or equivalent to the 44th percentile/450Q) as well as the TOEFL for international students (total score 580 paper-based or 237 computer-based; structure/writing section score 55 paper-based or 22 computer-based); a university application; three letters of reference from employers or from faculty at the university most recently attended; and a statement of 500 words or less indicating reasons for pursuing a master's degree. Students lacking in any area with compensating strengths in other areas are encouraged to apply.

Classified standing will be granted to students who meet all of the admission criteria.

Conditional classified standing may be granted to applicants with a 2.75 to 2.99 GPA (last 60 semester units) and/or those required to complete prerequisite coursework. Prerequisite coursework is not included in the 30-unit master's program. Students must request classified standing in the program by the semester in which a minimum of 10 units to be used toward the degree are completed.

Students without a bachelor's degree in mass communication and journalism or significant professional experience may be required to take up to 18 units of undergraduate courses in the department before beginning the graduate program.

Master of Arts Degree Requirements

Students take 30 units of coursework. Four core classes (MCJ 204, 205, 206, 207) are required for a total of 12 units. As a culminating experience, candidates must select one of the following (a) comprehensive examination (0 units) and approved electives (6 units) (***note***: students choosing to take the comprehensive exam instead of completing the thesis or project must take an additional 6 elective units); (b) MCJ 298 - Graduate Project (3 units in fall and 3 units in spring; total of 6 units); and (c) MCJ 299 - Graduate Thesis (3 units in fall and 3 units in spring; total of 6 units).

Students may select the remaining courses to meet their individual goals, including up to 6 units from other departments (minimum of 3 units at graduate level), depending on a student's area of interest. At least 24 of 30 units required must be in 200-level courses.

MCJ graduate courses are open for enrollment only to admitted MCJ or other Fresno State graduate programs.

Writing Competency. California State University, Fresno requires that students have graduate-level writing ability before being advanced to candidacy for the master's degree. Introduction to Mass Communication Graduate Studies (MCJ 204) and Mass Communication Theory (MCJ 205) have been designated as the courses used to determine students' ability to write clearly, logically, analytically, and knowledgeably. Should the student receive a passing grade in the courses but fail to demonstrate adequate writing competency, the student will be asked to submit a significant sample of scholarly writing to the department's graduate committee. The committee will evaluate this sample based on a standard rubric that will be made available on the MCJ graduate program website. If the committee concludes that the student's writing is not adequate for graduate-level work, the student will be dismissed from the graduate program. No additional attempts may be made to meet the requirement. All decisions on writing competency by the department's graduate committee are final.

	Units
Required core courses	
MCJ 204, 205, 206, 207	**12**
Selected courses in major interest area (may include up to 6 units in other departments)	**12**
Thesis or project	**6**
or	
Comprehensive Exam (0 + 6 additional elective units)	
Total	**30**

At least 24 of the 30 units required must be in 200-level (graduate) courses.

COURSES

Mass Communication and Journalism (MCJ)

MCJ 1. Mass Communication and Society (3 units)
Prerequisite: G.E. Foundation A2. Examines the political, economic, cultural, and behavioral impacts of mass media in national and international contexts. Analyzes the historical factors that have shaped the structures, practices, and products of mass media industries, and assesses contemporary trends in media-society relations. G.E. Breadth D3.

MCJ 5. Basic Editing (3 units)
Application of basic language skills to media writing and editing. Recommended for all majors who must take an approved English language course prior to attempting the Department Qualification Exam a third and final time; course does not substitute for passing DQE.

MCJ 10. Media Writing (3 units)
Prerequisites: pass Department Qualification Exam. Study and practice in the basics of good writing. Emphases will be placed upon grammar, factual accuracy, clarity, conciseness, media styles, fairness, human interest, and writing to length and deadline. (2 lecture, 2 lab hours)

MCJ 17. Photojournalism (3 units)
Introduction to the theory and practice of photojournalism. Study of the characteristics and role of the journalistic photograph in news communications Lectures and laboratory experiences in the use of digital still cameras and basic digital production techniques (2 lecture, 2 lab hours)

MCJ 30. Introduction to Multimedia Production (3 units)
Fundamentals of multimedia production. Lecture and laboratory experiences in cross media production theories and techniques.

Exploration of digital storytelling using text, graphics, audio, video, and the Web. (2 lecture, 2 lab hours)

MCJ 102W. Reporting (3 units)
Prerequisites: pass Department Qualification Exam, MCJ 10. To be taken no sooner than the term in which 60 units of coursework are completed. Analysis of news sources; techniques of interviewing applied to specific reporting situations; coverage of campus and community functions in the preparation of articles for the media. Meets the upper-division writing skills requirement for graduation. (2 lecture, 2 lab hours)

MCJ 104. Editing of Publications (3 units)
Prerequisites: pass Department Qualification Exam, MCJ 10, 70 units completed or permission of instructor. Preparation of copy, headlines, and photos for newspapers and other publications; advanced concepts of grammar and style; legal and ethical issues of publications; basic publications layout and graphic design. (2 lecture, 2 lab hours)

MCJ 105. Newspaper Workshop (3; max total 6 units)
Prerequisites: MCJ 10, 30, and permission of instructor. Practice in editorial leadership, writing and editing assignments, development of multimedia content, and newspaper production techniques. Campus newspaper used for laboratory purposes. (2 lab hours, 8 hours arranged)

MCJ 106. Media Graphics (3 units)
Survey, design, and editing of specialized publications such as newsletters, brochures, and other materials for editorial, advertising, and public relations purposes. Emphasis on computerized production techniques. (2 lecture, 2 lab hours)

MCJ 108. In-Depth Reporting (3 units)
Prerequisites: pass Department Qualification Exam, MCJ 10, 102W, ENGL 5B or 10, 70 units completed or permission of instructor. Advanced reporting for the media; emphasis on covering community sources and issues, including politics, local government, courts and law enforcement. (2 lecture, 2 lab hours)

MCJ 112. Audio Production (3 units)
Prerequisite: MCJ 30. Introduction to the art of audio storytelling and basic digital audio production techniques. Lectures and laboratory experiences in the design and execution of audio-based projects. (2 lecture, 2 lab hours) **F**

MCJ 113. Studio Video Production (3 units)
Prerequisite: MCJ 30. Television studio production principles and techniques. Lecture and laboratory experiences in the design and execution of multi-camera video productions. (2 lecture, 3 lab hours)

MCJ 115. Field Video Production (3 units)
Prerequisite: MCJ 30. Field video production and post-production principles and techniques. Lecture and laboratory experiences in visual storytelling, single-camera filmmaking, pre-production planning, production execution, post-production, and digital distribution techniques. Field assignments required. (2 lecture, 2 lab hours)

MCJ 116. Advanced Video Production (3 units)
Prerequisites: MCJ 30, 113 and 115 or equivalents, with B or better. Advanced study of field and studio production. Exploration of narrative and non-fiction visual storytelling using single and multi-camera approaches. Advanced instruction in directing, lighting, sound, camera operation and post-production. Projects are intended for public distribution. (1 lecture, 4 lab hours) **F**

MCJ 118S. Corporate and Nonprofit Media Projects (3 units)
Prerequisites: MCJ 30 and 115. Advanced study of the planning, organization, and execution of media production techniques for informational and educational communications projects for corporations and nonprofits; a service-learning approach provides practical experience working in production teams with clients. (2 lecture, 2 lab hours) (Formerly MCJ 118) **S odd**

MCJ 124. Broadcast and Online News Writing (3 units)
Prerequisites: pass Department Qualification Exam, MCJ 10, 102W. Gathering, writing, and editing news for distribution via the broadcast and online news media. (2 lecture, 2 lab hours)

MCJ 126. Media Performance (3 units)
Prerequisites: pass Department Qualification Exam; DRAMA 22, COMM 3, or COMM 8 or equivalents; and permission of instructor; MCJ 113 recommended. Exploration of the basic theories and techniques of media performance involved in announcing, hosting, reporting, and narrating of audio and visual programming. Lectures and laboratory experiences in vocal and visual aspects of performance and preparation of material for media presentation. (2 lecture, 2 lab hours) **F**

MCJ 128. Broadcast News Reporting and Production (3 units)
Prerequisites: MCJ 30, 124, 126 and permission of instructor; 113 recommended. Practical experience in news producing, reporting, and anchoring intended for distribution via broadcast, cable and/or online. Lecture and lab experiences focus on all aspects of production of weekly news and public affairs programs including news editorial and field video and TV studio production. (2 lecture, 3 lab hours) **S**

MCJ 131. Online Media Design (3 units)
Prerequisites: MCJ 30, 115, or permission of instructor. Fundamentals of online media design, multimedia storytelling, and production of Web-based information. Practical experience designing and producing online media that incorporates text, graphics, images, audio, and video. (2 lecture, 2 lab hours) **S**

MCJ 142. Advertising Procedures (3 units)
Overview of all aspects of the field of advertising. Study of history, agent-client relationships, media, relationship to the behavioral sciences, production of copy and layouts, and advertising legislation and responsibility.

MCJ 143. Advertising Sales (3; max total 6 units)
Prerequisite: MCJ 142. Advertising sales, account service, and account management for today's competitive marketplace; practical experience selling, creating, and producing advertisements for campus media operations. Practical experience working with "real world" clients. (2 lecture, 2 lab hours)

MCJ 144. Advertising Copy Writing (3 units)
Prerequisites: pass Department Qualification Exam, MCJ 10, 142. Develops print and broadcast copy writing for magazine, direct mail, outdoor, newspaper, radio, television, and new advertising media. Examines the role of the copy writer, creative strategies, research target marketing, copy styles, and laws regulating advertising.

MCJ 146. Advertising Media (3 units)
Prerequisite: MCJ 142. Media planning and buying for advertising media. Evaluating and selecting media to meet specific marketing and communication goals; designing specific media plans and making buys in various media.

MCJ 148. Advertising Campaigns (3 units)
Prerequisites: MCJ 142 and 144 or 146. Background, research, planning, and preparation of a national and local advertising campaign as advertising agency with client-agency setup; marketing plan and creative execution. (2 lecture, 2 lab hours)

MCJ 152S. Public Relations (3 units)
Development of public relations practice; principles and methods; application in business, education, and other fields. (Formerly MCJ 152)

MCJ 158S. Public Relations Writing (3 units)
Prerequisites: MCJ 10, 102W, 152S. Creating messages tailored to multiple groups via a range of media, including mass media and organizational media such as employee newsletters and annual reports. Practice writing news releases, opinion articles, direct mail pieces and so on. (2 lecture, 2 lab hours) (Formerly MCJ 158)

MCJ 159S. Public Relations Cases and Campaigns (3 units)
Prerequisites: MCJ 10, 102W, 152S, 158S, 164. Public relations teams plan a public relations campaign. Covers use of research findings, setting measurable objectives, identifying key publics, defining strategies, setting budgets, and evaluating results. Analyses and application of recent cases to solve public relations problems. (Formerly MCJ 159) S

MCJ 163. Media As Pop Culture (3 units)
A consideration of the media as part of popular cultural through study of program forms and social influences.

MCJ 164. Applied Media Research (3 units)
Introduces various mass communication research methods. Emphasis on learning elements involved in the study of planning, designing, and executing mass communication research.

MCJ 172. Media Law (3 units)
Study of federal and state laws and regulations that apply to the media, covering such topics as freedom of information, libel, right to privacy, fair trial-free press, copyright, obscenity and indecency, advertising regulation, and broadcast law and regulation.

MCJ 173. Media Ethics (3 units)
Study of ethical choices in the context of the political, social, and economic structure of U.S. communications systems. Also emphasizes applying traditional ethical theories to current media issues and problems.

MCJ 174. History of Mass Media (3 units)
Historical background of American media from colonial to modern times.

MCJ 175. Multicultural Mass Communication and Media Stereotypes (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Explores psychological, social, economic, institutional, and political factors related to media stereotypes. Analyzes specific media stereotypes involving gender, sexual orientation, race, ethnicity, age, and physical conditions; looks at their behavioral and cultural effects. Reviews strategies for improving media portrayals. G.E. Multicultural/International MI.

MCJ 176. International Mass Communication (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Assesses complex international forces shaping global media, and ways mass media of North American and other nations affect international relations. Focuses on impacts of international news flows; role of media in national development, effects of transnational entertainment, and advertising content. G.E. Multicultural/International MI.

MCJ 177T. Media Topics (3; max total 6 units)
Prerequisite: upper-division standing. Topics explore various aspects of the relationships between media and society in national and international arenas.

MCJ 178. New Media Technologies (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Addresses the social, political, economic, and philosophical implications of new digital media, as well as the corporate, government, and institutional forces that have shaped the new digital media landscape. Particular attention is given to uses of the technologies and the dynamic relationship linking technology, culture, and social change. G.E. Integration ID.

MCJ 179. Cineculture (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Explores a wide range of socio-cultural-political topics through a series of film and lectures. Emphasis is on critical analysis of diverse cultures as they are represented in film. Students develop a global awareness and understanding of cultural diversity. G.E. Multicultural/International MI. (Formerly MCJ 177T)

MCJ 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

MCJ 191. Internship (3 units)
Prerequisites: permission of instructor. Applied practical experience in an appropriate media outlet, recording studio, production company, advertising agency, or public relations firm with on-the-job and faculty supervision/instruction. Conferences and reports required. ***CR/NC*** grading only.

GRADUATE COURSES

Mass Communication and Journalism (MCJ)

MCJ 204. Introduction to Mass Communication Graduate Studies (3 units)
Introduces students to the field of mass communication. Discussion includes an overview of various research methods in the field, the process and production of research proposals, and the process of planning a program of study. Emphasizes a scholarly style of writing.

MCJ 205. Mass Communication Theory (3 units)
Examines the history and development of prominent mass communication theories and their application in the field of mass communication research.

MCJ 206. Quantitative Methods in Mass Communication (3 units)
Introduces quantitative research designs and statistical procedures. Areas of examination include various statistical tests used in mass communication research, criteria for evaluating scientific research, and computer-assisted (SPSS) statistical procedures. Students will design and complete a research project.

MCJ 207. Qualitative Methods in Mass Communication (3 units)
Examines various qualitative methods used in mass communication research, such as historical analysis, legal research, cultural analysis, content analysis, and participant/observer analysis. Students will design and complete a research project.

MCJ 214. Media Technology and Systems (3 units)
Seminar in emerging communications media. Technological developments, corporate and governmental policies, and the sociopolitical implications of current and projected applications.

MCJ 215. Media Ethics and Regulation (3 units)
Seminar in the law and ethics of mass communication, with emphasis on current social and ethical controversies and the impact of regulatory trends on media professionals.

MCJ 216. Global Media and International Relations (3 units)
Focus on mass communication and international relations by examining global flow and impact of news, entertainment content, transnational advertising, and information technologies. Issues discussed in the context of international mass communication theory and research.

MCJ 240T. Seminar in Media Industry Practices and Management (3; max total 9 units)
Exploration of current challenges and advanced practices in the media or management in a particular media-related industry: advertising, broadcasting, public relations, journalism, Internet.

MCJ 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

MCJ 298. Project (6)*
Prerequisites: permission of instructor; see *Criteria for Thesis and Project*. Completion of a significant project appropriate to the student's area of specialization. A written report and a presentation to the faculty are required. Approved for ***RP*** grading. One or two semesters, depending upon project complexity.

MCJ 299. Thesis (6)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Presentation to the faculty is required. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

Modern and Classical Languages and Literatures

College of Arts and Humanities

Department of Modern and Classical Languages and Literatures
Saul Jimenez-Sandoval, *Chair*
Laura Gribben, *Department Administrative Support Coordinator*
Peters Business, Room 393
559.278.2386
FAX: 559.278.7878
www.fresnostate.edu/mcll

B.A. in French

B.A. in Spanish

M.A. in Spanish

Minor in Classical Studies

Minor in French

Minor in German

Minor in Humanities

Minor in Spanish

Single Subject Teaching Credential in French and Spanish

The Department

Because of increasing mobility in our modern world, it takes no time at all to travel to places where people speak a language other than English. If you visit or go to work in another country you will quickly learn the fallacy of the phrase, "Everyone speaks English there; don't worry!" Even in California, scarcely a day goes by that you do not hear people conversing in a language other than English, because the United States has a wealth of different heritage languages. Whether you travel overseas or stay in the United States, you will be more culturally sensitive if you are bilingual and bicultural. For example, agricultural, health, and music professionals benefit from knowing another language. It is never too late to acquire another culture and language.

The goal of the Department of Modern and Classical Languages and Literatures is to encourage multiculturalism and multilingualism in the Central Valley. That includes preparing students for communication in some of the important heritage languages of the area: German, Spanish, French, Italian, and Portuguese. These are also important languages of Mexico, Central and South America, and the European Union, so students are able to travel or work overseas with greater ease. The department also offers Greek and Latin, as well as Classical Studies and Humanities.

The department has programs for those who wish to be middle and high school teachers of French and Spanish. We offer courses to prepare those who wish to be bilingual/ cross-cultural teachers in elementary schools. We also offer courses in Italian, Portuguese, and other languages to the surrounding community. The department offers a major and a minor in French and Spanish, a minor in German, a minor in Humanities, and a minor in Classical Studies. We collaborate with the Department of Linguistics to offer the B.A. Option in Language Studies.

Students completing the M.A. in Spanish often teach at high schools, community colleges, or go on to Ph.D. programs. Our Master of Arts program in Spanish is one of the largest and best in the California State University system. Students come from all over California to study with our prestigious faculty members. Our faculty members are well-recognized for their expertise in Spanish language pedagogy; Golden Age literature; contemporary Mexican, South American, and Peninsular literature; Spanish linguistics and dialectology; creative writing in Spanish; and Hispanic culture. M.A. students may apply for a limited number of teaching assistant positions.

Study Abroad Programs: Apply as a Sophomore

Sophomore students having a minimum GPA of 3.0 are eligible to apply for participation during their junior or senior years in one of the International Programs organized by the California State University System under agreements with universities in 18 countries, including France, Germany, Italy, Japan, Mexico, Spain, and Peru. See *International Programs (Overseas)* under *Special Programs*. Students may find it useful to consult with a professor in the Department of Modern and Classical Languages and Literatures. A small scholarship is available for qualified study abroad scholars.

Career Opportunities

Being able to communicate with many people in their own language is an asset any employer will value in today's world of international markets and international professional exchanges. The state and federal government, international organizations, airlines, shipping companies, agricultural enterprises, and multinational corporations employ bilingual and bicultural people.

That means that when your primary major is in another field of study, a second major or a minor in another language is a very good way to acquire and document language skills that are important for a job or profession. In California, fluency in Spanish and familiarity with Hispanic culture can be very useful for social workers, health professionals, elementary or secondary school teachers, teachers of English to speakers of other languages, lawyers, or any other profession in which ethnic understanding is important. For example, a growing area for language majors with an interest in computers is in translation and web design.

Many language majors aim for a teaching career. Teaching at the community college level requires at least a master's degree, while teaching high school requires subject matter preparation in the language (French or Spanish) plus a teaching credential. There is currently a demand for high school language teachers due to the foreign language admission requirement in the University of California and California State University systems. There are many opportunities for teaching in elementary schools having bilingual/cross-cultural programs in Spanish.

Faculty

Saul Jimenez-Sandoval, *Chair*
Yolanda Doub, *Graduate Coordinator*

Jacinta R. Amaral (Spanish)
Debbie Avila (Spanish)
Ted Bergman (Spanish)
Honora H. Chapman
(Classics, Humanities)
Yolanda Doub (Spanish)
Kristi A. Eastin (Classics, Humanities)
David G. Engle (German, Folklore)
Saul Jimenez-Sandoval (Spanish)
Keith Johnson (Spanish)
Rose Marie Kuhn (French)
Gloria Medina-Sancho (Spanish)
David A. Ross (French)
Paula Sanmartin (Spanish)
Bruce S. Thornton (Classics, Humanities)
Cosme M. Zaragoza (Spanish)

Credit Allowance in Foreign Language

Students may begin a study of any language they desire to learn. However, if they want to continue study of a language they recently studied in high school, they must adhere to the following guidelines:

A. Students who have had less than two years of that language in high school will enroll in either a 1A or 1B class in that language, depending on the quality of the high school language experience.
B. Students who have studied a language for two years in high school will enroll in a 1B class in that language.
C. Students who have studied a language for three years in high school will enroll in a 2A class in that language.
D. Students who have studied a language for four years in high school will enroll in a 2B class in that language.
E. Students who have passed an AP test in a language, or who have five or more years of language study, should consult a department adviser for appropriate placement.
F. Students who have taken Greek and Latin in high school should consult a department adviser for appropriate placement.
G. Spanish-speaking students who have appropriate oral language skills will enroll in Spanish 4A.
H. Credit may not be awarded for a lower-division language course if the student has received credit for an upper-division course in that language, other than SPAN 110T and courses taught in English: FREN 149, GERM 103T, LATIN 132.

Credit by Examination

Students who have taken one or more years of a language in high school may not challenge a 1A course in that language. Students who have taken two or more years of a language in high school may not challenge a 1B course in that language. Students who have taken three years of a language in high school may not challenge 2A in that language.

Students who have ***completed*** the equivalent of ninth grade or more in the native country may not enroll in or challenge lower-division courses. Such students are not exempted from meeting General Education requirements.

General Education Foreign Language Credit

The following courses are applicable to the General Education requirement: HUM 10, 11, 15, 20; FREN 1B, 2A, 2B, 109, 149; GERM 1B, 2A, 2B; GRK 1A, 1B; ITAL 1A, 1B, 2A, 2B; LATIN 1A, 1B; PORT 1A, 1B; SPAN 1B, 2A, 2B, 3, 4A, 4B, 125, 129. See also *Department of Linguistics.*

Bachelor of Arts Degree Requirements

French Major — *Units*

Major requirements 30-44
(see *Advising Notes 1, 2,* and *3*)
Lower division..... (14)
FREN 1A, 1B; select two from FREN 2A, 2B, 4, 5 (see *Advising Notes 3* and *4*)
Upper division ..... (30)
FREN 103 (6 units), 109 (3 units) ..... (9)
Select three from FREN 110, 111, 112, 113 ..... (9)
Select four courses from FREN 120T (3-6 units), 132 (3-6 units), 149, 150, 160T (3 units) (see *Advising Notes 4* and *5*)..... (12)
General Education requirements..... 51
(see *Advising Notes 2* and *5*)
Electives 25-39*
including other lower- and upper-division French courses, and remaining degree requirements (see *Degree Requirements*) may be used toward a double major or a minor
Total 120

* This total indicates that a maximum of two courses (6 units) in G.E. Breadth C2 also may be applied to the French major: FREN 1B, 2A, and 2B. Consult a French major adviser for additional details.

Advising Notes

1. *CR/NC* grading is not permitted for courses in the French major.
2. Students must receive a minimum grade of *C* in each upper-division course used toward the French major.
3. French majors who have studied French in high school or who by culture or experience can speak French at a certain level of proficiency must consult with a French adviser to determine which required lower-division courses, if any, may be waived. (Also see *Credit Allowance in Foreign Language*.) French majors who are eligible to enroll immediately in FREN 1B, 2A, 2B, 4, 5, or in an upper-division French course are not required to make up the lower-division units waived. Waiver of required units for the major does not reduce the total number of units required for the awarding of the bachelor's degree.
4. Only 3 units of courses taught in English may be applied to the French major.
5. A maximum of two courses from one department may be used simultaneously to satisfy the General Education requirement and the major requirements. If the French major is the secondary major in a double major (see *Double Major*), this limitation does not apply. Consult a faculty adviser for additional details.
6. Students majoring in French cannot count French courses for G.E. Integration IC.

Spanish Major — *Units*

Major requirements 39-53
(See *Advising Notes* 1, 2, and 3.)
Lower-division courses..... (14)
SPAN 1A, 1B, 2A, 2B, 3, 4A, 4B, 5 (see *Advising Notes 3 and 4*)
Upper-division courses..... (39)
SPAN 119, 121A, 121B, 140, 142, 143, 170 ..... (21)
Select from SPAN 145, 147 148T, 149, 150, 165..... (6)
Electives (exclude SPAN 110T)..... (12)
General Education requirements..... 51
(See *Advising Note 2.*)
Electives 22-30*
remaining degree requirements and electives including units to be used toward a double major or a minor
Total 120

* This total indicates that a maximum of two courses (6 units) in G.E. Breadth C2 also may be applied to the Spanish major: SPAN 1B, 2A, 2B, 3, 4A, and 4B. Consult a Spanish major adviser for additional details.

Advising Notes

1. ***CR/NC*** grading is not permitted for courses in the Spanish major except for those taken Credit by Examination.
2. Students must receive a minimum grade of ***C*** in each upper-division course used toward the Spanish major.
3. A maximum of two courses from one department may be used simultaneously to satisfy the General Education requirement and the major requirements. If the Spanish major is the secondary major in a double major (see *Double Major*), this limitation does not apply. Consult a faculty adviser for additional details.
4. Spanish majors who have studied Spanish in high school or who by culture or experience can speak Spanish at a certain level of proficiency must consult with a Spanish adviser to determine which lower-division courses, if any, may be waived. (Also see *Credit Allowance in Foreign Language.*) Spanish majors who are eligible to enroll immediately in SPAN 1B, 2A, 2B, 3, or 5 are not required to make up the lower-division units waived. Waiver of required units for the major does not reduce the total number of units required for the awarding of the bachelor's degree. All Spanish majors are required to take Spanish 4A and 4B as prerequisites to upper-division Spanish courses. These prerequisites can be challenged through Credit by Examination.
5. Students majoring in Spanish cannot count Spanish courses for G.E. Integration IC.

Minors

Depending on the specific minor, the student is responsible for 21-24 units. The minors also require a 2.0 GPA and 6 upper-division units in residence. Consult a departmental adviser for planning your program. See *Classical Studies* and *Humanities* for their minors.

French	*Units*
Lower-division courses	**6-9**
Upper-division courses	**12-15**
	21

German	
GERM 1A, 1B	**0-6**
GERM 2A, 2B	**0-6**
GERM 101, 150	**3**
German electives, upper-division	**0-12**
	18

Spanish	
Select from SPAN 2A, 2B, 3, 4A, 4B, 5	**0-9**
Spanish electives, upper division	**12-21**
	21

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Credential Program

To enter the Single Subject Credential Program, students must have a cumulative GPA of 2.97. In addition, before students are eligible to do final student teaching, they must pass speaking and writing exit tests.

For Bilingual/Cross-Cultural Language and Academic Development Credentials, see *Education — Literacy and Early Education Department.*

The Single Subject Preparation Program in French is 33 units: FREN 103 (6 units), 109, 120T (3-6 units), 132, 150, 160T (3-6 units); and 9 units selected from FREN 110, 111, 112, 113.

The Single Subject Preparation Program in Spanish consists of SPAN 117, 119, 121A-B, 125 or 129, 130, 137, 140, 142, 143, 170; and 6 units selected from SPAN 145, 147, 148T, 149, 150.

Graduate Program

The Department of Modern and Classical Languages and Literatures offers the Master of Arts degree in Spanish.

The Master of Arts degree program in Spanish language and literature serves several categories of students: those anticipating doctoral studies, those teaching or preparing to teach in high school and community college, and those interested in further study beyond the baccalaureate degree. For specific requirements, consult the departmental graduate committee chair. For general requirements, see *Division of Graduate Studies*.

Master of Arts in Spanish

The Master of Arts degree in Spanish is awarded upon satisfactory completion of a 30-unit program of study. For the culminating experience, students may select either a thesis/project or comprehensive examination.

Program Prerequisites. Admission to the M.A. program in Spanish requires a minimum 3.0 GPA and assumes an undergraduate major in Spanish but is open to others with a bachelor's degree who show intellectual promise and ability to perform at a satisfactory level during their graduate studies. Students lacking the B.A. in Spanish will be required to make up deficiencies prior to acceptance into the M.A. program.

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements,* and *Criteria for Thesis and Project.*)

Admission Prerequisites. When making application for admission to the program, students must submit a copy of their GRE scores.

Program Requirements. Students meet the Graduate Writing Requirement by preparing three study questions for the qualifying exam. Students must write three five-page essays in English - a minimum of 15 pages - which are assessed in content, organization, and writing style. For more information, please contact the graduate program coordinator.

In order to achieve classified standing, students must demonstrate an acceptable level of competence in Spanish by passing a written departmental examination. In addition, under the direction of the graduate adviser, students prepare a coherent program. Each student's program of study must include at least 24 units of 200-level work.

Thesis/Project Plan	*Units*
SPAN 202, 203, and 249	**9**
Graduate seminars in Spanish	**15-18**
Independent Study (SPAN 290)	**0-6**
SPAN 298 and/or 299	**3-6**
Electives (must see adviser)	**0-6**
Select from SPAN 137, 139, 142, 143, 145, 147, 148T, 149, 150	
Approved elective in related fields	**0-3**
Total	**30**

Comprehensive Examination Plan	
SPAN 202, 203, and 249	**9**
Graduate seminars in Spanish	**15-18**
Independent Study (SPAN 290)	**0-6**
Electives	**0-6**
Select from SPAN 142, 143, 145, 147, 148T, 149, 150	
Approved elective in related fields	**0-3**
Total	**30**

Specific Requirements. The following areas must be covered by graduate or undergraduate courses and may be satisfied in undergraduate preparation: Peninsular Spanish literature (two courses including SPAN 142), Latin American literature (two courses including SPAN 143), Hispanic linguistics (one course).

Students who intend to go on to a Ph.D. program at another institution are strongly advised to study at least one other foreign language.

COURSES

For Chinese, Hebrew, Hmong, Japanese, and Sanskrit course listings, see *Linguistics Department*. For Armenian, see *Armenian Studies Program*.

Foreign Language (FL)

FL 10T. Topics in Foreign Language (1-4)
Beginning or intermediate speaking, listening, reading, and writing skills in a selected language.

FL 131. Trends in Foreign Language Teaching (3 units)
Current trends and issues in foreign language teaching. Evaluation of recent teaching materials. May include on-campus practice in teaching beginning languages.

FL 170. Community Service (1-3; max total 3 units)
Directed fieldwork in a project which uses language skills developed through previous study of a foreign language. Projects may include working with public school foreign language teachers and students, interpreting/translating for public/private service agencies, or other approved projects. ***CR/NC*** grading only.

FL 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

French (FREN)

FREN 1A. Elementary French (4 units)
Beginning course in conversational and written French. Not open to students with two or more years of high school French credit.

FREN 1B. Elementary French (4 units)
Prerequisite: G.E. Foundation A2; FREN 1A recommended or permission of instructor. Second semester course in conversational and written French. Not open to those with three or more years of high school French credit. G.E. Breadth C2.

FREN 2A. French for Communication (3 units)
Prerequisite: G.E. Foundation A2; FREN 1B or equivalent recommended. Second year course that emphasizes speaking and reading. Reviews basic French grammar. G.E. Breadth C2.

FREN 2B. French for Communication (3 units)
Prerequisite: G.E. Foundation A2; FREN 2A or equivalent recommended. Second year course that emphasizes speaking and reading skills. G.E. Breadth C2.

FREN 4. Reading and Writing (3 units)
FREN 2B or equivalent recommended. Opportunity to increase reading and writing skills in preparation for upper-division coursework in French.

FREN 5. Conversation (3; max total 6 units)
FREN 2A or equivalent recommended. May be taken concurrently with FREN 2A or 4. Development of listening and speaking skills. Exclusive use of French in an informal class atmosphere. Conversations on assigned topics, extemporaneous discussions.

AREA I. Language and Culture

FREN 103. Advanced Grammar and Composition (3; max total 6 units)
Two semesters of Intermediate French recommended. To be taken twice for the major. Written assignments in French on varied topics with emphasis on composition. Written exercises in French on specific points of grammar. (Fall semester)

FREN 120T. Topics in French Civilization (3; max total 6 if no topic repeated)
FREN 103 recommended or permission of instructor. Possible topics: French contributions to Western Civilization (art, music, architecture, history, science). Special emphasis on contemporary France. The history of Anglo-French and Franco-American relations. Linguistic, cultural, intellectual, political, commercial, and diplomatic similarities and differences explored. Taught in French.

FREN 132. French Phonology and Structural Analysis (3; max total 6 units)
Completion of one semester of FREN 103 recommended. As a progression toward mastery, an investigation of the French language as a functioning code of verbal communication. Relationships of oral/written aspects and contrasts with American English. Intensive drill on individual pronunciation problems.

FREN 150. Advanced Conversation (3 units)
Two semesters of Intermediate French recommended. Intensive practice in oral expression in French. Emphasis on current affairs in France.

AREA II. Literature

FREN 109. French Literature, Culture, and Society from the Middle Ages to Today (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Two semesters of intermediate French recommended. Intellectual, cultural and social background of major literary movements and representative authors from the earliest period to the present. Selected readings. Taught in French. (Fall semester) G.E. Integration IC.

FREN 110. French Theater (3 units)
FREN 109 recommended. Drama in France from the Renaissance to the present, with emphasis on the 17th and 20th centuries. Reading and discussion of representative works.

FREN 111. The French Novel (3 units)
FREN 109 recommended. The novel as a reflection of French society. Analysis of major works from various periods.

FREN 112. French Prose: Essay and Short Story (3 units)
FREN 109 recommended. Analysis of prose works by such authors as Montaigne, Voltaire, Maupassant, Camus, Sartre.

FREN 113. French Poetry (3 units)
FREN 109 recommended. Introductory course in poetry as a genre; principles of French versification. Students will be exposed to major contributions of the French in poetry. Thematic and/or chronological presentations (movements, "isms").

FREN 149. Voices of Africa (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Study of representative works by such writers as Achebe, Senghor, and Mphahlele which reveal the attitudes of modern Africans toward their land, their traditions, and their encounter with the 20th century world. Course taught in English. G.E. Integration IC.

FREN 160T. Selected Topics in French Studies (1-3; max total 6 if no topic repeated)
FREN 103 recommended or permission of instructor. Topics chosen from French literature (genre, themes, movements), from French linguistics (History of the Language; Contrastive Analysis: English/French), or French Culture and Civilization.

FREN 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

GRADUATE COURSE

(See *Catalog Numbering System.*)

French (FREN)

FREN 290. Independent Study (3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

COURSES

German (GERM)

GERM 1A. Elementary German (4 units)
Beginning course. Imparts basic speaking, listening, reading, and writing abilities in German as well as introduces the cultures of Germany, Switzerland and Austria. Not open to those with two or more years of high school German credit.

GERM 1B. Elementary German (4 units)
Prerequisite: G.E. Foundation A2; GERM 1A recommended or permission of instructor. Second semester course. Develops speaking, listening, reading, and writing abilities; broadens knowledge of German, Swiss and Austrian cultures. Not open to those with three or more years of high school German. G.E. Breadth C2.

GERM 2A. Intermediate German (3 units)
Prerequisite: G.E. Foundation A2; GERM 1B recommended or permission of instructor. Third semester course. Builds reading, conversational, and writing facilities in German; develops linguistic and cultural mastering of varied, increasingly complex situations. General review of grammar syntax; cultural topics. G.E. Breadth C2.

GERM 2B. Intermediate German (3 units)
Prerequisite: G.E. Foundation A2; GERM 2A recommended or permission of instructor. Fourth semester course. Builds further reading, conversational, and writing facilities in German; develops general linguistic and cultural competence. General review of grammar and syntax; cultural topics. G.E. Breadth C2.

GERM 8T. Selected Topics in German (1; max total 2 units)
GERM 1A recommended or permission of instructor. Language experience outside classroom stressed in oral topics. Problem vocabulary and grammar topics. ***CR/NC*** grading only.

GERM 50. Conversation (3; max total 6 units)
GERM 2B or concurrently recommended or permission of instructor. Conversation on prepared topics, brief talks by students, short scenes from plays, sharpening of listening skills and oral expression. Preparation for "survival" in German speaking countries. (Spring semester)

AREA I: Language and Culture

GERM 101. Composition (3; max total 6 units)
GERM 2B recommended or permission of instructor. Development of written expression through intensive practice, vocabulary building, grammar and syntax review, cooperative work on improving composition, analysis of varying styles. May be taken twice. (Fall semester)

GERM 103T. German Culture and Civilization (3; max total 6 if no topic repeated)
Studies in principal aspects of German (also Austrian and Swiss) history, thought, customs, institutions, film, arts, music, folklore, contemporary life; influence on Western civilization. Taught in English.

GERM 150. Advanced Conversation (3; max total 6 units)
GERM 2B or concurrently recommended or permission of instructor. Intensive practice in advanced oral German to cultivate ease within a number of speech situations. Emphasis on current affairs in Germany, Austria, and Switzerland. (Spring semester)

AREA II: Literature

GERM 112. German Literature to 1750 (3 units)
GERM 2B recommended or permission of instructor. In-depth studies of German literature prior to 1750: Medieval, Renaissance, Reformation, Baroque, Enlightenment; including such authors as Wolfram, Walther von der Vogelweide, Luther, Grimmelshausen. Critical analysis of texts, lecture, discussion, student reports.

GERM 114. German Literature through the Classical Age (3 units)
GERM 2B recommended or permission of instructor. From the beginnings to Goethe's death in 1832, concentrating on the Classical Age (Lessing, Schiller, Goethe). Critical analysis of texts, lecture, discussion, student reports.

GERM 116. Nineteenth Century Literature (3 units)
GERM 2B recommended or permission of instructor. Investigates major 19th century authors such as Brentano, Tieck, Hoffmann, Büchner, Stifter, Keller, Raabe, Fontane. Critical analysis of texts, lecture, discussion, student reports.

GERM 118A. Modern Literature: 1890-1945 (3 units)
GERM 2B recommended or permission of instructor. Investigates Classical Modernity (1890-World War II), including such authors as Kafka, Rilke, Mann, Brecht, Musil. Critical analysis of texts, lecture, discussion, student reports.

GERM 118B. Contemporary Literature: 1945-Present (3 units)
GERM 2B recommended or permission of instructor. Investigates the Postmodern Age (World War II to the present), including such author as Grass, Böll, Frisch, Handke, Bernhard, Wolf. Critical analysis of texts, lecture, discussion, student reports.

GERM 160T. Topics in German Studies (1-3; max total 12 if no topic repeated)
Intensive analysis, discussion, and evaluation of significant facets of German life through the study of specific movements, literary problems, themes, films, cultural artifacts, music, institutions, epochs, folklore, and regions.

GERM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

GRADUATE COURSE

(See *Catalog Numbering System.*)

German (GERM)

GERM 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

COURSES

Greek (GRK)

GRK 1A. Elementary Greek (3 units)
Prerequisite: G.E. Foundation A2. An introduction to the fundamentals of Classical and New Testament Greek, with practice in reading and writing the Greek language. Background study: Greek culture and its relevancy to the modern world. G.E. Breadth C2.

GRK 1B. Elementary Greek (3 units)
Prerequisites: G.E. Foundation A2, GRK 1A or permission of instructor. Second semester course in Classical and New Testament Greek; completion of the fundamentals of Greek grammar. Emphasis on translation practice and composition skills. Background study: Greek culture and its relevancy to the modern world. G.E. Breadth C2.

GRK 10. The Rise of Rationalism: 5th Century Athens (3 units)
The origins of argumentation, logic, rhetoric, inductive thinking, and the role of literature in fifth-century Athens, as reflected in selections from Plato, Thucydides, Euripides, and the orators. Discussions and lectures. Conducted in English.

GRK 131T. Greek Literature (3; max total 12 if no topic repeated)
Prerequisite: GRK 1B. Concentration on a major Classical Greek poet or prose author. Translation and discussion. Research reports on literary, historical, and textual problems.

GRK 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

Italian (ITAL)

ITAL 1A. Elementary Italian (4 units)
Prerequisite: G.E. Foundation A2. Beginning course in conversational and written Italian with special emphasis on Italian culture (literature, music, philosophy, and lifestyle). Not open to those with two or more years of high school Italian credit. G.E. Breadth C2.

ITAL 1B. Elementary Italian (4 units)
Prerequisite: G.E. Foundation A2; ITAL 1A recommended or permission of instructor. Second semester course in conversational and written Italian. Not open to those with three or more years of high school Italian credit. G.E. Breadth C2.

ITAL 2A. Intermediate Italian (3 units)
Prerequisite: G.E. Foundation A2; ITAL 1B recommended or permission of instructor. Review of grammar and syntax; composition; oral practice, reading of short stories and plays. G.E. Breadth C2.

ITAL 2B. Intermediate Italian (3 units)
Prerequisite: G.E. Foundation A2; ITAL 2A recommended or permission of instructor. Oral and written composition; reading of short stories, novels, biographies. G.E. Breadth C2.

ITAL 5. Conversation (3; max total 6 units)
ITAL 1B recommended. May be taken concurrently with ITAL 2A or 2B. Development of listening skills and oral fluency through discussion, vocabulary exercises, and conversations on assigned topics.

ITAL 160T. Selected Topics in Italian Studies (3; max total 9 if no topic repeated)
Topics chosen from Italian literature (genre, themes, movements, particular authors), from Italian culture or civilization, or from Italian cinema.

ITAL 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

Latin (LATIN)

LATIN 1A. Elementary Latin (3 units)
Prerequisite: G.E. Foundation A2. An introduction to the fundamentals of the Latin language, grammar, and its practical relation to Romance languages and English. Background study: Roman culture and its relevance to the modern world. G.E. Breadth C2.

LATIN 1B. Elementary Latin (3 units)
Prerequisites: G.E. Foundation A2, LATIN 1A or permission of instructor. Second semester course in Latin; completion of the fundamentals of Latin grammar. Emphasis on translation practice and composition skills. Background study: Roman culture and its relevance to modern world. G.E. Breadth C2.

LATIN 131T. Latin Literature (3; max total 12 if no topic repeated)
Prerequisite: LATIN 1B. Concentration on a major Latin poet or prose author. Translation and discussion. Research reports on literary, historical, and textual problems.

LATIN 132. Classical Mythology (3 units)
Greco-Roman myths, emphasis on their impact on the fine arts and literatures of the Western World. Illustrated lectures. Taught in English.

LATIN 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

Portuguese (PORT)

PORT 1A. Elementary Portuguese (4 units)
Prerequisite: G.E. Foundation A2. Beginning course in conversational and written Portuguese, including Luso-Brazilian cultural traditions (literature, music, philosophy, and lifestyle). Not open to those with two or more years of high school Portuguese credit or native speakers of Portuguese. G.E. Breadth C2.

PORT 1B. Elementary Portuguese (4 units)
Prerequisite: G.E. Foundation A2; PORT 1A recommended or permission of instructor. Second semester course in conversational and written Portuguese. Not open to those with three or more years of high school Portuguese credit. G.E. Breadth C2.

PORT 2A. Intermediate Portuguese (3 units)
Prerequisite: PORT 1B recommended or permission of instructor. Intermediate course emphasizing speaking, listening, reading longer texts, writing compositions, grammar, and Luso-Brazilian culture.

PORT 2B. Intermediate Portuguese (3 units)
Prerequisite: PORT 2A recommended or permission of instructor. Continuation of PORT 2A emphasizing speaking, listening, grammar, reading longer literature, writing compositions, and Luso-Brazilian culture.

Spanish (SPAN)

SPAN 1A. Elementary Spanish (4 units)
Beginning course in conversational and written Spanish. Emphasis on reading, writing, listening, speaking, and culture of Spanish-speaking peoples.

SPAN 1B. Elementary Spanish (4 units)
Prerequisite: G.E. Foundation A2; SPAN 1A recommended or permission of instructor. Second semester course in conversational and written Spanish. G.E. Breadth C2.

SPAN 2A. Spanish for Communication (3 units)
Prerequisite: G.E. Foundation A2. Second year course that emphasizes speaking and reading skills. G.E. Breadth C2.

SPAN 2B. Spanish for Communication (3 units)
Prerequisite: G.E. Foundation A2. Second year course that emphasizes speaking and reading skills. G.E. Breadth C2.

SPAN 3. Reading and Writing (3 units)
Prerequisite: G.E. Foundation A2; SPAN 2A or 2B recommended. Opportunity to increase reading and writing skills in preparation for upper-division coursework in Spanish. G.E. Breadth C2.

SPAN 4A. Spanish for the Bilingual Student (3 units)
Prerequisite: G.E. Foundation A2. For the native speaker of Spanish who has intensive life experience using the Spanish language. Grammar is stressed, but speaking, reading, and writing skills are also further developed. G.E. Breadth C2.

SPAN 4B. Spanish for the Bilingual Student (3 units)
Prerequisite: G.E. Foundation A2. Recommended: SPAN 3 or permission of instructor. For students from a bilingual background who have previous formal study of Spanish. Emphasis on productive language skills, grammar, advanced reading comprehension, and culture using peninsular and Latin American texts. G.E. Breadth C2.

SPAN 5. Spanish for Conversation (3 units)
SPAN 2A or 2B recommended. Emphasis on spoken Spanish; development of oral fluency through class discussion, conversation games, and vocabulary exercises.

SPAN 8T. Fundamental Skills in Spanish (1-2; max total 4 if no topic repeated)
Instruction in fundamental problems in writing and word usage, such as accentuation, spelling, and vocabulary. Intended primarily for students who need more work in specific areas of writing and speaking. ***CR/NC*** grading only.

SPAN 10. Spanish in Context (3 or 6; max total 6 units)
Two years of high school Spanish, SPAN 1B recommended or permission of instructor. Intended for those who are enrolled in our summer study abroad program. Emphasizes speaking, reading, and cultural interaction with members of the community. (Summer only)

AREA I. Bilingual Studies

SPAN 106T. Children's Literature in Spanish (3 units)
SPAN 2A, 2B or 4A, 4B recommended. Examination of children's stories, poems, rhymes, and songs written, composed, or available in Spanish. Practice in the techniques of storytelling. Dramatizations of children's stories in Spanish. Presentation of puppet plays.

SPAN 134. Spanish in Bilingual Schools (3 units)
SPAN 119 and 121A recommended or permission of instructor. Emphasis on Spanish language development for bilingual teachers at the elementary level. Presentation of specialized vocabulary in teaching elementary courses. Development and evaluation of bilingual teaching materials in Spanish.

AREA II. Language and Translation

SPAN 110T. Practical Spanish for Professions (3; max total 12 if no topic repeated)
Applicable for minor. Preparation of professionals and paraprofessionals in California Spanish to work with the Spanish speaking in the following fields: health, education, social work, business, law, agriculture, and psychology.

SPAN 112. Reader's Theater in Spanish (3 units)
SPAN 3 or 4B recommended. Dramatic readings of prose and poetry selections performed by students in front of the class. Discussion focuses on a critical reading of the text and preparation of the performance. Public presentations and recordings optional.

SPAN 113. Structure of Spanish (3 units)
SPAN 3 or 4B recommended. An introductory descriptive survey of the structure of standard Spanish: sounds, spelling, word formation, and grammar.

SPAN 115S. Basic Principles of Translation (3 units)
SPAN 3 or 4B recommended. Specific problems of Spanish to English and English to Spanish translation, with emphasis on idiomatic expressions. Some attention to specialized vocabulary. Use of bilingual dictionaries. S sections include a service-learning requirement (See Community Engagement and Service Learning in the *General Catalog*.) (Formerly SPAN 115)

SPAN 117. Advanced Conversation and Reading (3 units)
SPAN 3 or 4B recommended. Reading and discussion of current periodicals, newspapers, and magazines that reflect the cultural patterns of the Spanish-speaking countries.

SPAN 119. Advanced Grammar (3 units)
SPAN 3 or 4B recommended. Special emphasis on grammar review and development of writing skills. Analysis of grammatical constructions.

SPAN 121A. Composition A (3 units)
SPAN 119 highly recommended. Refinement of writing skills through vocabulary development, spelling exercises, and composition. Special emphasis on problems created by differences between the spoken and written language. (Formerly SPAN 121)

SPAN 121B. Composition B (3 units)
Prerequisite: SPAN 121A. Greater refinement of writing skills necessary for SPAN 140 and further upper-division courses in Hispanic literature. Special emphasis on analyzing a literary text by written means.

SPAN 124. Oral and Written Expression (3 units)
SPAN 2B, 3, 4B, or 10 recommended. Systematic analysis of students' ability to express themselves, both orally and in writing. Development of vocabulary, pronunciation, and grammatical structures. (Summer only)

AREA III. Hispanic Culture

SPAN 125. Hispanic Cultural Productions (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Recommended: SPAN 3 or 4B. Interdisciplinary approach to global examination of cultural productions of Spain and Latin America through readings, lectures, films, and other media. G.E. Integration IC.

SPAN 129. Mexican Culture (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Recommended: SPAN 2B, or 3, or 4B. Interdisciplinary approach to Mexican culture. Study of geography, history, politics, the arts, aspects of daily life, and cultural patterns by means of reading assignments, lectures by the instructor and invited guests, films, and other media. G.E. Integration IC.

AREA IV. Spanish Linguistics

SPAN 130. Introduction to Spanish Linguistics (3 units)
SPAN 119 recommended or permission of instructor. Basic principles of Spanish linguistics, including aspects of syntax, morphology, phonetics, dialectology, and historical linguistics.

SPAN 137. Applied Spanish Linguistics (3 units)
SPAN 130 recommended or permission of instructor. Analysis of Spanish with emphasis on areas of phonetics, pronunciation, and grammar which cause the greatest problems in learning and teaching the language. Readings and practice in the development of instructional strategies and materials.

SPAN 139. Spanish of the Southwest (3 units)
SPAN 3 or 4B recommended. Research on dialect differences in California and the Southwest, including the linguistic, social, and cultural determinants. Emphasis on the Spanish of the San Joaquin Valley.

AREA V. Hispanic Literature

SPAN 140. Introduction to Literary Analysis (3 units)
Prerequisite: SPAN 119, 121B, or permission of instructor required. Readings and appreciation of Hispanic literature to familiarize students with major genres and authors.

SPAN 142. Introduction to Spanish Literature (3 units)
SPAN 3 or 4B recommended. Selected readings from those literary works which have fundamentally affected the development of Spanish civilization, from El Cid to Lorca. Provides a historical framework for the study of Spanish literature.

SPAN 143. Introduction to Spanish-American Literature (3 units)
SPAN 3 or 4B recommended. Selected readings from those literary works which have fundamentally affected the development of Spanish American civilization, from Hernán Cortés to Octavio Paz. Provides an historical framework for the study of Spanish American literature.

SPAN 145. Mexican Literature (3 units)
Prerequisite: SPAN 140 or permission of instructor. Study of the works of such major Mexican literary figures as Sor Juana, Gutiérrez Nájera, Azuela, and Fuentes.

SPAN 147. Twentieth Century Spanish-American Literature (3 units)
Prerequisite: SPAN 140 or permission of instructor. Intensive study of selected Spanish-American works including writings of Azuela, Fuentes, Carpentier, Vargas Llosa; outstanding poets such as Neruda, Vallejo, and Paz.

SPAN 148T. Major Themes in Hispanic Literature (3; max total 6 if no topic repeated)
Prerequisite: SPAN 140 or permission of instructor. Reading and in-depth analysis of the works of major Hispanic authors and/or themes.

SPAN 149. The Golden Age (3 units)
Prerequisite: SPAN 140 or permission of instructor. A study of Spanish Renaissance Man and his environment. His sociopolitical, esthetic, and literary ideas are studied through readings in Garcilaso, San Juan de la Cruz, and other authors.

SPAN 150. Twentieth Century Spanish Literature (3 units)
Prerequisite: SPAN 140 or permission of instructor. A study of Spanish Existential Man. His sociopolitical, esthetic, and literary ideas are studied through readings in Unamuno, Ortega y Gassett, Lorca, José Hierro, and other authors.

SPAN 165. Modernismo - 1950 (3 units)
Prerequisite: SPAN 140, 142, and 143, or permission of instructor. In-depth study of the authors from Modernismo and Vanguardia: Dario, Machado, Vallejo, Huidobro, Lorca, Neruda, Paz, and Bombal. Introduction to the ideas of Marx, Nietzsche, and Freud.

SPAN 170. Senior Seminar in Spanish Studies (3 units)
Senior standing, 20 upper-division units of Spanish coursework recommended, SPAN 140 required, or permission of instructor. Culminating experience in the major that includes summative assessment of language, linguistic, cultural, and literary proficiency. Readings and research projects. Addresses individual needs of graduating majors. (Spring semester)

SPAN 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

GRADUATE COURSES

(See *Catalog Numbering System*.)

Spanish (SPAN)

SPAN 201. Teaching Spanish as a Foreign Language (3 units)
Strategies for implementing Spanish curriculum at post-secondary level. Study of instructional techniques, procedures, resources, and methods of assessing student performance in post-secondary settings. Practical application of second language acquisition research.

SPAN 202. Introduction to Literary Theory (3 units)
Prerequisite: Spanish major or permission of instructor. Introduction to the study of theory — from Plato to Derrida to Post-Colonialism — as it relates to the study of Hispanic literature. **F**

SPAN 203. Applied Literary Theory (3 units)
Prerequisite: SPAN 202. Theory and practice of literary analysis. Application of research, bibliographical, and critical methods to literary texts. (Formerly SPAN 218T) **S**

SPAN 204. Spanish Syntax (3 units)
Prerequisite: Spanish major or permission of instructor. An analysis of the grammatical structures of the Spanish language. Includes contrastive analysis of Spanish and English syntax.

SPAN 205. History of the Spanish Language (3 units)
Phonological, morphosyntactic, lexical, and semantic development of the Spanish language, from the pre-Roman period to modern Spanish. (Formerly SPAN 206T)

SPAN 206T. Hispanic Linguistics (3; max total 9 if no topic repeated)
Prerequisite: Spanish major or permission of instructor. In-depth analysis on *one aspect* of the Spanish language through the study of such topics as the history of the Spanish language, Spanish dialects, linguistic field studies, Spanish semantics.

SPAN 210. Spanish American Short Story (3 units)
Prerequisite: Spanish major or permission of instructor. Study of the short story as an art form in Latin America and analysis of short stories of such writers as Quiroga, Arreola, Rulfo, Bombal, Borges and Cortázar.

SPAN 214. Generation of '98 (3 units)
Prerequisite: Spanish major or permission of instructor. Advanced analysis of the literature of Spain written at the time of the final collapse of Spain's empire. Includes works by Azorín, Baroja, Unamuno, Valle-Inclán, Machado, Ortega, and Jiménez.

SPAN 215. Hispanic Women Writers (3 units)
Prerequisite: Spanish major or permission of instructor. Discussion and close written analysis of poetry, novels, theater and essays written by Hispanic women from 1535 to present.

SPAN 216. Masterpieces of Hispanic Theater (3 units)
Prerequisite: Spanish major or permission of instructor. Discussion and close written analysis of peninsular and Spanish American theater masterpieces, historical milieu and cultural context.

SPAN 218T. Topics in Hispanic Literary Studies (3; max total 6 if no topic repeated)
Prerequisite: Spanish major or permission of instructor. Hispanic literary topics such as Hispanic Realism, Novel and Cinema, Violence in Hispanic Literature, Novel of Dictatorship, Novel of the Indian in Latin America.

SPAN 219T. Topics in Creative Writing (3; max total 9 if no topic repeated)
Topics in advanced creative writing in Spanish including poetry, fiction, and/or non-fiction.

SPAN 222. Cervantes (3 units)
Prerequisite: Spanish major or permission of instructor. In-depth study of Don Quixote and selected Novelas ejemplares. Includes discussion of works, lectures, and written research.

SPAN 224. Major Hispanic Novelists (3 units)
Prerequisite: Spanish major or permission of instructor. Research and in-depth study of the novels of major Hispanic novelists.

SPAN 225. Modernismo-1950 (3 units)
Prerequisite: Spanish major or permission of instructor. Research and in-depth study of the literature from Modernismo through 1950. Discussion and written analysis of the major authors from the period. (Formerly SPAN 218T)

SPAN 226. Major Hispanic Poets (3 units)
Prerequisite: Spanish major or permission of instructor. Research and in-depth study of the poetry of major Hispanic poets.

SPAN 227. Novel of Formation (3 units)
Analysis of the Latin American novel of formation. Discussion of issues such as the formation of an individual's sense of gender, race, and class, and the role of travel, memory, orality, and writing in the socialization of youth. (Formerly SPAN 218T)

SPAN 230. History of Spanish (3 units)
The linguistic development of the Spanish language from Latin to the present day — including the sound system, word formation and etymology, and grammar — within a social and cultural context. (Formerly SPAN 206T)

SPAN 245. Mexican Literature (3 units)
Prerequisite: Spanish major or permission of instructor. Discussion and analysis of representative works of Mexican literature from the Precolombian Period through the 1980s. Includes study of major cultural and artistic movements in literature, the visual arts, and film.

SPAN 247. Spanish American "Boom" (3 units)
In-depth study of the Spanish-American "new novel" that emerged in the 1960s. Analysis of factors leading to this "boom" and impact of this new narrative style on subsequent writers in Latin America and on a broader scale. (Formerly SPAN 218T)

SPAN 249. Golden Age (3 units)
Advanced analysis of prose narratives, poems, and theatrical works from Spain's Renaissance and Baroque periods in their historical and cultural contexts. (Formerly SPAN 218T)

SPAN 250. Spanish Post-War Literature (3 units)
Prerequisite: Spanish major or permission of instructor. Discussion and analysis of representative works of Spanish literature from 1939 through the 1980s. Examines literary production during the Francoist Dictatorship and the transition to a democratic government. (Formerly SPAN 218T)

SPAN 255. Nineteenth Century Spanish Literature (3 units)
Prerequisite: Spanish major or permission of instructor. Discussion and analysis of representative works of Spanish literature from the Romantic, Realist, and Naturalist Movements.

SPAN 257. Spanish-American Testimonio (3 units)
Analysis of Spanish-American Testimonio genre through representative texts. Discussion of aesthetic, ethical, and ideological issues related to the production and diffusion of these texts, such as authority/authorship, literature/anthropology, writing/orality, memory, political engagement, manipulation, and resistance. (Formerly SPAN 218T)

SPAN 259. The Poetics of Caribbeannness (3 units)
Prerequisites: Spanish major or permission of instructor. Analysis of literary and artistic movements in the Spanish Caribbean, from the colonial times to the present, through representative works, emphasizing how the interactions of race, class, gender, and ethnicity affect the construction of individual and national identities. (Formerly SPAN 218T)

SPAN 267. Early 20th Century Spanish Literature (3 units)
Prerequisite: Spanish major or permission of instructor. Discussion and analysis of representative works of Spanish literature from Modernismo, the generation of 1914, and the generation of 1927.

SPAN 290. Independent Study (2-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

SPAN 298. Project (3-6; max total 6 units)*
See *Criteria for Thesis and Project*. Writing and/or editing materials suitable for school programs from elementary through high school level, such as children's literature, original poetry, testing devices, and translations. Approved for ***RP*** grading.

SPAN 299. Thesis (3-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the completion of the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSES

(See *Catalog Numbering System.*)

Spanish (SPAN)

SPAN 301. Conversation and Composition Review (2; max total 8 if no language repeated)
For elementary and secondary school teachers or those planning to travel abroad. Prerequisite: bachelor's degree or teaching credential; permission of instructor. Conversation and composition to improve audiolingual and writing skills in the foreign language.

SPAN 304. Theory and Practice (2; max total 8 units)
Prerequisite: permission of instructor. Not open to students with credit in two or more years of college Spanish. Basic elements of the language; modern methods of foreign language instruction in the elementary school; repeatable in sequence — pronunciation, methods, phonetics, advanced methods.

Music

The Department

A major in music is designed to prepare students for careers in teaching, performance, or music-related fields. It enhances their knowledge of the musical art and increases their sensitivity to the musical world around them.

The Department of Music provides the following:

- undergraduate instruction in music for those planning professional careers as performers, composers, and studio teachers, as well as those preparing for advanced degrees in performance and composition
- state-approved subject matter preparation required for a California teaching credential in music
- graduate education for students planning professional and academic careers or seeking professional growth as K-12 teachers or junior college instructors
- broad acquaintance with music for the community and nonmusic major

Two degree programs accredited by the National Association of Schools of Music are offered: the Bachelor of Arts and the Master of Arts.

Faculty and Facilities

The Department of Music faculty has backgrounds in varied areas of specialization. Many members of the faculty have national and international reputations as performing artists and teachers. Others are well known for their scholarly research, articles, and books. They are all dedicated to providing students with the best music education possible both in their classes and studios.

The music building houses recital and concert facilities, rehearsal halls, classrooms, faculty studios, offices, and student practice rooms. The building also contains recording studios, computer labs, MIDI and electronic music labs, and a tracker-action organ.

Career Opportunities

While many graduates have made successful careers as professional music performers or composers, the majority have pursued careers as music teachers in elementary and secondary schools. Those who complete master's degrees have either advanced in public school careers or have gone on to further study and careers as teachers in higher education.

Music majors and minors have also found satisfying careers in the music industry as sales representatives, instrument technicians, recording technicians, artist representatives, and artist managers. Churches employ organists and choir directors, many on a full-time basis. Early childhood teachers and those in recreation related careers also benefit from expertise in music.

Faculty

Tony A. Mowrer, *Chair*
M. Teresa Beaman
Benjamin Boone
Matthew H. Darling
Kenneth Froelich
Gary P. Gilroy
Anna Hamre
Donald Henriques
Thomas N. Hiebert
Partow Hooshmandrad
Miles M. Ishigaki
Helene Joseph-Weil
John Karr
Thomas Loewenheim
Anthony Radford
Limor Toren-Immerman
Andreas Werz
Corey Whitehead

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the *Basic Core Requirements* and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's *General Education Requirements* (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and *Other Departmental Requirements* to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability.

College of Arts and Humanities

Department of Music
Tony A. Mowrer, *Chair*
Music Building, Room 134
559.278.2654

B.A. in Music
Options:
- Music as a Liberal Art
- Music Education
- Instrumental Performance
- Vocal Performance
- Composition
- Jazz Studies

M.A. in Music
Options:
- Music Education
- Performance

Minor in Music

Interdisciplinary Minor in Media Arts

Single Subject Teaching Credential

Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook. No General Education Integration course offered by the Music Department may be used to satisfy the General Education requirements for majors in the department.

Music Major

	Units
Major requirements	**69**
Core	**28**
(required of all music majors regardless of option)	
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B	(24)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114][1]	(4)
MUSIC 20 - Convocation (8 semesters)	
Options	**41**
I. Music as a Liberal Art	(41)
II. Music Education	(41)
III. Instrumental Performance	(41)
IV. Vocal Performance	(41)
V. Composition	(41)
VI. Instrumental Jazz Performance	(41)
Additional requirements	**0**
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171	
General Education requirements	**51**
	120

* Music major sections only.

Degree Options

I. Music as a Liberal Art

	Units
Select from MUSIC 140T, 141, 142, 144, 160T (max 6), 170A, 170B, 187, 190/191 (max 6)	**15**
Four semesters in MUSIC 103 appropriate to major emphasis[2]	**4**
Four semesters in MUSIC 31/131 through 39/139	**4**
Other music electives (with adviser's approval)	**7**
Senior Project or Recital (to be developed in consultation with the adviser)	**2**
	32

Additional Requirements

Approved electives from outside the Music Department (consult adviser)	**9**

Credential Program

This is a state-approved subject matter preparation program for the **Single Subject Teaching Credential** authorizing students to teach music in grades K-12.

Note: Credential requirements are subject to change by state regulation. The catalog may not reflect the latest requirements. Consult the department's credential adviser to ensure complete compliance with state regulations. Also consult the Kremen School of Education and Human Development regarding the 33 units of professional education necessary for completion of the Single Subject Teaching Credential.

II. Music Education

The following 37 units are required of all music education majors regardless of emphasis.

	Units
MUSIC 122A, 124A, 126, 127A, 154, 169, 179, 179L, 182	**18**
MUSIC 158A or B	**2**
Eight semesters in MUSIC 103 appropriate to music education emphasis (see note 2)	**8**
Eight semesters in MUSIC 31/131 through 39/139 including two semesters with advanced standing (see note 3)	**8**
MUSIC 198 (Senior Recital)	**1**
	37

Select one of the following Music Education emphases:

Choral/Vocal Music Education Emphasis

MUSIC 185A	**2**
Other music electives (with adviser's approval)	**2**

General Music Education Emphasis

MUSIC 115	**2**
MUSIC 119	**1**
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC	**1**

Instrumental Music Education Emphasis

MUSIC 119	**1**
MUSIC 159	**2**
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC	**1**
	4

See next page for footnotes.

III. Instrumental Performance

	Units
MUSIC 144	**3**
MUSIC 31/131 through MUSIC 38 (four semesters with advanced standing)[3]	**8**
Select from MUSIC 140T, 141, 142, 160T, 170A, 170B, 186, 187	**6**
Keyboard students: MUSIC 166 and 167. Guitar students: MUSIC 175T and either 111 or 112. For all other instrumentalists: MUSIC 175T and 2 units of additional pedagogy, literature, or performance courses (not including studio lessons)	**4**
Eight semesters in MUSIC 103 appropriate to major)[2]	**8**
If MUSIC 198 has not been completed by the end of the eight semesters, the student will continue in MUSIC 103 until the completion of MUSIC 198.	
Other music electives (with adviser's approval)	**10**
MUSIC 198 (Senior Recital)	**2**
	41

IV. Vocal Performance

	Units
MUSIC 144	**3**
MUSIC 39 and 139 (four semesters with advanced standing)[3]	**8**
MUSIC 113	**2**
MUSIC 158B	**2**
MUSIC 172	**2**
MUSIC 185A and B	**4**
Select from MUSIC 140T, 141, 142, 160T, 170A, 170B, 186, 187	**6**
Eight semesters in MUSIC 103 appropriate to major)[2]	**8**
If MUSIC 198 has not been completed by the end of the eight semesters, the student will continue in MUSIC 103 until the completion of MUSIC 198.	
Foreign Language	**4**
MUSIC 198 (Senior Recital)	**2**
	41

V. Composition

	Units
MUSIC 144	**3**
MUSIC 47	**2**
MUSIC 48	**4**
MUSIC 148	**5**
MUSIC 31/131 through 39/139	**4**
MUSIC 141 or 142	**3**
MUSIC 182, 183, and 184	**8**
Four semesters in MUSIC 103 appropriate to declared performing medium (instrument or voice)	**4**
Select from MUSIC 102, 117, 118	**4**
Other music electives (with adviser's approval)	**2**
MUSIC 198 (Senior Recital)	**2**
	41

VI. Jazz Studies

	Units
MUSIC 31 through MUSIC 38	4
MUSIC 131J through MUSIC 135J (must complete Jury II in jazz by the end of the second unit)	4
MUSIC 162	2
MUSIC 163	3
MUSIC 164	3
MUSIC 165	3
MUSIC 181	3
Four semesters in MUSIC 103	4
Four semesters in MUSIC 103JO or 102JE	4
MUSIC 117JC	2
Other music electives (with adviser's approval)	7
MUSIC 198 (Senior Recital)	2
	41

1 Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for MUSIC 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See *Department of Music Undergraduate Student Handbook* for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)

2 See *Other Departmental Requirements.*

3 Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: *Music as a Liberal Art*; *Music Education: Choral, General* or *Instrumental Emphasis*; *Instrumental Performance*; *Vocal Performance*; *Composition; or Jazz Studies*. Note: All students majoring in music are automatically enrolled in *Music as a Liberal Art* until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See *Department of Music Undergraduate Student Handbook* for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar, piano, or composition students who select the Music Education: Instrumental emphasis must pass the Level II Jury Exam in violin, viola, cello, contrabass, clarinet, flute, saxophone, oboe, bassoon, trumpet, trombone, horn, tuba, or percussion. Guitar, piano, or composition students who select the Music Education: Choral emphasis must pass the Level II Jury Exam in voice.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
11. Music students must earn a grade of ***C*** or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a ***CR/NC*** basis except for courses with mandatory ***CR/NC*** grading.
12. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music Minor

The minor in Music is reserved for students pursuing a degree in a field other than music. Courses taken for the minor may count toward fulfilling General Education requirements but will not count toward fulfilling a music major. The minor requires completion of 20 units of music courses with a minimum of a 2.0 GPA. At least 7 upper-division units must be completed in residence. The program must be approved by the department minor adviser. Music minors must pass the Jury I examination in their declared area of concentration (composition, instrument, or voice) by the completion of the fourth unit of studio instruction.

	Units
Required	9
MUSIC 40; 41; 74, or 1A and one of 47, 58, or 81	
Studio Instruction	4
Choose one of the following: MUSIC 31, 32, 33, 34, 35, 36, 37, 38, 48	
If a voice minor, choose 39 or 110 or a combination of the two, ***upon recommendation*** *of voice faculty.*	
Performance	4
Choose from the following: MUSIC 102, 103, 117, 118	
(Ensembles taken for credit ***must be approved*** *by the minor adviser and studio teacher.)*	
Elective	3
Choose one of the following: MUSIC 160T, 161A, 161B, 170A, 170B, 171, 187	
Total	20

Interdisciplinary Minor in Media Arts

The Minor in Media Arts is primarily designed for students pursuing degrees in art and design, mass communication and journalism, or music. *See college pages.*

Graduate Program

The Master of Arts degree program in music is designed to increase the candidate's pro-

fessional competence, to increase the ability for continued self-directed study, and to provide opportunity for greater depth in the chosen area of concentration within the field of music.

Foreign students must have achieved a minimum TOEFL score of 600 to gain entrance to the program.

With permission of the studio teacher, students with TOEFL scores between 550 and 600 may be considered for admission.

Master of Arts Degree Requirements

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements*, and *Criteria for Thesis and Project.*)

The Master of Arts degree program in music requires a bachelor's degree in music or the equivalent.

All entering M.A. students must take diagnostic entrance examinations in music history and music theory. Where needed, remedial work may be required prior to graduate study. An audition and/or entrance interview is also required.

Under the direction of graduate advisers, each student prepares and submits a coherent program individually designed within the following framework:

Courses in music, including at least 21 units in 200-series

Graduate Writing Skills Requirement

Before advancing to candidacy, students must pass the graduate writing requirement. The graduate writing requirement is a component of MUSIC 220. Students who pass all components of MUSIC 220 except the writing requirement will undertake a developmental writing program until the standards are met. The standards for the graduate writing requirement are included in the course materials for MUSIC 220.

	Units
Specific requirements	**12**
MUSIC 204, 220, one music history seminar (MUSIC 260T, MUSIC 277) and one music theory seminar (MUSIC 240T, MUSIC 267)	
Option (select one)	**10-11**
• Music Education	
• Performance	
Electives	**4-5**
Courses in music, or related fields, in a subject other than music (consult adviser)	
Project or thesis	**3**
Total	**30**

Students in the performance option who elect emphases in vocal performance and choral conducting must satisfy foreign language requirements in French, German, or Italian (see area adviser). Courses in addition to those in the M.A. requirements may be specified after examination of the student's record and the student's performance on the diagnostic entrance examination. A maximum of 4 units in MUSIC 102 taken after completion of the B.A. may be applied to the M.A. A written qualifying examination is required for admission to project or thesis.

COURSES

Music (MUSIC)

Performing Organizations

All performing organization courses may be repeated for credit and are open to both lower-division and upper-division students. Courses involve the technical and stylistic rehearsal and study of musical literature recognized for its quality and aesthetic value. Participation is required in all rehearsals and performances of the performing organizations for which student is registered.

MUSIC 102. Minor Ensembles (1; repeatable for credit)
Study and performance of literature for community chorus (CC), chamber singers (CS), flute ensemble (FE), gospel choir (GC), guitar ensemble (GE), jazz ensemble (JE), men's chorus (MC), contemporary music (CME), basketball pep band (PB), percussion (PE), string (SE), women's chorus (WC), and woodwind (WWE). For MUSIC 102GC, see AFRS 21/121.

MUSIC 103. Major Ensembles (1; repeatable for credit)
Study and performance of choral and/or instrumental literature appropriate for large ensembles such as concert choir (CC), jazz orchestra (JO), marching band (MB), and symphony orchestra (SO), symphonic band (SB), wind orchestra (WO).

MUSIC 117. Specialty Ensemble (1; repeatable for credit)
Study and performance of literature appropriate for non-conducted ensembles such as Bulldog Beat (BB), Scholarship Brass Quintet (BQ), Chamber Music (CM), Keyboard Ensemble (KE), and President's Quintet (PQ).

MUSIC 117JC. Jazz Combo (1 unit)
(Repeatable for credit.) A non-conducted ensemble that studies and performs small group jazz literature, including original compositions and arrangements by students and commissions by professional ensembles. Two weekly rehearsals focus on ensemble skills and other skills idiosyncratic to jazz performance.

MUSIC 118. Instrumental/Vocal Workshops (1; repeatable for credit)
Study and performance of music literature appropriate for groups such as band workshop (BW), opera theatre (OT), percussion workshop (PW), and vocal workshop (VW).

Instrumental, Vocal, and Composition Lessons

MUSIC 31/131 through 39/139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz section must complete 4 units of MUSIC 31 through 38 and pass Jury I to enroll in MUSIC 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

MUSIC 31/131/131J. Brass (1; max total 16)

MUSIC 32/132/132J. Percussion (1; max total 16)

MUSIC 33/133/133J. Strings (1; max total 16)

MUSIC 34/134/134J. Piano (1; max total 16)

MUSIC 35/135/135J. Woodwinds (1; max total 16)

MUSIC 38. Organ (1; max total 16)

MUSIC 39/139. Voice (1; max total 16)

MUSIC 148. Composition (1; max total 10 units)
Prerequisite: two semesters of MUSIC 48 and successful completion of Jury I. Includes individual instruction in original composition in a variety of media, forms, and styles.

Other Music Courses

MUSIC 1A. Ear Training and Sight Singing I (1 unit)
Basic drill in the singing and recognition of melodic and harmonic intervals, triads, and melodies in major and minor keys. Principles of tuning. Dictation of simple melodies in major and minor keys. Harmonic dictation using root position tonic, predominant, and dominant triads. Use of computer music programs. (Course fee, $15)

MUSIC 1B. Ear Training and Sight Singing II (1 unit)
Prerequisite: MUSIC 1A. Extension of melodic sight-singing and dictation, including passing tones and rhythms in simple/compound meter. Melodies in major and minor keys featuring leaps. Harmonic dictation using inversions of chords; recognition of basic chord patterns. (Course fee, $15)

MUSIC 1C. Ear Training and Sight Singing III (1 unit)
Prerequisite: MUSIC 1B. Extension of melodic sight-singing and dictation, including non-harmonic tones and more complex rhythms. Drill in singing and recognition of secondary triads and seventh chords. Harmonic dictation using chromaticism; recognition of chord patterns using secondary chords and modulation.

MUSIC 1D. Ear Training and Sight Singing IV (1 unit)
Prerequisite: MUSIC 1C. Melodic sight-singing and dictation featuring modal, chromatic, modulating, and post-tonal melodies. Dictation of rhythms featuring irregular beat divisions and polyrhythms. Drill of chromatic triads and extended tertian chords. Harmonic dictation using extended dominants; recognition of patterns in foreign keys.

MUSIC 4B. Piano Class II (2; repeatable for credit)
Prerequisite: MUSIC 9. Music majors and minors only. Playing skills and techniques necessary to prepare for the piano proficiency examination required of all music majors. (Course fee, $20)

MUSIC 4C. Piano Class III (2; repeatable for credit)
Prerequisite: MUSIC 4B. Playing skills and techniques necessary to prepare for the piano proficiency examination required of all music majors. Continuation of MUSIC 4B. Continuing enrollment in MUSIC 4C is required until the piano proficiency exam is passed. Letter grading only. (Course fee, $20)

MUSIC 9. Introduction to Music (3 units)
Music theory and aesthetics for the general student. Notation of pitch and rhythm. Reading, playing, and writing melodies with chordal accompaniments. Introduction to computer applications. (Course fee, $20 for piano sections only) G.E. Breadth C1.

MUSIC 11. Intermediate Guitar Technique (2 units)
Introduction to classical guitar, major, minor, and chromatic scales, chord progression, and beginning classical guitar selections.

MUSIC 12. Flamenco Interpretation (2 units)
Introduction to basic flamenco guitar techniques; rasgueados, picados, tremolos, basic rhythms, studies and interpretation of flamenco repertoire.

MUSIC 14. Accompanying I (2 units)
Prerequisite: Jury I. Designed to give the piano student accompanying experience that systematically develops proficiency in skills useful to the accompanist, chamber musician, or school music teacher. Skills include sight-reading, transposing, harmonizing, open-score reading, and "quick study."

MUSIC 20. Convocation (0)
Department student recitals, advising, and enrichment. Required of all music majors each semester they are registered for classes until the senior recital is completed. ***CR/NC*** grading only.

MUSIC 40. Theory and Literature I (3 units)
Prerequisite: concurrent enrollment in MUSIC 9. Fundamentals of music: notation, scales, intervals, keys, triads, concepts of mode and meter, principles of melody writing, and species counterpoint in two voices. Analysis of appropriate examples from musical literature. Use of music notation software. (Course fee, $15) **F**

MUSIC 41. Theory and Literature II (3 units)
Prerequisite: MUSIC 40. Figured bass and principles of voice leading. Four-part writing in choral and keyboard style. Functional harmony, seventh chords, and secondary function chords. Harmonization of melodies. Principles of form in Western art music. Analysis of representative musical literature. Use of music notation software. **S**

MUSIC 42. Theory and Literature III (3 units)
Prerequisite: MUSIC 41. Continuation of figured bass and part writing, emphasizing chromaticism, altered chords, and extended tonality. More advanced musical forms. Study of representative musical examples. Use of music notation software. **F**

MUSIC 43. Theory and Literature IV (3 units)
Prerequisite: MUSIC 42. Non-tonal harmony (e.g. quartal, pandiatonic). Introduction to set theory and basic twelve-tone technique. Jazz harmony and principles of improvisation. Survey of representative compositions of the twentieth century with respect to style and structure. Use of music notation software. **S**

MUSIC 47. Introduction to Music Technology (2 units)
Principles, uses, techniques, and applications of music technology. Experience with current hardware and software for sequencing, and synthesis, as well as digital recording and editing.

MUSIC 48. Seminar in Composition (2; max total 6 units)
Prerequisite: MUSIC 47 (may be taken concurrently with permission of instructor). Aural-analytic introduction to study of origins and developments of major compositional concepts and genres in Western music; exercises and creative writing; problems of concepts in notation.

MUSIC 58. Basic Conducting (2)
Prerequisite: MUSIC 41. Fundamentals of conducting and score-reading; standard patterns and stick technique.

MUSIC 60T. Topics in Music (1-3; max total 6; repeatable for credit)
Special studies in ethnomusicology or music appreciation, business, education, history, literature, theory, or technology.

MUSIC 74. Listener's Guide to Music (3 units)
Exploration of a wide range of musical styles (past, present, classical, and popular) through guided practical experiences and the development of an aesthetic sensitivity for music of various cultures. G.E. Breadth C1.

MUSIC 75. History of Rock and Roll (3 units)
The history of rock and roll and its musical precedents. The music, musical styles, and musicians of rock and roll, as well as the most important cultural, sociological and philosophical factors that influenced and were influenced by rock and roll. G.E. Breadth C1.

MUSIC 110. Voice for Non-Music Majors (1; repeatable for credit)
Acquaints the non-music major with basic principles of good singing; applies principles of good singing to different song styles; and helps the non-music major voice student develop and strengthen performing skills.

MUSIC 111. Advanced Guitar Technique (2 units)
Advanced studies in classical guitar works, diatonic major and minor scales, chord progression, and interpretation of classical guitar repertoire.

MUSIC 112. Advanced Flamenco Interpretation (2 units)
Special studies in flamenco guitar interpretation including advanced techniques, traditional rhythms, improvisations, and analysis of music, songs and dance. For majors and non-majors.

MUSIC 113. Vocal Pedagogy (2 units)
Open to upper-division vocal performance majors only. Prerequisites: passing of Jury II, all lower-division music core courses, as well as at least one semester of music history, MUSIC 161A or 161B. Principles, teaching procedures, materials, and physiology of the voice, and historical background for teaching solo and group lessons.

MUSIC 114. Accompanying II (2 units)
Prerequisite: MUSIC 14. Student will perform regularly, accompanying one or more soloists or groups throughout the semester by assignment. In addition, there will be readings and exercises to further develop skills studied in MUSIC 14.

MUSIC 115. Intermediate Guitar for Classroom Teachers (2 units)
Continued development of guitar skills for the general music teacher. Intermediate group instruction on the acoustic guitar with focus on techniques and materials appropriate for accompanying classroom music. Topics include chord structures, strumming, picking style, and fingering techniques.

MUSIC 119. Voice Techniques and Materials (1 unit)
Prerequisite: MUSIC 41. Principles, playing and teaching procedures, and materials for teaching voice in the elementary school, high school, and community college. (Course fee, $20)

MUSIC 120. Class Piano Techniques and Materials (1 unit)
Prerequisites: MUSIC 41, passed piano proficiency. Study of techniques and materials appropriate for teaching class piano to beginners in elementary school, middle school, high school, and community college music classrooms.

MUSIC 122A. String Techniques and Materials (2 units)
Prerequisite: MUSIC 41. Principles and physics of stringed instruments; playing procedures and materials for teaching beginning string students from elementary school through community college. (Course fee, $20)

MUSIC 124A. Woodwind Techniques and Materials (2 units)
Prerequisite: MUSIC 41. Principles and physics (including common transpositions) of woodwind instruments; playing procedures and materials for teaching beginning woodwind students from elementary school through community college. (Course fee, $20)

MUSIC 126. Percussion Techniques and Materials (2 units)
Prerequisite: MUSIC 41. Principles, playing and teaching procedures, and materials for teaching percussion instruments in the elementary school, high school, and community college. (Course fee, $20)

MUSIC 127A. Brass Techniques and Materials (2 units)
Prerequisite: MUSIC 41. Principles and physics (including common transpositions) of brass instruments; playing procedures and materials for teaching beginning brass students from elementary school through community college. (Course fee, $20)

MUSIC 129. Reed Making (1 unit)
Required for oboe and bassoon players. Individual or group supervision in all aspects of the art of reed making. Repeatable for credit until such time as student and professor mutually agree that supervision is no longer necessary. ***CR/NC*** grading only.

MUSIC 130T. Topics in Performance (2; max total 12; repeatable for credit)
Special studies in vocal or instrumental music, including topics such as accompanying, electronic instruments, mixed chamber music.

MUSIC 140T. Topics in Theory (3; max total 9; repeatable for credit)
Prerequisite: MUSIC 43. Analytical study of specific composers, genres, styles, and diverse approaches to music theory.

MUSIC 141. Seminar in Modal Counterpoint (3 units)
Prerequisite: MUSIC 43. Polyphony of the 15th and 16th centuries; analysis and composition of melodic lines, simple counterpoint, types of imitation; writing motets with text in two or more parts.

MUSIC 142. Seminar in Canon and Fugue (3 units)
Prerequisite: MUSIC 42. Polyphony of the 17th and 18th centuries; analysis and composition of melodic lines, imitative, strict and invertible counterpoint, canon, and fugue.

MUSIC 144. Form and Analysis (3 units)
Prerequisite: MUSIC 42. Principles of musical form and analysis as applied to musical repertoire. Includes an introduction to the Schenker method of music analysis and review of chromatic harmony as necessary.

MUSIC 147. Digital Music Production (3 units)
Prerequisite: MUSIC 9 and 47 or permission of instructor. Lecture and discussion on digital audio design for various forms of media. Practical experience designing and producing audio and music in a digital format.

MUSIC 153. Children's Music (3 units)
Open to nonmajors only. Introduction to song literature and singing games suitable for children. Development of in-tune singing, ear training, and sight-singing skills.

MUSIC 154. Music for the Elementary Classroom (3 units)
Music majors only. Prerequisites: MUSIC 41, passed piano proficiency. Song literature, musical games, and basic skills for the recorder and guitar appropriate for use in the elementary music classroom. Course content derived from the folk music and musical contributions of world cultures.

MUSIC 155. Advanced Elementary Classroom Techniques (3 units)
Prerequisite: MUSIC 153 for students not majoring in music. Individual research on the place and functions of music in preschool and elementary school curriculum; selection, discussion, and analysis of musical materials including state texts; planning activities that enable children to develop aesthetic sensitivity, musical skills, and understanding.

MUSIC 158A. Advanced Instrumental Conducting (2; max total 4 units)
Prerequisite: MUSIC 58. Advanced instrumental conducting and score reading; rehearsal techniques; problems in tempo, balance, style, and phrasing; mixed meters and other contemporary problems. Assigned projects in conducting.

MUSIC 158B. Advanced Choral Conducting (2; max total 4 units)
Prerequisite: MUSIC 58. Advanced choral conducting and score reading; rehearsal techniques; problems in tempo, balance, style, and phrasing; mixed meters and other contemporary problems. Assigned projects in conducting.

MUSIC 159. Marching Band Techniques (2 units)
Prerequisite: MUSIC 41. Offered fall semester only. Practical and creative aspects of producing musical shows and marching

formations for athletic events, parades, and public ceremonies. Use of computer programs.

MUSIC 160T. Topics in Music History and Literature (1-3; max total 9; repeatable for credit)
Study of selected musical genres, composers, and other specialized topics.

MUSIC 161A. Survey of Western Art Music I (3 units)
Prerequisite: MUSIC 41, MUSIC 74, and junior-level status (60 units or more). Study of representative composers, genres, and major works. Emphasis on changing concepts of "music," development of styles, and relation of music to the history of ideas and to relevant institutions and social customs up to approximately 1800 A.D. **F**

MUSIC 161B. Survey of Western Art Music II (3 units)
Prerequisite: MUSIC 41 MUSIC 74, and junior-level status (60 units or more). Study of representative composers, genres, and major works. Emphasis on changing concepts of "music," development of styles, and relation of music to the history of ideas and to relevant institutions and social customs from Beethoven to the present. **S**

MUSIC 162. Jazz Pedagogy (2 units)
Prerequisite: MUSIC 43. Junior music major. Basic rehearsal techniques for small and large ensembles of the secondary and collegiate levels. Survey of pedagogical concepts, performance practices, and performance repertory for jazz ensembles.

MUSIC 163. Jazz History (3 units)
Prerequisite: junior music major in the Jazz Option, permission of instructor. The history of jazz in America for the intermediate/advanced performer through study of important innovators, performers, composers, and improvisers.

MUSIC 164. Jazz Theory and Improvisation I (3 units)
Prerequisite: MUSIC 43, concurrent enrollment in MUSIC 102JEA or 102JEB. Provides basic and intermediate foundation in theory and improvisational styles within the jazz idiom.

MUSIC 165. Jazz Theory and Improvisation II (3 units)
Prerequisite: MUSIC 164, concurrent enrollment in MUSIC 102JEA or 102JEB. Provides intermediate and advanced foundation in theory and improvisational styles within the jazz idiom.

MUSIC 166. Piano Pedagogy (2 units)
Piano majors only. Principles, playing and teaching procedures, and materials for teaching individual and small group piano lessons to students from elementary school age through community college. (Course fee, $20)

MUSIC 167. Keyboard Literature (2 units)
Piano majors only. A historical survey of the standard repertoire for the piano.

MUSIC 169. Instrumental Techniques and Materials (2 units)
Prerequisites: MUSIC 43, 158A or B, pass conducting proficiency, MUSIC 121-127A. Offered spring semester only. Principles, procedures, literature, and materials for use in instrumental music programs in the public schools. (Expenses for off-campus visits will be incurred by student.)

MUSIC 170A. Music of the Americas: Latin America (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Examination of the musics of Latin America with special emphasis on art-music and its relationship to folk-popular musics as influenced by social, ideological, and political cross-currents. G.E. Integration IC.

MUSIC 170B. Music of the Americas: United States (3 units)
Representative styles and genres of music in the United States with particular attention to social contexts of repertories and music interactions between elite and popular traditions.

MUSIC 171. Introduction to the World's Music (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Exploration of selected musics of the world from the perspective of ethnomusicology or study of music as an aesthetic communication that possesses meaning only in relation to specific, situated sociocultural contexts. Study of selected musical forms and their relationship to social formations. G.E. Integration IC.

MUSIC 172. Vocal Literature (2 units)
Prerequisite: MUSIC 41. For students who major or minor in vocal music. A historical survey of the standard repertoire for the voice.

MUSIC 175T. Topics in Instrumental Pedagogy (2 units)
Principles, playing and teaching procedures, and materials for teaching individual instrumental (flute, oboe, clarinet, bassoon, horn, trumpet, trombone, tuba, violin, viola, violoncello, contrabass, harp, guitar, percussion) lessons to students of varying skill and artistic levels.

MUSIC 179. Choral Techniques and Materials (2 units)
Prerequisites: passed piano proficiency; MUSIC 43, MUSIC 158A or 158B. Principles, choral techniques, literature, and materials for use in vocal music programs in the public schools. (Expenses for off-campus visits will be incurred by student.)

MUSIC 179L. Choral Techniques Lab (1 unit)
Prerequisites: passed piano proficiency. Piano skills necessary for music educators. Students learn to read opera scores at the piano, lead rehearsals from the piano, play vocal exercises for choirs, and increase sightreading ability. Concurrent enrollment in MUSIC 179 required. *CR/NC* grading only.

MUSIC 180. Children's Choirs: Techniques and Literature (3 units)
Prerequisite: MUSIC 155. Basic overview of materials, techniques, and procedures applicable to the choral experience at the elementary level. Topics include conducting for the elementary school choral director, vocal pedagogy for children, and a survey of appropriate choral literature.

MUSIC 181. Jazz Composition and Arranging (3 units)
Prerequisites: MUSIC 43; junior music major in the Jazz Option or permission of instructor. Study of composition and arranging in the jazz idiom. Skills and creative concepts necessary for the design and creation of jazz arrangements for various-sized ensembles.

MUSIC 182. Basic Arranging (2 units)
Prerequisites: MUSIC 1B, 42. Basic course in scoring and arranging for band, orchestra and choral ensembles. Ranges, transposition, technical capabilities of band and orchestra instruments and the voice. Emphasis on arranging for musicians typically found in elementary and secondary schools. Use of computer notation and sequencing programs. (Course fee, $15)

MUSIC 183. Advanced Choral Arranging (3; max total 6; repeatable for credit)
Prerequisite: MUSIC 182. Advanced course in scoring and arranging for various sizes and types of choral ensembles. Studies, in depth, composing and arranging in various choral idioms. Use of computer notation and sequencing programs. (Course fee, $15)

MUSIC 184. Advanced Instrumental Arranging (3; max total 6; repeatable for credit)
Prerequisite: MUSIC 182. Advanced course in scoring and arranging for band and orchestra instruments. Studies, in depth, problems of idiomatic writing for the instruments and sonorities. Use of computer notation and sequencing programs. (Course fee, $15)

MUSIC 185A. Lyric Diction I (2 units)
Prerequisite: MUSIC 41 and successful completion of one year of MUSIC 39 or 139 or permission of instructor. Introductory study of the international phonetic alphabet and its application to singing in English, Italian, German, French, Spanish, and Latin.

MUSIC 185B. Lyric Diction II (2 units)
Prerequisite: MUSIC 185A. For vocal performance majors or with permission of instructor. Singers' advanced diction studies of English, Italian, German, French, and Spanish, as well as other languages used in the standard Western art music vocal repertoire.

MUSIC 186. Arranging and Composing Using MIDI (3 units)
Prerequisite: MUSIC 182. Arranging and composing using MIDI sequencing. Students record and edit musical material in the MIDI/computer-based production facility. Finished works will be exported to music notation programs and recorded to digital audio media. Works will be performed in pubic concerts.

MUSIC 187. Pop Music: Jazz and Rock (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Survey of styles, trends, and the musical and cultural roots of pop music, jazz, and rock in the United States, Great Britain, and the West Indies. Guidelines for listening to and writing about music. G.E. Integration IC.

MUSIC 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

MUSIC 191. Readings in Music (1-3; max total 6 units)
Prerequisite: permission of instructor. In-depth readings and discussions in individual conferences; subjects to be selected by students and their advisers. May be preliminary research in connection with thesis topic. Approved for ***RP*** grading.

MUSIC 198. Senior Recital or Project (1 or 2)
Prerequisites: passed piano proficiency, senior standing, approval of major applied music instructor or adviser. Preparation and presentation of a satisfactory senior recital or project.

GRADUATE COURSES

(See Catalog Numbering System.)

Music (MUSIC)

MUSIC 204. Graduate Music Theory Survey (3 units)
Prerequisite: graduate standing. Required of all M.A. candidates in music. A comprehensive survey of the disciplines of harmony, counterpoint, and analysis, with respect to the music of the 18th through 20th centuries, with an emphasis on review and reinforcement. Topics include species counterpoint, figured bass, voice leading, principles of Schenkerian analysis, and basic atonal and twelve-tone theory.

MUSIC 210. Studies in Performance (2; max total 6; repeatable for credit)
Open only to master's degree students majoring in performance or to other master's students by permission of instructor. Prerequisite: MUSIC 220. Individually directed studies in performing or conducting instrumental or vocal music; historical and theoretical interpretation applied in preparation for public recitals and concerts of works from the standard literature of all periods in the student's major performance area. Approved for ***RP*** grading.

MUSIC 211. Graduate Performance Ensemble (2; max total 6; repeatable for credit)
Prerequisite: graduate standing or permission of instructor. Ensemble performance of instrumental or choral music with emphasis on historical and theoretical interpretation of advanced level literature. This course includes technical, stylistic, and aesthetic elements of musical literature, rehearsal, and public performance.

MUSIC 219T. Seminar in Music Education (3; max total 9 if no course repeated)
Topics of special concern to the teacher or administrator. Individual research projects and discussion of problems in the area of literature, philosophy, and practices of teaching, administration, and curriculum planning.

MUSIC 220. Seminar in Research Methods and Bibliography (3 units)
Bibliography, sources, and research techniques necessary for graduate study in music. Individual projects and research; satisfies graduate writing requirement. Required of all students working for the master's degree in music.

MUSIC 221. Foundations of Music Education (3 units)
Prerequisite: MUSIC 220. Historical, curricular, and philosophical foundations of music education. Research in learning theories, teaching strategies, and concept development. Evaluation of contemporary trends and techniques in methodology.

MUSIC 234. Studies in Composition (2; max total 6 units)
Open only to master's degree students majoring in composition. Prerequisite: MUSIC 220. Individually directed studies in composition with contemporary techniques of an extended work equivalent in substance to a sonata, cantata, or other composition of major proportions. Approved for ***RP*** grading.

MUSIC 240T. Advanced Topics in Music Theory (3; repeatable for credit)
Prerequisite: MUSIC 204 and 220. Advanced analytical study of specific composers, genres, styles, and diverse interdisciplinary approaches to music theory. A final paper or project is a central component of this course.

MUSIC 257A. Seminar in Choral Conducting (3 units)
Prerequisite: MUSIC 158A or 158B or equivalent. Advanced study of conducting choral music in the Western tradition. Students will organize and complete projects that address the preparation, interpretation, rehearsing, and performance of choral music.

MUSIC 258T. Topical Seminars in Conducting (1-3; max 6)
Prerequisite: MUSIC 158A or 158B. Advanced studies in selected topics related to conducting. Projects with particular attention to rehearsal techniques, score preparation, and interpretation.

MUSIC 259T. Topical Seminars in Vocal Music (1-3; max 6)
The study of advanced level song literature, song interpretation, and performance practice as applied to standard and special vocal repertoire.

MUSIC 260T. Topical Seminars in Music History (3; max 9)
Prerequisite: MUSIC 220. Current methods, resources, and issues in music history, with application to specific topics focusing on major Western composers, major genres, landmark works or repertories, issues in musical aesthetics and criticism.

MUSIC 267. Seminar in Contemporary Music (3 units)
Prerequisite: MUSIC 220. Critical and analytical study of the sources, selected works, and composers of the 20th century, with particular emphasis on avant-garde movements and schools. A term paper will be a central requirement for successful completion of this course.

MUSIC 269T. Topical Seminars in Instrumental Music (1-3; max 6)
The study of advanced level instrumental literature, score interpretation, and performance practices as they apply to standard and special instrumental literature.

MUSIC 277. Seminar in American Music (3 units)
Prerequisite: MUSIC 220. Critical and analytical study of the historical sources, selected works, and composers in the United States from 1620 A.D. to the present. A term paper will be a central requirement for successful completion of this course.

MUSIC 279T. Topical Seminars in Choral Music (1-3; max 6)
The study of advanced level choral literature, performance practices, interpretation, and rehearsal techniques pertinent to various choral ensembles.

MUSIC 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

MUSIC 291. Readings in Music (1-3; repeatable for credit)
Prerequisite: permission of instructor. Readings in depth and discussions in individual conferences; subject to be selected by students and their advisers. May be preliminary research in connection with thesis topic. Approved for ***RP*** grading.

MUSIC 298. Project (3 units)*
See *Criteria for Thesis and Project*. Completion of an approved project appropriate to the candidate's area of specialization. To be used in place of MUSIC 299 for majors in performance, composition, and as an option for majors in music education. The graduate recital, for performance majors, will consist of an approved program containing at least one hour of music. Approved for ***RP*** grading.

MUSIC 299. Thesis (3 units)*
Prerequisite: See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSES

(See Catalog Numbering System.)

Music (MUSIC)

MUSIC 307. Musical Instrument Repair (l; max total 3 units)
Maximum total credit 3 units, provided instrumental groups are not repeated. Criteria for selection; techniques for care and repair of music instruments. Instrumental grouping: brass and percussion; woodwind and strings; piano.

MUSIC 309T. Workshop: Vocational and Avocational Music Topics (1-3; max total 6 units)
Topics such as New State Music Textbooks, Elementary School Classroom Instruments, Folk Music and Dancing, Piano Teachers' Workshop, Brass Music, Creative Approaches to Classroom Music, Exploring Sound and Music.

Philosophy

College of Arts and Humanities

Department of Philosophy
Andrew Fiala, *Chair*
Music Building, Room 102
559.278.2621
FAX: 559.278.6484
www.fresnostate.edu/philosophy/

B.A. in Philosophy
Options:
- Prelaw
- Religious Studies

Minor in Philosophy

Peace and Conflict Studies Minor

Certificate in Peacebuilding and Mediation

The Department

Philosophy is one of the fundamental domains of human thought. It grows out of basic life questions, including questions of ethics, religion, politics, and science. The study of philosophy has had an historic role in the core of sound education, because it helps sharpen skills of careful, independent thinking and aids people of all ages in defining their most important values and beliefs. The examination of great philosophical ideas, and the emphasis on clear reasoning and personal development that are involved in philosophy serve as a strong foundation for life, regardless of one's career objectives.

The Department of Philosophy offers students the following opportunities for a rich and rewarding undergraduate experience: the traditional B.A. philosophy major, the prelaw option, the religious studies option, and the philosophy minor. The department provides ample opportunity for individual attention and student participation in its activities, e.g., student Philosophy Club, symposia, colloquia, etc.

The Prelaw Option emphasizes analytical skills, ethics, and values courses. Law schools seek a broad general education background and do not recommend any specific major. Students who enjoy philosophy and are interested in law should find this option an excellent way to combine their interests.

The Religious Studies Option offers objective methods for exploring the vast and complex human experience known as religion. This study is done with an appreciation for the variety and diversity of religious beliefs and expressions. This option provides students with an academic approach to religion in personal, social, historical, and global contexts.

Faculty and Facilities

The department has a diverse and well-trained faculty with special interests ranging from logic and scientific method to existentialism and philosophy of religion. All members of the department share the conviction that the best way to teach philosophy is through an intense but sympathetic interchange between the teacher and the student. Our conference room is a pleasant and frequently used meeting place for students and faculty.

Career Opportunities

The undergraduate major provides an excellent foundation for a variety of professional careers as well as for graduate study in philosophy. Students who complete a major in philosophy develop analytical, critical, and communicative skills which are demanded by law schools, seminaries, and training programs in government and business. Thus, graduating majors are often in a competitive position for occupations that at first glance are not obviously related to the study of philosophy. In fact, people who have majors or minors in philosophy can be found in almost all areas of endeavor, from medicine, law, and the ministry, to teaching, social work, and fine arts.

Faculty

Andrew Fiala, *Chair*
Pedro Amaral
Mariana Anagnostopoulos
Ann E. Berliner
Vincent Biondo
Andrew Fenton
Barbara LaBossiere
Chunghyoung Lee
Robert D. Maldonado
Terry R. Winant

Bachelor of Arts Degree Requirements

Philosophy Major

Students must select from the Philosophy Major, the Prelaw Option, or the Religious Studies Option.

Units

Philosophy Major requirements 33
PHIL 25, 45, or 145 ..... (3)
PHIL 101 and 103 ..... (6)
PHIL 105, 140, 146, 150, 151, 156, or 157 ..... (6)
PHIL 115 or 118 ..... (3)
PHIL 170T ..... (3)
Approved philosophy electives ..... (12)
General Education requirements..... 51
Upper-division writing skills requirement..... 0
Upper-Division Writing Exam (see Advising Note 6.)
Electives and remaining degree requirements 37-40*
(see *Degree Requirements*); may be used toward a double major or minor
Total 120

Prelaw Option requirements 33

The Prelaw Option emphasizes critical thinking and analytical skills, as well as ethics and issues related to law. It also includes a law-related intern experience. Law schools do not prefer any specific major, but emphasize critical thinking and general education. (See *Preprofessional Preparation*). Students with a strong interest in philosophy as well as law may find this option valuable. Depending upon the interests of the student, courses or minors in political science, business, criminology, and a variety of social sciences would be useful electives for the Prelaw Option.

PHIL 45 ..... (3)
PHIL 101 or 103 ..... (3)
PHIL 115 or 118 ..... (3)
PHIL 120 or 122 ..... (3)
PHIL 121 or 127 ..... (3)
Select two: PHIL 140, 146, 150, 151, 156, or 157 ..... (6)
PHIL 170T ..... (3)
PHIL 199 ..... (3)
Approved outside electives: ANTH 119; CRIM 20; AFRS 146; BA 18; PLSI 110, 111, 170, 171; COMM 105, 149, 163, or other approved courses ..... (6)
General Education requirements..... 51
Upper-division writing skills requirement..... 0
Upper-Division Writing Exam (see Advising Note 6.)
Electives and remaining degree requirements 36-39*
(see *Degree Requirements*); may be used toward a double major or minor
Total 120

Religious Studies Option requirements 33-34

The department has prepared a special program for those who wish to engage in a combined study of philosophy and religion. This option emphasizes the comparative and ecumenical study of religion. Students with a general interest in religion might consider this option. Those who wish to pursue a religious vocation or do graduate work in religious studies will find it especially valuable.

PHIL 25, 45, or 145 ..... (3)
PHIL 101, 103, 104, 105, or 107 ..... (3)
PHIL 130 and 131 ..... (6)
PHIL 133W or 134 ..... (3-4)
PHIL 136, 137, or 138 ..... (3)
PHIL 139 or 158 ..... (3)
PHIL 170T or 172T ..... (3)
Approved outside electives: HIST 103, 116, ANTH 116W; SOC 169; WS 148....(3)
Two additional upper-level philosophy courses ..... (6)
General Education requirements..... 51
Electives and remaining degree requirements 38-40*
(see *Degree Requirements*); may be used toward a double major or minor
Total 120

*This total indicates that PHIL 25 or 45 (3 units) in G.E. Foundation A3 also may be applied to the philosophy major.

Advising Notes

1. ***CR/NC*** grading is not permitted in courses used to fulfill the philosophy major requirements.
2. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students intending to pursue graduate study in philosophy, law, or religious studies should seek a faculty adviser's help in planning adequate preparation.
4. Visit the Philosophy Department office or your faculty adviser for the list of approved ***T*** classes for the major.
5. No General Education Integration or Multicultural/International course offered by the Philosophy Department may be used to satisfy the General Education requirements for majors in the department.
6. If the upper-division writing skills requirement is not met by passing the university Upper-Division Writing Examination (0 units), then a 3- to 4-unit ***W*** course must be passed with a grade of ***C*** or higher.

Philosophy Minor

The Minor in Philosophy consists of 15 units in philosophy, of which at least 9 units must be upper division. Philosophy courses taken to satisfy the minor must be letter-graded.

Note: The Philosophy Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Peace and Conflict Studies

Peace and Conflict Studies (21-unit minor) prepares students, including potential leaders, with peacemaking and conflict management skills they can apply to daily life situations. This interdisciplinary minor is open to students in any academic discipline or chosen profession. The program has been developed to provide an interdisciplinary perspective to the study of conflict, violence, war, and peace. Such an approach is essential in view of the highly complex, interconnected, interdependent world in which we live. This requires an understanding that allows people to respond creatively, rather than thoughtlessly, to conflict and violence at various levels.

Core Faculty

Arthur Wint, *Criminology*, *Coordinator*
Pamela Lane-Garon, *Educational Research and Administration*
Marilyn Shelton, *Literacy and Early Education*

Affiliated Faculty

Bernadette Muscat, *Criminology*
Kenneth J. Ryan, *Criminology*

Requirements for the Minor

A total of 21 units, which will include:

1. 15 units from the Areas of Study. It is strongly recommended that 3 units be taken from each of the five Areas of Study. However, four out of the five areas must be covered.
2. PAX 185 - Internship (3 units) or PAX 190 - Independent Study (3 units).
3. **PAX 100. Peace and Conflict (3)** Provides an overview of causes and types of conflict, critical examination of issues related to war, peace, and justice.
4. The minor also requires a minimum 2.0 GPA and six upper-division units in residence.
5. Courses also can fulfill General Education requirements as appropriate.

Areas of Study

AREA I — Personal and Interpersonal Issues
SOC 162, 165, 168; COMM 108, 162; PHIL 10, 157; PSYCH 61

AREA II — Community and Social Issues
ANTH 120; AFRS 144; CRIM 140; CLAS 128; ECON 140; ISC 93; SOC 111; PHIL 120, 125; PLSI 116; WS 108, 116

AREA III — International and Global Issues
AGBS 140; AFRS 150; BA 174; ECON 114, 179; GEOG 163; HIST 105; PLSI 120, 121, 122, 125; SOC 157

AREA IV — Conflict Management
AGBS 117; BA 156; HIST 166, 185; HRM 152; PLSI 126; COMM 164, 169

AREA V — Education for Peace and Nonviolence
AFRS 145; KINES 111; PHIL 131; SOC 122

Certificate in Peacebuilding and Mediation

12 units: Peacebuilding, Mediation, Internship, and Elective

Open to all majors. Contact the coordinator for details.

COURSES

Philosophy (PHIL)

PHIL 1. Introduction to Philosophy (3 units)
Prerequisite: G.E. Foundation A2. Introduction to the basic issues, disputes, and methods of traditional and contemporary philosophy, including theory of knowledge, ethics, metaphysics, religion, and social theory. Development of skills in analysis, logical thinking, and self-expression. G.E. Breadth C2. **FS**

PHIL 2. Exploring Religious Meaning (3 units)
Prerequisite: G.E. Foundation A2. Introduction to exploration of the many dimensions of religions. Topics include tools and resources of the academic study of religion, the sacred/holy, symbolism, myth, ritual, religious origin, and destiny. G.E. Breadth C2. **FS**

PHIL 10. Self, Religion, and Society (3 units)
Prerequisite: G.E. Foundation A2. Conceptions of human nature; nature and varieties of religion; personal and social implications and values of religion. G.E. Breadth C2. **FS**

PHIL 20. Moral Questions (3 units)
Prerequisite: G.E. Foundation A2. Introduction to ethics and its place in human experience. Ethical theory; methods of reasoning about values. Typical issues include euthanasia, privacy, work ethics, sex, happiness, capital punishment, censorship, social justice, and environment. Non-Western perspectives; materials from arts and humanities (e.g., literature, film). G.E. Breadth C2. **FS**

PHIL 25. Methods of Reasoning (3 units)
Principles and methods of good reasoning. Typical topics: identification of argument structure, development of skills in deductive and inductive reasoning, assessing observations and testimony reports, language and reasoning, common fallacies. (PHIL 25 and PHIL 45 cannot both be taken for credit.) G.E. Foundation A3. **FS**

PHIL 45. Introduction to Logic (3 units)
Basic concepts and methods of logic; development of skills in deductive and inductive reasoning, with emphasis on deduction. Elementary formal techniques for propositional logic; categorical logic, fallacies, and language. (PHIL 25 and PHIL 45 cannot both be taken for credit.) G.E. Foundation A3.

PHIL 101. Ancient Philosophy (3 units)
Development of Western Philosophy from its beginning; the emergence of critical theory, doctrines, and schools of thought in Greek culture. Topics typically include: Presocratics, Sophists, Socrates, and the works of Plato and Aristotle.

PHIL 103. Bacon to Kant (3 units)
Development of early modern philosophy: the search for new scientific methods — Bacon, Descartes, Spinoza, Newton, and Locke; empiricism and skepticism — Berkeley and Hume; rationalist metaphysics — Leibniz; influences on moral and political thought — the Enlightenment; Rousseau; Kant's critical philosophy.

PHIL 104. Nineteenth Century Philosophy (3 units)
Covers principal developments in European and American philosophy from Kant to James. Figures include Hegel, Fichte, Schelling, Schopenhauer, Kierkegaard, Feuerbach, Marx, Engels, Mill, Nietzsche, Emerson, Thoreau, Peirce, James, and others. Movements include idealism, dialectical materialism, transcendentalism, pragmatism, existentialism, and humanism.

PHIL 105. Twentieth Century Philosophy (3 units)
Principal developments in philosophy after 1900. Figures and movements include: logical atomism, logical positivism, linguistic analysis, pragmatism, phenomenology, existentialism, G. E. Moore, Russell, Wittgenstein, Whitehead, Dewey, Santayana, Husserl, Heidegger, Sartre, Austin, Ryle, Strawson, Carnap, and Ayer.

PHIL 107. Existentialism (3 units)
Examination of roots of existentialism in Kierkegaard and Nietzsche; study of such 20th century existentialists as Sartre, Heidegger, Jaspers, Buber. Typical problems examined: nature of mind, freedom, the self, ethics, existential psychoanalysis.

PHIL 110. Feminist Philosophy (3 units)
Introduction to feminist approaches to philosophy and to specifically philosophical approaches to gender. Several philosophical issues will be explored at some depth. These might be drawn from the following areas: personal identity; values and society; political authority; knowledge and reality.

PHIL 115. Ethical Theory (3 units)
Introduction to the fundamental concepts and problems of moral theory. Examination of various ethical theories, including relativism, egoism, utilitarianism, intuitionism, and non-cognitivism; the meaning of ethical terms.

PHIL 118. Social and Political Theory (3 units)
Examination of traditional and contemporary theories of society and government. Analysis of basic concepts such as the common good, social contract, authority, justice, and natural rights.

PHIL 120. Contemporary Conflicts of Morals (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Exploration of moral issues through great works, such as philosophy, novels, dramas, or films. Looks at questions such as, "What is it to be moral? Why be moral? Why care about others? How should scarce resources be distributed? What is integrity?" G.E. Integration IC. **FS**

PHIL 121. Ethics in Criminal Justice (3 units)
Philosophical issues concerning society's treatment of criminal behavior. Topics discussed include: morality and law; punishment or rehabilitation; safe vs. repressive society, and what types of deviant behavior should be regarded as criminal?

PHIL 122. Introduction to Professional Ethics (3 units)
Survey of ethical issues and standards facing a range of professionals in their careers, including engineering, law, medicine, the media, science, agriculture, education, and business. Introduction to basic ethical theories and methods of reasoning about moral dilemmas.

PHIL 123. Bioethics (3 units)
Prerequisites: G.E. Foundation and Breadth Area B2 and either PHIL 20 or PHIL 120 or instructor consent. Not open to freshmen. Survey of ethical issues within the biomedical sciences. Typical issues include research ethics, informed consent, genetics, stem cell research, non-Western perspectives, ethical and legal regulation. **S** (Formerly PHIL 165T)

PHIL 125. Issues in Political Philosophy (3 units)
Examination of prominent political philosophies and contemporary issues of politics and public policy. Policy issues may include the scope and limits of government authority, the role of government in the economy, foreign policy, health care, education, agriculture, and the environment.

PHIL 127. Philosophy of Law (3 units)
Nature and functions of law; methods of justifying legal systems; logic of legal reasoning; analysis of fundamental legal concepts.

PHIL 130. Philosophy of Religion (3 units)
The nature and function of religious faith, belief, and practice; relations between religion and morals; existence of God; problem of evil; nature and significance of religious experience.

PHIL 131. Comparative Religion (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. A study of major religions of the world, their traditions, teachings, influential texts, methodological and comparative approaches. Emphasis on major Western and non-Western religions such as Hinduism, Buddhism, Confucianism, Daoism, Judaism, Christianity, and Islam. G.E. Multicultural/International MI. **FS**

PHIL 132. Religion and the Margin (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Exploration of elements facing religious studies that have been historically moved from the center to the side (marginalized), such as women's experience, ethnicity, gender, and class. Focus will include how religion has both supported and resisted this move. G.E. Multicultural/International MI. **FS**

PHIL 133W. Literature of the New Testament (3 units)
(Same as ENGL 115W.) Prerequisite: satisfactory completion (*C* or better) of the ENGL 5B or 10 graduation requirement. Discussion and close written analyses of selected texts from the New Testament. Meets the upper-division writing skills requirement for graduation. **FS**

PHIL 134. Literature of the Old Testament (4 units)
(Same as ENGL 116.) Discussion and written analyses of selected texts from the Hebrew Bible. Special attention to the sources and styles of biblical literary techniques.

PHIL 135. Asian Religious Traditions (3 units)
A study of the major beliefs and values of the Asian religious traditions, including an examination of some of the classical texts central to Asian religions.

PHIL 136. Buddhism (3 units)
Introduction to Buddhism. Life and teachings of Gautama Siddhartha Buddha; development of Buddhism after death or mahanirvana of the Buddha.

PHIL 137. Hinduism (3 units)
Introduction to the development and ideas of Hinduism, including an examination of classical scriptural texts, e.g., Upanishads, Bhagavad-gita, as well as modern Hindu writings.

PHIL 138. Chinese Thought (3 units)
Introduction to the development of major ideas and systems of thought in China; emphasis on Confucian, Taoist, and Chinese Buddhist traditions.

PHIL 139. Islam (3 units)
Introduction to Islam, including the Qur'an, life of Muhammad, sectarianism, leadership, Islamic law, science, calligraphy, Ramadan, and Hajj. (Formerly PHIL 165T)

PHIL 140. Advanced Reasoning Skills (3 units)
Development of skills in the analysis of arguments, thinking clearly, and reasoning well. Emphasis on problems and skills involving language (e.g., clarifying meaning, handling vagueness, handling verbal component of disputes), and on inductive inferences in everyday life.

PHIL 145. Symbolic Logic (3 units)
(Similar to MATH 110; consult department.) Prerequisite: PHIL 25 or 45 or permission of instructor. Theory of deductive inference; includes propositional logic, predicate logic, relations, identity, definite description, nature of axiom systems.

PHIL 146. Philosophy of Language (3 units)
Nature and uses of language; theories of meaning; concepts of reference, predication, truth, name, ambiguity, vagueness, definition, metaphor; relationships between methodology in philosophy and theories of language.

PHIL 150. Foundations of Knowledge (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Nature, sources, and limits of human knowledge; roles of perception, reason, testimony, and intuition in acquiring rational beliefs; e.g. science, mathematics, values, the arts, religion, social issues, and psychological states. G.E. Integration IC. **FS**

PHIL 151. Cognitive Science: Mind (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. The interdisciplinary study of cognition and mind: cognition includes mental states and processes such as thinking, reasoning, remembering, language understanding and generation, visual perception, learning, consciousness, emotions, self-awareness, and our place in the world. G.E. Integration IC. **FS**

PHIL 152. Philosophy of Science (3 units)
The nature of scientific inquiries as outcomes and/or practices. Theories of explanation, confirmation, induction, and discovery; (anti-)realism, instrumentalism, and social constructivism; nature of scientific theories, models, and laws of nature; scientific changes and revolutions; philosophical problems in particular sciences.

PHIL 155. Metaphysics (3 units)
Analysis of classic and contemporary problems of metaphysics: the nature of the mind-independent world; the reality of abstract objects and types; the nature of time and causality; realism and anti-realism; essentialism, modality, and possible worlds; naturalism and emergent properties.

PHIL 156. Philosophy of Mind (3 units)
Analysis of problems concerning the nature of mind and mental phenomena: relation between mind and body, nature of the self and personal identity, free will, action and behavior, thinking machines, knowledge of other minds; concepts of mind, intention, desire, emotion.

PHIL 157. Freedom, Fate, and Choice (3 units)
Nature of human action, free will and determinism, free will and moral responsibility; analysis of basic concepts; for example, will, action, freedom, determinism, fatalism, chance, choice, decision, intention, reason, desire, belief; implications for everyday life.

PHIL 158. Judaism (3 units)
Introduction to Judaism, including Torah, Jerusalem, Mishnah, Talmud, midrash, synagogue, Orthodox, Reform, Halakha, Passover, Shabbat, Yom Kippur, anti-Semitism, and Holocaust. (Formerly PHIL 165T)

PHIL 165T. Special Topics (1-3; max total 9 if no topic repeated)
Topics of current or interdisciplinary interest or requiring special background.

PHIL 170T. Seminar in Philosophical Issues (1-4; max total 12 if no topic repeated)
Prerequisite: one upper-division philosophy course. Intensive investigation of selected problems, major figures, or a historical period in philosophy. Extensive writing and supervised research.

PHIL 172T. Seminar in Religious Issues (1-4; max total 12 if no topic repeated)
Prerequisite: one upper-division philosophy course. Intensive investigation of selected problems, major works, or specific traditions; may involve comparative perspective. Extensive writing and supervised research.

PHIL 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

PHIL 192. Directed Reading (1-3; max total 6 units)
Prerequisite: permission of instructor. Supervised readings in a selected philosopher or field of philosophy. Combined units of PHIL 190 and 192 may not exceed 6 units.

PHIL 198. Applied Ethics Internship (3 units)
Prerequisite: junior standing, PHIL 120, 122, or applied ethics courses and permission of instructor. Workstudy experience in community service, with a focus on ethical analysis and understanding. ***CR/NC*** grading only.

PHIL 199. Fieldwork in Philosophy and Law (3 units)
Prerequisites: senior standing, permission of instructor. Practical community workstudy experience in legal or paralegal setting. Student works under sponsorship of a law firm or law-related agency, meets periodically with instructor, and submits a written report on relevant issues in ethics, jurisprudence, or philosophy.

COURSES

Peace and Conflict Studies (PAX)

PAX 100. Peace and Conflict (3 units)
Provides an overview of causes and types of conflict. Critical examination of issues related to war, peace, and justice. Principled negotiation; cultural awareness. G.E. Breadth E1. **FS**

PAX 110. Peacebuilding (3 units)
Theories, methods, and skills in personal transformation, anger management, communication, engaging cooperation, building community, reducing prejudice, maintaining relationships, and consensus decisionmaking. Emphasizes multi-cultural perspectives. G.E. Breadth E1.

PAX 120. Mediation (3 units)
Includes such topics as interest-based bargaining, anger management, values, communication, and conflict management, all in the context of mediation. Participants acquire and practice mediation skills and observe the process as practiced by skilled professional mediators. **F even**

PAX 121. Political Violence: War, Warfare, and Terrorism (3 units)
Designed to familiarize students with nomenclature, practices, and theories of war and warfare in domestic and international scope. Covers the beginnings, prosecution, duration, and end games of violent conflict.

PAX 185. Internship (1-3; max total 6 units)
Prerequisite: permission of instructor and sponsoring agency. Internships in peacebuilding, reconciliation, conflict resolution and mediation with local social service agencies, the Better Business Bureau, school districts, and corporations. Hours to be arranged. ***CR/NC*** grading only. **FS**

PAX 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

Theatre Arts - Drama and Dance

Theatre Arts

The theatre arts major offers you the opportunity to develop your skills in acting, directing, dance performance, choreography, playwriting, children's theatre, technical production, scene design, costume design, lighting design, history, literature, and teaching. After completing our program, you will have the background that will enhance your ability to pursue either an advanced degree or a professional career.

Our professionally trained instructors will guide you through a program which is not only educational but fascinating. A major or minor in theatre or dance can be one of the more exciting times in your life because it will develop communication and performing skills that will aid you no matter what career you finally decide to pursue. If theatre is what you want, then the California State University, Fresno Theatre Arts Department is ready to serve you.

The Theatre Arts Department is an accredited institutional member of the National Association of Schools of Theatre (NAST) and holds memberships with the Association for Theatre in Higher Education, the California Educational Theatre Association, the California Alliance for Arts Education, and the United States Institute of Theatre Technology. The department regularly participates in the American College Theatre Festival (ACTF) and the American College Dance Festival (ACDF). Our students, faculty, and productions have been awarded many regional and national honors from both ACTF and ACDF.

Our national and international award-winning Theatre Arts Department offers you educational preparation in all aspects of theatre and dance. Besides having the opportunity of being guided by an extensive curriculum and production schedule of more than 10 plays and several dance concerts, you will have the opportunity to study with guest professionals who participate in our program on a regular basis.

At California State University, Fresno there are a variety of production organizations, each providing a different kind of experience. University Theatre produces five major productions a year, cast and crewed by students. The Experimental Theatre Company (ETC) and the University Dance Theatre (UDT) are student organizations that produce their own plays and dance concerts. The Black Theatre Contingent (BTC) focuses on drama of the African-American experience. Playwrights Theatre is dedicated to the exploration of original plays. Theatre for Young Audiences produces plays for young people and tours throughout the Valley. You also have the opportunity to work with our resident dance company, the Portable Dance Troupe. As you can see, we offer a variety of opportunities for you to develop and practice your art.

Facilities

At California State University, Fresno you have the opportunity to study and practice your art with an outstanding faculty in well-equipped theatres and production facilities. Our newly renovated theatre complex consists of a 370-seat proscenium theatre and a 190-seat arena theatre. We also have a 90-seat lab theatre. You will work closely with 13 faculty members who are current in their craft and professionally active in acting, directing, dance, design, and technical production.

Career Opportunities

Professional theatre and dance are very competitive areas especially for performers. Nevertheless, our graduates have more than held their own as actors and dancers in the professional world. As designers, production specialists, and managers, our students have readily found career opportunities. The rapid expansion in new media entertainment promises even more opportunity in the field.

Graduates have also found successful careers in related fields such as radio and television, journalism, rock performances, and touring productions. Many graduates teach in high schools, community colleges, and universities. Several former students have found their theatre training as an asset in such careers as law, theology, and politics.

College of Arts and Humanities

Department of Theatre Arts
Melissa D. Gibson, *Chair*
Speech Arts Building, Room 33
559.278.3987

B.A. in Theatre Arts
Option: Dance

Minor in Theatre Arts
- Dance
- Drama

Faculty

Melissa D. Gibson, *Chair*
Kim V. Morin, *Credential Adviser*
Kenneth R. Balint
Dan Carrion
Izzy Einsidler
Thomas Whit Ellis
Edward F. EmanuEl
Ruth H. Griffin
J. Daniel Herring
Jeffrey C. Hunter
Kathleen S. McKinley
Bradley J. Myers
Elizabeth R. Payne

Bachelor of Arts Degree Requirements

Theatre Arts Major and Minor

The theatre arts major, dance option, and minors are designed to provide competencies in the theatre arts for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional theatre. With the assistance of their advisers and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Theatre Arts Program offers through the dance option intensive studies in dance performance, choreography, and theory. This option provides preparation for graduate studies or a professional career.

Theatre Arts Major — *Units*

Major requirements 53
(See *note 1*)
Core: DRAMA 10, 33, 34, 110, 139, 163, 185, 186.....(24)
Production: DRAMA 15 and/or DRAMA 115.....(8)
Emphasis (select one) .....(21)

Acting
DANCE 20, DRAMA 30, 35, 41, 132, 133 ..... (18)
Approved electives: DRAMA 15/115 and 89/189 excluded (See *note 2*) ..... (3)

Design/Technology
DRAMA 180A, 182A....(6)
DRAMA 134B .....(3)
Select 9 units from the following courses: DRAMA 41, 134A, 134B, 155, 157, 180B, 181B, 182B ..... (9)
Approved electives: DRAMA 15/115 and 89/189 excluded (See *note 2*) ..... (3)

General
Select 6 units from *each* of the following course groupings:
Group 1: DANCE 20, DRAMA 30, 35, 132, 133, 138B ..... (6)
Group 2: DRAMA 41, 134A, 134B, 136, 180A, 182A..... (6)
Group 3: DANCE 160, DRAMA 131, 137, 138A, 151, 188T ..... (6)
Approved electives: DRAMA 15/115 and 89/189 excluded (See *note 2*) ..... (3)

General Education requirements..... 51
Additional requirements 0
Students must complete eight approved production assignments. (See faculty adviser.)
Electives and remaining degree requirements 16
(See *Degree Requirements*), may be used toward a double major or minor
Total 120

Advising Notes

1. New majors must enroll in DRAMA 10 (fall) and acting emphasis students must enroll in DANCE 20 (spring) during their first year in the program.
2. Students must meet with their adviser each semester for program approval.
3. *CR/NC* grading is not permitted in the theatre arts major.
4. No General Education Integration or Multicultural/International course offered by the Theatre Arts Department may be used to satisfy the General Education requirements for majors in the department.

Theatre Arts Major (Dance Option) — *Units*

Option requirements 48
DRAMA 33, 34, 134B or 181B or 182A.....(9)
DANCE 20, 70, 159, 160, 164, 166, 170, 171.....(23)
Production: DANCE 115.....(4)
DANCE 117A, B, C, or D (must enroll in one section each semester).....(6)
DANCE 158A, B, C, or D (must enroll in one section each semester) .....(6)
General Education requirements 51
Electives and remaining degree requirements 21-24*
(See *Degree Requirements)*, may be used toward a double major or minor
Total 120

* This total indicates that a maximum of one course (3 units) in General Education Breadth also may be applied to the dance option. This course is DANCE 70 in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details.

Advising Notes

1. Special requirements: Students seeking the dance option are required to have competency in either DANCE 117 (Modern) or DANCE 158 (Ballet) for graduation.
2. A maximum of 12 units of dance technique courses (117, 118, 155, 158) may be credited toward the minimum B.A. graduation requirement of 120 units.
3. *CR/NC* grading is not permitted in the dance major.
4. No General Education Integration or Multicultural/International course offered by the Theatre Arts Department may be used to satisfy the General Education requirements for majors in the department.

Theatre Arts Minor (Drama)	*Units*
DRAMA 10, 32 or 33, 34, 163	**12**
DRAMA 15 and 115	**2**
Approved electives — 3 units must be upper division (*See adviser)*	**6**
Total	**20**

Theatre Arts Minor (Dance)	*Units*
DANCE 20	**3**
DANCE 117A, 117B, 117C, 158A, 158B, 158C	**8**
DANCE 70, 164, 166, 170	**11**
DANCE 115	**1**
Total	**23**

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

COURSES

Theatre Arts (DRAMA)

DRAMA 10. The Art of Theatre (3 units)
Fundamental knowledge and skills required for study in the Theatre Arts Program which includes the literary basis, technique, visual impact, and presentation of drama. F

DRAMA 15. Dramatic Arts Laboratory (1-2; max total 15)
(Same as DRAMA 115.) Group laboratory experience in presentation of major productions for public performance. Not available for ***CR/NC*** grading. FS

DRAMA 22. Oral Interpretation of Literature (3 units)
Discovering and communicating intellectual and emotional meaning of the printed page through preparation and presentation of selected readings from prose, poetry, and drama. G.E. Breadth C1. FS

DRAMA 30. Voice and Speech for Performance (3 units)
Open to theatre arts majors and minors only. Principles of voice and speech for stage performance including the International Phonetics Alphabet, breathing, relaxation, resonance, enunciation, articulation, pronunciation, projection, expressiveness, and vocal characterization. (CAN DRAM 6)

DRAMA 31. Stage Dialects (3 units)
Prerequisite: DRAMA 30 or permission of instructor. A study of the distinctive vowel and consonant substitutions and shifts in resonance focus for select regional dialects. Includes a review and application of the International Phonetics Alphabet as an actor's tool for stage dialects. (Formerly DRAMA 188T)

DRAMA 32. Introduction to Acting (3 units)
Not open to theatre arts majors except dance option. Open to theatre arts minors. A study of the physiological, sociological, and psychological components of acting. Includes role-paying in daily life; characterization; text analysis; diverse cultural and generational perspectives; and relaxation, voice, and body techniques. G.E. Breadth E1. FS

DRAMA 33. Fundamentals of Acting (3 units)
Open to theatre arts majors and minors only. Nonmajors and minors, see DRAMA 32. Fundamental techniques and theories of acting; development of individual insight, skill, and discipline in the presentation of dramatic materials. (CAN DRAM 8)

DRAMA 34. Theatre Crafts (3 units)
Introduction to the crafts in technical theatre scene construction, scene painting, property selection, stage lighting, sound production; costume construction, and makeup; laboratory experience in preparing major plays for public performance. FS

DRAMA 35. Intermediate Acting (3 units)
Prerequisite: DRAMA 33. Intermediate studies in acting including text analysis, expansion of the actor's character range and audition techniques. S

DRAMA 41. Makeup for Theatre (3; max total 6 units)
Theory and practice of makeup for theatre; techniques for characterization, style, and technical processes. Emphasis on basic techniques; introduction to prosthetics. Preparing plays for major public performances. F

DRAMA 62. Theatre Today (3 units)
Not open to theatre arts majors. Perspectives on theatre, its origins, and contemporary forms. Explores theatre as an artistic medium for enhancing our understanding of human experience. Emphasis on the content, meaning, and entertainment value of drama in performance. G.E. Breadth C1. FS

DRAMA 77. Community Service — Theatre (1-3; max total 6 units)
Directed field experience developing skills in theatre or dance through a performance or design project; projects may include work with community service or other nonprofit organizations, public schools, special events, and other projects approved by the faculty supervisor. FS

DRAMA 89. Projects in Production (1-3; max total 9 units)
(Same as DRAMA 189.) Prerequisite: permission of instructor. Group projects in all phases of production in laboratory theatre. FS

DRAMA 110. Design for the Theatre (3 units)
Comprehensive study of design aesthetics and application of design to theatrical production, including scenery, costume, lighting, sound, and makeup. Laboratory application, material for major public performance. S

DRAMA 115. Dramatic Arts Laboratory (1-2; max total 15)
(See DRAMA 15.) Not available for ***CR/NC*** grading. FS

DRAMA 131. Fundamentals of Playwriting (3; max total 9 units)
Exercises in plotting, characterization, exposition, and stage business, critical analysis, and revision of manuscripts. FS

DRAMA 132. Advanced Acting: Period Styles (3; max total 6 units)
Prerequisite: DRAMA 35. A study of styles of acting ranging from Greek Tragedy to Theatre of the Absurd with special emphasis on playing Shakespeare.

DRAMA 133. Advanced Acting: Scene Study (3; max total 6 units)
Prerequisite: DRAMA 35. Advanced techniques including script analysis, characterization, physicalization, and emotional commitment, developed through improvisation and scene study.

DRAMA 134A-B. Advanced Theatre Craft (3-3)
Prerequisite: DRAMA 34. (A) Advanced training in scenic techniques and allied technology. Laboratory application to major public productions. (B) In-depth survey of each phase of the costume design and production process. Laboratory application to major public performances.

DRAMA 136S. Puppetry – Service Learning (3 units)
Introduction to the art of puppetry: history, construction, manipulation, script writing, and basic concepts in art and theatre; use of puppets in educational and recreational settings. (S sections include a service-learning

requirement. See Community Engagement and Service Learning in the *General Catalog*.) (Formerly DRAMA 136) **FS**

DRAMA 137. Creative Dramatics (3; max total 6 units)
(Same as CI 137.) Basic techniques for the use of dramatization in elementary education; sociodrama, dramatization of school subjects, creative dramatic play; simplified staging techniques. **FS**

DRAMA 138A-B. Children's Theatre (3-3; 138B max total 6 units)
(**A**) Directing Theatre for Youth; theory, practice, and applications of theatre for children and adolescents; children's plays are examined through reading, discussion, and scene study. (**B**) Prerequisite: permission of instructor. Theatre for Young Audiences Tour; experience touring children's theatre productions for public performance. 138A - **FS**

DRAMA 139. Fundamentals of Play Direction (3 units)
Prerequisite: DRAMA 33. Fundamental techniques and theories of stage direction; function, responsibility, movement, analysis, style; practice in directing scenes. **F**

DRAMA 150. Acting for Film (3 units)
Introduction to specific performance, terminology, working in studio, and on location front-of-camera experience. Introduction to industry standards regarding resume/photo preparation, audition, union information, agency representation, and professional development. (Formerly DRAMA 188T)

DRAMA 151. Stage and Production Management (3 units)
Principles and techniques of stage and production management as applied to professional, educational, and community theatre and applied media; production, audition, rehearsal process, and organization; technical and performance process and procedures; production personnel and cost management. **F**

DRAMA 155. Sound in the Theatre (3 units)
Theory, techniques, and procedure necessary to develop and integrate sound, music, and effects in theatre production; hearing, acoustics, environment, sources, transducers, control, systems, equipment; organization and planning. Laboratory experience in preparing plays for a major public performance.

DRAMA 157. Theatre Graphics (3; max total 6 units)
Development of rendering technique and other graphic skills essential to design for the theatre.

DRAMA 163. Dramatic Literature (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Critical analysis of various types and styles of plays with respect to their form, meaning, and theatricality. G.E. Integration IC. **FS**

DRAMA 177. Community Service: Theatre Arts (1-3; max total 6 units)
Directed field experience developing skills in theatre or dance through a performance or design project; projects may include work with community service or other nonprofit organizations, public schools, special events, and other projects approved by the faculty supervisor.

DRAMA 179. Playwrights' Theatre (1-2; max total 6 units)
Prerequisite: permission of instructor. Presentation and readings of original and classical plays. **FS**

DRAMA 180A-B. Scene Design for Theatre (3-3; 180B max total 6 units)
Prerequisite: DRAMA 34. (**A**) Styles, techniques, and methods of scene design; history. Laboratory application, material for major public performance. (**B**) Scenery design; design problems of a complicated play; experimental ideas; new materials. Laboratory application, material for major public performance. 180A - **F**

DRAMA 181B. Costume Design for Theatre (3; max total 6 units)
Costume design for theatre and dance incorporating analysis of script, research of historical period, selection of fabric, preparation of budget, and rendering of plates. Emphasis on illustration and design elements. **S odd**

DRAMA 182A-B. Stage and Television Lighting (3-3)
Prerequisite: DRAMA 34 or 134A-B. (**A**) Instruments, control, color, electromechanical factors and simplified design and planning lighting leading to and resulting in a major public performance. (**B**) Lighting as an art, design concepts; lighting plots, projections, sequential cue relationships. Laboratory application, material for major public performance. 182A - **F**; 182B - **S**

DRAMA 185. History of the Theatre and Drama I (3 units)
History of European theatre and component arts from ancient Greece through the mid-19th century; analysis of representative examples. **F**

DRAMA 186. History of the Theatre and Drama II (3 units)
Prerequisite: DRAMA 163. From Ibsen to the present; analysis of representative examples. **S**

DRAMA 187. African American Theatre Styles (3; max total 6 units)
(Same as AFRS 165.) Performance, scene development, and dramatic styles consistent with the African American experience. Exploration of cross-cultural aesthetics as they inform creative development. Development of self-written or published scenes and plays. **S**

DRAMA 188T. Topics in Theatre Arts (1-6; max total 9 units)
Prerequisite: permission of instructor. Selected topics may include acting, children's theatre, creative dramatics, play direction, technical theatre, theatre history, dramatic literature, and theatre administration. (May include lab hours)

DRAMA 189. Projects in Production (1-3; max total 9 units)
(See DRAMA 89.) **FS**

DRAMA 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

DRAMA 194. Shakespeare (4 units)
(See ENGL 189.)

IN-SERVICE COURSE

(See Catalog Numbering System.)

Theatre Arts (DRAMA)

DRAMA 303. Topics in Theatre Arts (1-3; max total 9; repeatable with different topics)
In-service training in selected areas of drama/theatre arts.

COURSES

Dance (DANCE)

A maximum of 12 units of dance technique courses (DANCE 16, 117, 155, 158), ATHL, and KAC courses may be credited toward the minimum B.A. graduation requirement of 120 units for dance majors.

DANCE 16. Introduction to Dance (3 units)
Exploration of basic concepts, techniques and styles through study problems, video and critical readings. Dance concert attendance may be required. G.E. Breadth E1. FS

DANCE 20. Physical Theatre (3 units)
Incorporates the study of body awareness techniques, contact improvisation, commedia dell' arte, clown work, and other physical theatre traditions in an active exploration of actor training and expression.

DANCE 70. Balance BodyMind (3 units)
Study of the alignment of the body and continuum between inner, cellular awareness of body through space. Promotes greater ease in movement; reduced emotional stress; knowledge of the body as process. Nondancers encouraged to enroll. G.E. Breadth E1.

DANCE 115. University Dance Theatre (1; max total 9 units)
A student-organized course in which the experiential, experimental, and exploratory nature of dance can be accessed. Focuses on achieving excellence through the preparation, performance, and production needs of completed works that are performed at the end of the semester. Not available for *CR/NC* grading. FS

DANCE 117A. Modern Dance Technique (1; max total 2 units)
Basic aspect of modern dance technique. Emphasis on importance of breath, body alignment, and rhythmic coordination; total movement awareness.

DANCE 117B. Modern Dance Technique (1; max total 2 units)
Beginning-intermediate level study of movement fundamentals, locomotor activities, and expressive qualities; development of balance, strength, breath coordination, and technical ability.

DANCE 117C. Modern Dance Technique (2; max total 6 units)
Intermediate level modern dance technique with emphasis on increasing skills in reading movement and expressing more complex patterns. Develops the core muscles to support greater ease in sequencing body flow from center practice to sweeping locomotor phrases.

DANCE 117D. Modern Dance Technique (2; max total 12 units)
Advanced level modern dance technique with elements of alignment, embodiment, flexibility, strength, and energy flow. Stresses individual mastery as well as ensemble performance. Integrates techniques of Hawkins, Limon, and Graham as well as developmental theories of Bartenieff, Pilates, and Bainbridge-Cohen.

DANCE 155A. Modern Jazz Dance (1 unit)
An in-depth study of jazz dance using a modern dance foundation that emphasizes the fortification, stretching, and reshaping of mind and body to help produce a more accomplished dancer.

DANCE 155B. Modern Jazz Technique (1 unit)
An in-depth intermediate/advanced level of study of jazz dance using a modern dance foundation that emphasizes the fortification, stretching, and reshaping of mind and body to help produce a more accomplished dancer.

DANCE 158A. Ballet Technique (1; max total 2 units)
Elementary ballet technique. Emphasizes alignment, control, and proper awareness of style and phrasing. Develops a foundation from which to build a dancer capable of a broad range of expression and demonstration to meet the demands placed on today's dancers.

DANCE 158B. Ballet Technique (1; max total 2 units)
Intermediate study of elementary ballet technique combined with a more broad-based understanding of ballet as an art form through traditional exercises, with proper awareness of conditioning, style, and phrasing.

DANCE 158C. Ballet Technique (2; max total 12 units)
An intermediate/advanced level ballet class with emphasis on technique, artistry, and conditioning. Builds well-placed dancers capable of a broad range of expression and demonstration with skills that can readily adapt to the demands placed on today's dancers.

DANCE 158D. Ballet Technique (2; max total 12 units)
Study of preprofessional advanced ballet technique with emphasis on performance preparation. Builds well-placed dancers capable of a broad range of expression and demonstration with impressive technical skills that can readily adapt to the demands placed on today's dancers.

DANCE 159. Music in Choreography (3 units)
Study of music theory as it relates to modern and postmodern choreography. Development of the dancer's percussive and vocal abilities through the study of world music and rhythmic analysis.

DANCE 160. Creative Movement for Children (3 units)
Introduction to the basic concepts, principles, and methodology needed to develop an awareness of the aesthetic experience through dance and creative movement. The aesthetic qualities of dance are stressed to develop the use of creative intelligence and imagination. **FS**

DANCE 161. Musical Theatre (3 units)
Training of actors for musical auditions through fundamental voice and movement techniques, study of how music and lyrics combine to suggest character, and study of relationship of song, scene, and choreography in various styles.

DANCE 163. Portable Dance Troupe Company Class (2; max total 8 units)
Prerequisite: permission of instructor. By audition only, held in fall semester and meets for two semesters. A repertory class consisting of rehearsing, understudying, and performing roles. This laboratory experience leads toward performances and touring. **FS**

DANCE 164. Dance History (3 units)
The historical development of dance from its origins to contemporary forms including diverse cultural perspectives.

DANCE 166. Dance Choreography (2; max total 16)
Investigation and practice of contemporary styles of choreography. Application of basic choreographic principles with emphasis on improvisation, form, content, current media and technology, group structures, movement invention, and evaluative skills.

DANCE 170. Pilates Mat (3 units)
Study and practice of Pilates mat sequence incorporating principles of core strength and study of body musculature. Designed to give students an exercise program to supplement any type of physical activity. Emphasizes use of breath and leads to total body strengthening. **FS**

DANCE 171. Philosophical Bases and Trends in Dance (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. The elements and principles common to all arts and their relationship to dance. G.E. Integration IC.

DANCE 174T. Topics in Dance (1-3; max total 12 units)
Selected topics may include philosophy, psychology, art, theatre, and music as related to dance.

The Craig School of Business

Peters Building, Room 282, 559.278.2482
Robert M. Harper, *Dean*
Kathleen Moffitt, *Associate Dean*
www.craig.csufresno.edu

The Craig School of Business includes the departments of Accountancy, Finance and Business Law, Economics, Information Systems and Decision Sciences, Management, Marketing and Logistics, Aerospace Studies, and Military Science. Degree programs are the Master of Business Administration, Master of Science in Accountancy, and the Bachelor of Science in Business Administration. Undergraduate students select one of 12 different areas of specialization, or options.

The Mission of the School

The mission of the Craig School of Business (CSB) is to prepare a diverse student population for careers in the regional, national, and global business environments, and to serve the Central California business community as a resource center.

Accreditation

The B.S. in Business Administration has been continuously accredited since 1959 by the premiere accrediting agency, AACSB - International, the Association to Advance Collegiate Schools of Business. The B.S. was the third accredited business program in California, following UC Berkeley and UCLA and is one of only 551 accredited business programs in the U.S. The Craig M.B.A. was accredited in 1974.

Advising

CSB operates an advising center, Undergraduate Student Services, located in Peters Building, Room 185. Flow charts are available at *www.craig.csufresno.edu/uss/* for each of the 12 options to help students plan their academic program and to ensure that courses are taken in correct sequence.

A mentoring program matches students with a faculty member in their field who will assist with career or graduate study information.

Scholarships

Incoming freshmen may apply by early January for the prestigious Craig Scholars or Fresno Merchants Scholars programs through the CSB dean's office. Selection is based on academic indicators of high school GPA and SAT or ACT scores, as well as leadership and service. Contact the CSB dean's office or visit *http://www.craig.csufresno.edu.*

In addition, CSB offers more than 100 scholarships for continuing and transfer students through the university's Scholarship Office, 559.278.6572. Consult *http://studentaffairs.csufresno.edu/scholarships*.

DEGREE PROGRAMS

Master of Business Administration (M.B.A.)

The Master of Business Administration program broadly prepares students in essential business concepts and their application to managerial problems. Elective area courses provide advanced preparation in special areas of professional practice.

Master of Science in Accountancy (M.S.)

The Master of Science in Accountancy prepares graduates for success in the professional field of accountancy. The program enhances preparation for professional certifications such as that for a Certified Public Accountant (CPA) or a Certified of Management Accountant (CMA). The M.S. in Accountancy also provides a high quality educational experience promoting the development of requisite skills and tools for success in the profession well after certification, enabling graduates to become leaders in the profession.

The Master of Science in Accountancy is currently not taking applications. Please contact the CSB graduate director at 559.278.2107 for more information.

Bachelor of Science (B.S.) Options

The CSB offers one undergraduate degree, the Bachelor of Science in Business Administration. All students select ***one*** of the 12 different areas of specialization, called options. These options are as follows:

- Accountancy Option (Department of Accountancy)
- Entrepreneurship Option (Department of Management) .
- Finance Option (Department of Finance and Business Law)
- Human Resource Management Option (Department of Management)
- Computer Information Systems Option (Department of Information Systems and Decision Sciences)
- International Business Option (Department of Finance and Business Law)
- Logistics and Supply Chain Strategies Option (Department of Marketing and Logistics)
- Management Option (Department of Management)
- Marketing Option (Department of Marketing and Logistics)
- Real Estate and Urban Land Economics Option (Department of Finance and Business Law)
- Sports Marketing Option (Department of Marketing and Logistics)
- Special Option for the B.S. in Business Administration — contact Undergraduate Student Services Office, 559.278.4943

The following information (up to "Honors Program"*) pertains only to the B.S.*

Grade Requirements

Business students must earn a grade of ***C*** or better in each course used to satisfy the requirements of their major. No course taken for the business major can be graded on a ***CR/NC*** basis except for courses with mandatory ***CR/NC*** grading.

Pre-Business Requirements

All business students entering California State University, Fresno are considered pre-business majors and are coded as such. In order to select an option in business and enroll in 100-level business courses, pre-business students must do the following:

a. Complete IS 52 and 52L or equivalent course(s) with a grade of ***C*** or better or achieve a passing score on the CSB computer competency waiver examination. See "computer competency waiver exam" at *www.craig.csufresno.edu/uss_home.aspx/*.
b. Complete the following courses or their equivalents with a grade of ***C*** or better in each course: ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 (or AGBS 1) and ECON 50.
c. Have a cumulative and campus grade point average of at least 2.25.
d. Submit a request to declare an option in business. Students may obtain this request form from the Craig School of Business Undergraduate Student Services Office, Peters Building, Room 185, or apply online at *www.craig.csufresno.edu/uss_home.aspx/*.
e. CSB 150 may be substituted for CSB 50 for catalog years prior to 2004-2005.

Declaration of Option

1. Students may apply for an option in the semester during which they will complete all work needed for enrollment qualification in 100-level business courses. Approval will be contingent upon satisfactory fulfillment of the lower-division course prerequisites and the GPA standard. Transfer students must submit a complete set of transcripts (official or unofficial) or grade reports of all college-level study to the Undergraduate Student Services Office for evaluation. Transfer students from another region need to have a copy of the catalog(s) and course syllabi from the different colleges they attended. Notification of business course credit will then be sent by e-mail.
2. Students who are ready to enroll in 100-level upper-division business courses, but who lack one or two of the pre-business courses, should contact the Undergraduate Student Services Office in PB 185 for further information.

Writing Requirements

Every upper-division business course has writing requirements, and the quality of the writing is used in determining grades in the course. Completion of the upper-division writing skills requirement (successful completion of BA 105W or ENGL 160W) is required in the first semester in which 100-level business courses are taken.

TOEFL

International (foreign) students who wish to declare business administration as a major must achieve a minimum score of 500 on the Test of English as a Foreign Language (TOEFL) examination.

Required Residency in CSB

In order to earn a B.S. in Business Administration at California State University, Fresno, students must complete at least 50 percent of the required business units in the Craig School of Business.

Honors Program

Students with a GPA of 3.5 or higher are encouraged to apply for the Craig School honors program in the fall semester of their junior year. The honors program is a three-semester program that provides the student with an opportunity for additional study and intellectual growth beyond the major and option requirements. It is designed to challenge the intellectually advanced student, provide a research foundation for advanced study or employment, and to recognize students who have shown exceptional ability. Students interested in the CSB Honors Program should contact the dean's office in Peters Building, Room 282. For course descriptions, see the next page.

Internships and Placement

Many of our students participate in the school's award-winning Internship Partners Program. Internships provide students with an opportu-

nity to gain valuable practical experience while earning academic credit. Internships are available in all academic majors with businesses, nonprofit organizations, and government agencies. Students interested in internships should contact the internships coordinator in Peters Building, Room 186.

Complete career development and placement services are available through Career Services, 559.278.2384.

International Business Programs

Students can apply for the "Join the World" International Study Program in designated international partnership universities and use the credits they earn to satisfy their degree requirements at California State University, Fresno. The exchange opportunity is open to any regularly enrolled Fresno State student. In addition, CSB participates extensively in the university's many international exchange programs. For further information, contact the International Business Programs Office in Peters Building, Room 189, 559.278.4653.

ADDITIONAL PROGRAMS

Business Minors*

General Business Minor	*Units*
ACCT 4A	3
Select from: BA 18; DS 73; FIN 120; IS 130; MGT 104, 106, 110; MKTG 100S	6-8
Select upper-division courses from not more than two fields: ACCT, BA, DS, ENTR, FIN, HRM, IS, MGT, MKTG	11
Total	**20-22**

Entrepreneurship Minor	*Units*
ENTR 81, 151, 153; MGT 127	12
Elective courses: BA 152; ENTR 155, 157, 161, 163, 165, 167, 169; FIN 131 or courses approved by the entrepreneurship coordinator	6
Total	**18**

Graduate Business Prep Minor	*Units*
ACCT 4A and IS 52, 52L	6
ECON 40 and 50	6
DS 71, 73, 123	9
FIN 120 and BA 174	7
MGT 104 and MGT 124	7
Total	**35**

* Students must earn a grade of at least *C* in each course.

The Graduate Business Preparation Minor is for students who wish to pursue the Craig M.B.A. after completing an undergraduate major outside the Craig School of Business. By completing the requirements of the minor, all Group I coursework (15 units) usually required of non-business majors for the Craig M.B.A. may normally be waived. See M.B.A. section for further information on admission requirements.

Advising Notes

1. All minors also require a 2.0 GPA and 6 upper-division units in residence.
2. No course taken for the business minors can be graded on a *CR/NC* basis except for courses with mandatory *CR/NC* grading. Courses in a major cannot be applied toward a minor unless designated as "additional requirements."

Certificate Programs

Specialized certificate programs are offered in several fields within the Craig School of Business.

- Certificate in Business Information Systems (Department of Information Systems and Decision Sciences)
- Certificate in Entrepreneurship (Department of Management)
- Certificate in Finance (Department of Finance and Business Law)
- Certificate in Human Resource Management (Department of Management)
- Certificate in Logistics and Supply Chain Strategies (Department of Marketing and Logistics)
- Certificate in Marketing (Department of Marketing and Logistics)
- Certificate in Network Administration (Department of Information Systems and Decision Sciences)
- Certificate in Organizational Management (Department of Management)
- Certificate in Sports Marketing (Department of Marketing and Logistics)

Also, students in the Marketing Option have an opportunity to earn a Certificate in Mass Communications and Journalism.

Business Teacher Education Program

The Craig School offers a single subject business credential to teach in departmentalized classrooms typically found in middle school and senior high school settings. Information on this fifth year program may be obtained from business teacher education adviser Richard Lacy.

COURSES

Craig School of Business (CSB)

CSB 150. Strategies for Success (1 unit)
Prerequisite: upper-division writing skills requirement (may be taken concurrently). Preparation for job placement including resumes, on-campus recruitment, business etiquette, and job offers. Presentations by faculty, recruiters, and alumni. May be used as a substitute for CSB 50 with prior written approval of the instructor. *CR/NC* grading only.

CSB 184. Junior Honors Seminar (3 units)
Prerequisite: acceptance into the Craig Honors Program. Survey of the business disciplines and their application to business problems. Empirical, applied, and theoretical background for business research. Current issues and methods for solving business problems. Business research methodology, ethical considerations in designing research. Literature review and written proposal required for honors thesis. S

CSB 185. Senior Honors Seminar I (2 units)
Prerequisite: CSB 184. Analysis of business research and the application to business problems. Special emphasis on strategic management. Data analysis, applying to graduate schools, and conducting a job search. Lectures by faculty and business leaders. Fall of senior year. F

CSB 186. Senior Honors Seminar II (2 units)
Prerequisite: CSB 185. Analysis of business research and the application to business problems. Special emphasis on strategic management. Editing and revising manuscripts, preparing papers for publication, designing conference posters, and delivering professional presentations. Spring of senior year. S

Accountancy

The Craig School of Business

Department of Accountancy
Garo Kalfayan, *Chair*
Debbie L. Koehler, *Department Administrative Assistant*
Peters Business Building, Room 284
559.278.2852
FAX: 559.278.4911
www.craig.csufresno.edu/acct

B.S. in Business Administration
Option: Accountancy

M.S. in Accountancy
See business graduate programs

The Department

The Department of Accountancy offers an option in accounting within the Bachelor of Science in the Business Administration and a Master of Science in Accountancy. The undergraduate qualifies students for, and the master's program further prepares students for, the Certified Public Accountant (CPA), Certificate in Management Accounting (CMA), or Certified Internal Auditor (CIA) exams.

Career Opportunities

A wide variety of professional business opportunities are available to graduates of the Department of Accountancy. The accountancy option prepares students for challenging and rewarding careers in all areas of accounting. Alumni of the Department of Accountancy are found in leadership positions locally, in other areas of California, and throughout the United States. Many of our graduates are currently partners in public accounting firms, officers in corporations, executives in governmental agencies, and successful entrepreneurs.

In conjunction with the department, the University Business Center (located within the school) offers a CPA Review course. This course is designed to meet the needs of the serious CPA candidate and thoroughly covers all exam areas.

To find out more about career opportunities, students should consult with the faculty in the department. In addition, students with career-related questions are encouraged to contact the Office of Career Services. Services include career counseling by career information specialists and professional assistance to students and graduates seeking full-time or part-time positions.

Faculty

The faculty of the Department of Accountancy comprises individuals of varied academic and business experience backgrounds. They are specialists in the areas of financial accounting, taxation, cost and managerial accounting, auditing, international accountancy, forensic accounting, and accounting information systems. Their accumulation of academic preparation and business experience qualifies them to teach both the theoretical and practical applications of accounting.

Garo Kalfayan, *Chair*
Dennis M. Baker
Robert M. Harper
Patricia L. Huff
Shu Lin
John P. Osborn
Denise Patterson
Ali A. Peyvandi
Benjamin Y. Tai

Bachelor of Science Degree Requirements

Business Administration Major

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; and (f) an integrative course requirement.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of *C* or better or achieve a passing score on the CSB computer competency waiver examination. See "computer competency waiver exam" at *www.craig.csufresno.edu/uss_home.aspx.*

	Units
Pre-Business requirements	**16***
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50; (See *Pre-Business Requirement.*)	
Upper-division core requirements	**24**
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S	
Option requirements	**24**
ACCT 120A, 120B, 132	(12)
Select three courses from the following: ACCT 144, 145, 146, 148, 162, 165, 167, 169	(12)
General Education requirements	**48****
Grade Requirement A grade of *C* or better must be earned for each course used to satisfy the requirements for the major.	
Upper-division writing skills requirement	**3**
Business majors must select a minimum of 3 units from BA 105W or ENGL 160W (See *Writing Requirements.*) *Note:* the Upper-Division Writing Exam is not an option for business administration majors.	
Integrative course requirement	**3**
MGT 187	
Electives and remaining degree requirements	**2**
See individual option requirements.	
Total	**120**

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.

***Note*: Business majors are exempt from G.E. Area MI.

Accountancy (ACCT)

ACCT 3. Essentials of Accounting (3 units)
Not open to students majoring in accounting or business administration. Basic concepts in preparation of business financial statements; introduction to understanding, analyzing, and interpreting accounting data by investors, managers, and creditors for decision making, planning, and control. Only minor attention given to recordkeeping procedures. **F**

ACCT 4A. Financial Accounting Principles and Systems (3 units)
Not open to freshmen. Financial accounting; accounting statements, transaction analysis, and data accumulation; partnership and corporation accounting. **FS**

ACCT 4B. Managerial Accounting Principles and Systems (3 units)
Not open to freshmen. Prerequisite: grade of ***C*** or better in ACCT 4A. Basic coverage of managerial control and decision support tools, job order costing, activity based costing, standard costing, budgeting, relevant costing, and quality control. **FS** (CAN BUS 4)

ACCT 120A. Intermediate Accounting I (4 units)
Prerequisite: grade of ***B*** or better in ACCT 4A, or a minimum GPA of 2.5 in ACCT 4A and ACCT 4B; DS 71 or equivalent recommended. Preparation and analysis of balance sheet and income statements; basic accounting theory and conceptual framework underlying financial accounting; theory of current assets; theory of current liabilities; investments; revenue recognition; error correction and principle changes; and a review of applicable authoritative pronouncements. **FS**

ACCT 120B. Intermediate Accounting II (4 units)
Prerequisite: grade of ***C*** or better in ACCT 120A; DS 71 or equivalent recommended. An in-depth study of principles, procedures, and reporting requirements in financial accounting as applied to corporate entities; fixed and other noncurrent assets; income tax allocation; noncurrent liabilities, including pensions and leases; inflation accounting; and cash flow. Special attention is given to authoritative pronouncements. **FS**

ACCT 132. Cost Accounting (4 units)
Prerequisites: a minimum GPA of 2.5 in ACCT 4A and ACCT 4B; DS 71 or equivalent and IS 52 recommended. Industrial and service industry cost accounting; intermediate level coverage of job order and process costing and standard costing; master budgeting, activity based costing/management, decision support tools, support department joint cost allocations, and quality control issues. **FS**

ACCT 144. Tax Accounting and Planning (4 units)
Prerequisite: grades of ***C*** or better in ACCT 4A. Federal income taxation, research, and planning affecting individuals. **FS**

ACCT 145. Federal Income Taxation of Entities and the Federal Uniform Estate and Gift Tax (4 units)
Prerequisite: grade of ***C*** or better in ACCT 144. Federal income tax laws relating to entities. Primary emphasis placed on tax issues regarding C corporations, S corporations, and partnerships (including limited liability companies). Analysis of the Federal Uniform Estate and Gift tax. Entity tax accounting, return preparation, reporting, and tax research. **FS**

ACCT 146. Accounting Information Systems and Controls (4 units)
Prerequisites: grades of ***C*** or better in ACCT 4A and 4B. Design of systems for the collection, organization, and reporting of accounting information. Theory and practice of flowcharting, evaluation of internal accounting controls in computer systems environments, and interrelationships of people, procedures, and equipment.

ACCT 148. Accounting for Governmental and Nonprofit Organizations (4 units)
Prerequisites: grades of ***C*** or better in ACCT 120A and 132. Concepts, principles, and problems of accounting for governmental and nonprofit organizations. Budgeting, fund accounting, cost/benefit analysis, cash planning and control, and independent auditing are introduced in the context of making decisions in governmental and nonprofit organizations.

ACCT 162. Auditing (4 units)
Prerequisites: grades of ***C*** or better in ACCT 120A and 120B. Objectives and techniques in verification of business financial statements; duties, responsibilities, and professional ethics of the auditor; auditor's reports; analysis of internal controls; audits of computerized systems. **FS**

ACCT 165. International Accounting (4 units)
Prerequisites: grades of ***C*** or better in ACCT 4A, 4B, and 120A. Accounting concepts, principles, and methods for multinational corporations. Currency for translation of financial statements, financial reporting, international accounting and auditing standards, and the managerial aspects of multinational transactions. **S**

ACCT 167. Advanced Accounting Problems (4 units)
Prerequisite: grades of ***C*** or better in ACCT 120A. Accounting for corporate consolidation and partnerships.

ACCT 169. Forensic Accounting (4 units)
Prerequisites: grades of ***C*** or better in ACCT 120A and 132. Basic forensic and investigative accounting. Case studies from financial accounting, cost accounting, federal income taxes, auditing, business law, and other business disciplines are used to help students analyze facts and provide usable accounting and financial information. (Formerly ACCT 189T)

ACCT 189T. Topics in Accounting and Auditing (1-4; max total 8 units if no topic repeated)
Prerequisites: 18 units of accounting. Specialized study in a particular area of professional accountancy: accounting theory, auditing, accounting information systems, contemporary developments in financial and managerial accounting, and the practice of accountancy.

ACCT 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

ACCT 195. Internship (3; max total 6 units)
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically related work station (business, government or nonprofit agency). As a course substitution, prior department approval required. Only one internship may count towards option requirements. ***CR/NC*** grading only.

ACCT 200 Series Courses
Graduate courses are listed under *Business — Graduate Program.*

Aerospace Studies

The Craig School of Business

Department of Aerospace Studies
Lt. Col. Matthew Buehler, *Chair*
Kathy Hirasuna, *Administrative Support Coordinator*
North Gym, Room 158
559.278.2593
FAX: 559.278.5245
www.fresnostate.edu/afrotc/

Air Force Reserve Officer Training Corps (Air Force ROTC)

Minor in Aerospace Studies

The Department

The Air Force Reserve Officer Training Corps ROTC Program is a college-based program open to men and women.

Air Force ROTC offers students that graduate from the program the opportunity to serve in a tremendously rewarding leadership position as a second lieutenant in the U.S. Air Force. Non-scholarship students may participate in the program for one to two years without signing a contract with the Air Force. In either case, ROTC years of service will provide young men and women leadership and management experience that will serve them well as an Air Force officer or a civilian in the private sector.

Several routes for an Air Force commission are available to college students in Air Force ROTC. Entering students may enroll in the four-year program, while students with at least three years remaining in college may apply for a compressed option. For instance, students who enter the program with 3 or 3.5 years remaining to graduation can commission on time provided they accomplish program requirements. Contact the detachment faculty and staff for more information on these various options.

The Air Force ROTC education program provides professional preparation for future Air Force officers. It is designed to develop men and women who can apply their education to their initial active duty assignments as Air Force commissioned officers. In order to receive a commission, an Air Force ROTC cadet must complete all requirements for a degree in accordance with university guidelines, as well as complete certain courses specified by the Air Force.

Air Force ROTC courses are taken for academic credit as part of a student's electives. The last two years of the program must be completed at California State University, Fresno. The first two years of the program may be completed if a student is enrolled in one of the local junior colleges and plans to transfer to the university at the beginning of his or her junior year. In the Aerospace Studies program, ROTC books, supplies, and uniforms are furnished at no cost to the student.

Air Force ROTC scholarships are available to qualified applicants. Each scholarship provides full tuition, laboratory and incidental fees, and a $450 semester allowance for curriculum-required textbooks. In addition, scholarship cadets receive a nontaxable $300-$500 subsistence each month during the school year.

Other scholarship programs may be available to fill critical Air Force requirements. Additional money through express programs is available. Contact the recruiting flight commander for the latest information.

Aerospace Studies Minor

A Minor in Aerospace Studies consists of satisfactory completion of the Air Force ROTC program (16 upper-division units) and a 2.0 GPA.

Career Outlook

Although flying is a critical mission of the Air Force, it forms only a part of the 160-plus career specialties available to new officers. Today, since science and technology are a large part of the national defense, the Air Force needs the best scientists and engineers the nation can produce. It also needs other professional men and women with a broad range of knowledge and skills, regardless of academic major.

Most young officers who enter the Air Force today do not expect to be pilots or astronauts. They want to be part of the large research and development program of the vast support organization that keeps our country strong and progressive. Exciting job opportunities exist everywhere in the Air Force.

In addition to the recurring need for pilots and navigators, the Air Force also needs personnel to work in space and missile operations, engineering, mathematics, physics, computer science, and in the support fields of personnel, administration, logistics, finance, education, security forces, health, and others. In the years ahead, Air Force ROTC will continue to concentrate on preparing men and women to assume important and responsible positions of leadership in the modern Air Force.

Faculty

Lieutenant Col. Matthew Buehler, *Chair*
Major Timothy L. Clough
Captain Darrin Eckles

Advisers:
Tech Sergeant Christine McLaughlin
Staff Sergeant Kristen Lewis

Faculty and Facilities

The teaching staff in the Department of Aerospace Studies is composed of highly educated and experienced Air Force officers who are selected for their professional experience, academic background, and instructor qualifications. Along with their extensive operational assignments and experiences, these officers undergo extensive academic and instructional training as professors and assistant professors of Aerospace Studies.

Freshmen and Sophomores General Military Course (GMC)

To be eligible for the GMC you must:

1. be a full-time college student
2. be age 14 or older
3. be of good moral character
4. meet the academic standards for admission to California State University, Fresno

Juniors and Seniors Professional Officer Course (POC)

To be eligible for the POC you must:

1. be a citizen of the United States and not less than 17 years of age;
2. be physically, mentally, and morally qualified in accordance with standards established by the Department of the Air Force;
3. have two academic years, either undergraduate or graduate, remaining at the time of POC entry;
4. complete all GMC requirements, including field training;
5. (a) For pilot and navigator: be not more than 29 years of age at date of commissioning;

   (b) For all other categories: be not more than 30 years of age (34 years for those with prior military service) at date of commissioning;

6. be a full-time student according to the rules of California State University, Fresno; and
7. be approved for AFROTC training by the professor of aerospace studies.

COURSES

Aerospace Studies (ASP)

ASP 1A, 1B. The Foundations of the United States Air Force (1, 1)
Corequisite: ASP 3 Leadership Laboratory (one unit) if student desires an Air Force commission. The Air Force in the contemporary world. Focuses on the organizational structure and missions of Air Force organizations; officership and professionalism; and includes an introduction to communication skills.

ASP 2A, 2B. The Evolution of USAF Air and Space Power (1, 1)
Corequisite: ASP 3 LLAB if pursuing a USAF commission. Examines 100-year development of air/space power from its origin to its application in modern-day warfare. Emphasizes the evolution and employment of air/space power capabilities, functions, and doctrine. Assesses communication skills. Uses USAF Core Values for insight into operations.

ASP 3. Leadership Laboratory (1; max total 6 units)
Open to students who are members of the Reserve Officer Training Corps or are eligible to pursue a commission as determined by the professor of aerospace studies. Course must be taken each semester of the General Military Course (GMC). A study of Air Force customs and courtesies, issuing military commands, instructing, directing and evaluating the preceding skills, studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. *CR/NC* grading only.

ASP 5. Drill and Ceremony Fundamentals (1; max total 8 units)
The elements of military drill, individual and group precision movements, development of command voice; technical, stylistic and aesthetic aspects of creative drill maneuvers; encompasses both rehearsal and public performance.

ASP 103C. Air Force ROTC Field Training (3 units)
For those completed GMC and prior-service cadets. Four weeks of training taken during the summer preceding entry into POC. Field training provides leadership and officership training in a military environment which demands conformity to high physical and moral standards. Within this structured environment cadets are screened for officer potential as measured against field training standards. Motivation and professional development is achieved through various programs such as flight orientation, marksmanship and survival training. The Air Force provides meals, housing, pay, and travel to and from base.

ASP 104A, 104B. Air Force Leadership Studies (3, 3)
Corequisite: ASP 113 Leadership Laboratory (one unit) if student desires an Air Force commission. A study of leadership and management fundamentals, leadership responsibilities, ethics, and communicative skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied.

ASP 105A, 105B. National Security Affairs/Preparation for Active Duty (3, 3; max total 6 units)
ASP 105B is not open to students with credit in ASP 105BW. Corequisite: ASP 113 (one unit) if student desires an Air Force commission. An examination of the needs for national security; an analysis of the evolution of the American defense strategy and policy; aerospace doctrine; overview of alliances and regional security, arms control, and terrorism. Special topics of interest focus on the military as a profession, officership, and the military justice system, and current issues affecting military professionalism. Within this structure, continued emphasis is given to developing communication skills.

ASP 105AW/BW. National Security Affairs/Preparation for Active Duty (3 units)
Not open to students with credit in ASP 105A/B. Prerequisite: satisfactory completion (*C* or better) of the ENGL 5B or 10 graduation requirement. Corequisite: ASP 113 (one unit) if student desires an Air Force commission. An examination of the needs for national security; an analysis of the evolution of the American defense strategy and policy; aerospace doctrine; overview of alliances and regional security, arms control, and terrorism. Special topics of interest focus on the military as a profession, officership, and the military justice system, and current issues affecting military professionalism. Within this structure, continued emphasis is given to developing communication skills. Meets the upper-division writing skills requirement for graduation. (See note below.)

ASP 113. Leadership Laboratory (1; max total 6 units)
Prerequisite: ASP 25 or equivalent military training. Must be taken each semester of the Professional Officer Course (POC). Activities classified as advanced leadership experiences. They involve the planning and controlling of the military activities of the cadet corps, the preparation and presentation of briefings and other oral and written communications, and the providing of interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets. *CR/NC* grading only.

Note: to meet the California State University, Fresno upper-division writing requirement, students must complete **four semesters** of aerospace studies curriculum consisting of ASP 104A/B and ASP 105A/B. In addition, during one semester, the 105A/B course must have the writing requirement (i.e. it must be 105AW or 105BW).

Economics

Craig School of Business

Department of Economics
Antonio Avalos, *Chair*
Sherry Reich, *Department Administrative Coordinator*
To be announced, *Administrative Support Assistant*
Peters Business Building, Room 385
559.278.3916

B.A. in Economics

Minor in Economics

Minor in International Political Economy
(Jointly with Department of Political Science)

Subject Matter Preparation for Single Subject Teaching Credential in Social Science

Economics

Economics is the social science that studies the way in which societies are organized to produce the goods and services that sustain and enhance the life processes of the community. As a fundamental scientific discipline, economics employs systematic analysis in the study of the production and distribution of income within and among nations. Since all social policy issues in modern societies have an economic dimension, the study of economics offers the student an opportunity to investigate the most important and exciting problems of political economy facing the world today.

Such topics as inflation, unemployment, business cycles, international trade and finance, and development have long been within the province of economics. More recently, the economic way of thinking has been extended to other areas. Economic theories have been used to explain crime rates, birth rates, class conflict, pollution, marriage decisions, migration, and many other topics involving human behavior.

Economics majors acquire skills in critical and analytical thinking that contribute to an individual's intellectual independence and self-confidence in the problem-solving processes. In addition, economics majors confront the necessity of developing a broad view of the options facing humankind in organizing the production and distribution of income. The literature of economics presents widely diverse systems of political economic philosophy. The department offers a well-developed and balanced curriculum.

The program in economics is designed to give the student maximum flexibility. A typical economics major might take courses in intermediate macroeconomic theory and statistics while also learning about global corporations in the third world, or the regional economy, or pursue an independent study project on the foundations of supply-side economics. The economics major is designed to permit the student to pursue a broad liberal arts undergraduate degree, integrating the study of economics with other social sciences, humanities, natural sciences, and business administration.

Center for Economic Research and Education of Central California

The Center for Economic Research and Education of Central California enhances economic development and economic literacy in the San Joaquin Valley by using the expertise of our faculty and the skills of our students. The center sponsors research on regional issues such as unemployment, health care, and pollution. It also provides economic education services such as teacher workshops and curriculum consultation.

Career Opportunities

Graduates of the department pursue a variety of challenging careers in industry, finance, education, government, and international affairs. The economics B.A. is an excellent foundation for graduate study in public administration and business. The undergraduate major in economics has also proved to be an ideal prelaw major. The faculty provides counseling on legal careers to students interested in this career option. A number of distinguished attorneys are graduates of the department.

Careers for professional economists fall into the following patterns:

1. **Business** — roughly one-third of all economists are employed by private firms both large and small, although big corporations, banks, and insurance companies tend to employ larger staffs of economists.
2. **Government** — approximately one out of five professional economists works for a local, state, or federal government agency.
3. **Education** — about 45 percent of all economists are involved in teaching the discipline. There is a reawakening of interest in teaching economics in the secondary and even primary grades as more states are beginning to mandate economics in the curriculum.

Faculty

The faculty is staffed by professors whose primary professional commitment is to undergraduate education. Every member participates in the full range of teaching assignments. The program offers a wide variety of courses ranging from the traditional core of intermediate micro and macroeconomic theory to problem-oriented courses, such as the economics of health, crime, sports, and government regulation. The background of the faculty, like its program offerings, represents a broad spectrum of intellectual tastes and professional specialties.

Antonio Avalos, *Chair*
Sasan Fayazmanesh
Gil Kim
Janice Peterson
Va Nee Van Vleck
David Vera

Bachelor of Arts Degree Requirements

Economics Major

ECON 40 and 50 are prerequisites for most upper-division courses in economics. Any student planning graduate work is advised to take *additional mathematics* and *some foreign language.*

	Units
Major requirements	**39**
Core: ECON 40, 50, 100A, 100B, 123	(15)
Areas of concentration	(12)
Majors must complete at least 3 units from each area	
A. History/History of Thought: ECON 101, 110, 111, or 115T	
B. International: ECON 114, 178, 179, 181, 183	
C. Applied Microeconomics: ECON 117, 131, 150, 152, 162, 174, or 189T	
D. Applied Macroeconomics: ECON 119, 135, 140, or 188T	
Approved economics electives (at least 9 units upper division)	(9)
Senior project: ECON 185 or 190 or 191 or 192	(3)
General Education requirements	**51**
Electives and remaining degree requirements (see *Degree Requirements*); may be used toward a double major or minor	**30**
Total	**120**

Advising Notes

1. Economics majors may not use ECON 25, 40, 50, or AGEC 1 for General Education requirements.
2. A maximum of 6 units of either ECON 185 or 190, or any combination of these courses, will be allowed as credit toward the major, or toward either minor within economics.
3. *CR/NC* grading is not permitted in the economics major or minor, except for courses offered only under *CR/NC* grading.
4. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. No General Education Integration or Multicultural/International course offered by the Department of Economics may be used to satisfy the General Education requirements for economics majors.

Economics Minor

	Units
ECON 40, 50	**6**
Select one: ECON 100A, 100B, 101	**3**
Economics electives	**9**
Total	**18**

International Political Economy Minor

International political economy is the systematic inquiry into the political and economic forces generating wealth and social change on a global scale. As an interdisciplinary program it is administered from two departments: Political Science and Economics. Students who desire a greater understanding of the complex political and economic interactions of nations are encouraged to learn more about this program by consulting with a faculty adviser in either department.

	Units
Political Science	
PLSI 120	**3**
Electives*	**6**
Select from: PLSI 121, 125, 126, 128T, 140, 141, 142T, 143T, 144T, 145T, 146T, 149T	
Economics	
Electives**	**9**
Select from: ECON 114, 178, 179, 181, 183, 185, 190	
Total	**18**

* PLSI 1 or 2 may be listed as a prerequisite for some of these courses.

** ECON 40 and 50 are prerequisites for some of these courses.

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Advising Note for Minors

ECON 25, 40, and 50 may also meet General Education requirements. ECON 165 cannot be used as an elective for any minor in the Economics Program.

Teaching Credential in Social Science. See the Social Sciences credential adviser, Social Science Building, Room 129A, for advising, and refer to *Secondary Teaching Credential* under Social Sciences Programs.

COURSES

Economics (ECON)

ECON 25. Introduction to Economics (3 units)
Prerequisite: G.E. Foundation A2. Survey of the development of economic ideas and theories in the context of economic history. Analysis of major economic thinkers. Introduction to contemporary economic issues and policy controversies. Does not count toward the major in economics. G.E. Breadth D3. FS

ECON 40. Principles of Microeconomics (3 units)
Prerequisite: G.E. Foundation A2. Introduction to microeconomic theories of demand, production, and income distribution; price determination and resource allocation, under alternative forms of market organization; government regulation of economic activity; applied economic analysis and policy formation in selected topic areas. G.E. Breadth D3. FS

ECON 50. Principles of Macroeconomics (3 units)
Prerequisite: G.E Foundation A2. Economic theories of the determination of income, output, employment, and prices in the economy as a whole; business cycles, fiscal and monetary policies; economic growth and development; international trade; and comparative economic systems. G.E. Breadth D3. FS

ECON 100A. Intermediate Microeconomics (3 units)
Prerequisites: ECON 40, 50. Price mechanism and resource allocation under conditions of pure competition, monopolistic competition, oligopoly; theories of consumer's choice, cost, production, income distribution; nature of economic generalizations. S

ECON 100B. Intermediate Macroeconomics (3 units)
Prerequisites: ECON 40, 50. An examination of classical, Keynesian and post-Keynesian theories of the determination of the levels of income, output, and employment; the scientific and ideological implications of Keynesian thought; and the theoretical foundations of contemporary monetary and fiscal policies. F

ECON 101. History of Economic Thought (3 units)
Prerequisite: ECON 40 or 50 or 165. Evolution of economics as a science; doctrines of different schools of thought — Mercantilists, Physiocrats, Historical School, Classical Economists; contributions of outstanding economists. **F**

ECON 102W. Explorations in Economic Literature (3 units)
Prerequisites: ECON 40, 50; satisfactory completion (*C* or better) of the ENGL 5B or 10 graduation requirement; upper-division standing. An investigation into important economic ideas and issues through selected readings of either contemporary literature or classics in the history of economic thought or both. The class is conducted as a seminar with emphasis on student contributions. Meets the upper-division writing skills requirement for graduation. **S**

ECON 110. Economic History of the United States (3 units)
Prerequisites: ECON 40 or 50 or 165. Exploration and colonization to the present; economic factors in development of the United States; relationships of economic forces to historical, political, and social change. **S**

ECON 111. European Economic History (3 units)
Prerequisites: ECON 40, 50, or 165 or permission of instructor. An examination of the causes and consequences of economic development in Europe from 1650 to 1950. Survey of selected economic forces that shaped key social institutions.

ECON 114. Economic Development of Poor Nations (3 units)
Prerequisites: ECON 25 or 40 or 50. Intensive study of the causes and consequences of underdevelopment that affects two-thirds of the world's people. Topics include theories of development, historical roots of underdevelopment, evaluation of aid programs, New International Economic Order, Asian export economies, managing external debt. **S**

ECON 115T. Topics in U.S. Economic History (1-3; max total 6 units)
Detailed investigation of developments in the United States economy. Topics vary with the needs and interests of students and faculty.

ECON 117. Environmental Economics (3 units)
Prerequisite: ECON 40. Investigation into the economics of resource use. Development and creation of resources through the application of technology and the destruction of resources through misuse and pollution of the environment. **F even**

ECON 119. Urban and Regional Economics (3 units)
Prerequisites: ECON 40 or 50. Examination of San Joaquin Valley economy from a policy-oriented perspective. Construction of economic models and theories regarding how urban and regional economic activity is located across spaces. Investigation of why and where cities form. Application of regional economic models to the local economy. **F**

ECON 120. Women in the Economy (3 units)
Prerequisites: ECON 40 or 50 or 165. Explores the social and economic forces shaping the economic status of women in the U.S. Topics include women's participation in paid employment and current labor market and family policy issues.

ECON 123. Introduction to Econometrics (3 units)
Prerequisites: ECON 40, 50; MATH 11 or permission of instructor. Statistical data analysis in economics. Use of multiple regression analysis, time series analysis, index numbers. Basic theory; computer applications using major economic data sources; interpretation of results. (2 lecture, 2 lab hours) **S**

ECON 125. Introduction to Mathematical Methods for Economics (3 units)
Prerequisites: ECON 40, 50; MATH 75. Introduction to mathematical methods useful for economic analysis. Mathematical concepts are developed in the context of economic examples and applications. Knowledge of fundamental economic concepts is required. Strongly recommended for students considering graduate school in economics or business.

ECON 131. Public Economics (3 units)
Prerequisite: ECON 40. Impact of government expenditures and taxes on the allocation of resources and the distribution of income. Evaluation of government expenditure programs and tax policies. Analysis of existing government policies and proposed reforms. **F even**

ECON 135. Money and Banking (3 units)
Prerequisites: ECON 40, 50. Survey of the monetary and banking system of the United States and analysis of its role in economic growth and stabilization. **S**

ECON 140. The Political Economy of the Military-Industrial Complex (3 units)
Prerequisite: ECON 50. Economic effects of military expenditures in historical perspective. Economic effects of World War II, Korea, and Vietnam. The Military-Industrial Complex, war profiteering, and the economic effects of disarmament. **S**

ECON 144. Economics of Sports (3 units)
Prerequisites: ECON 40 or 50 or 165. Analyzes issues surrounding the monopolistic nature of professional leagues, tax incentives used to attract/maintain a professional franchise, and collective bargaining agreements through industrial-organization, public finance, and labor economics respectively.

ECON 146. Economics of Crime (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Economic theory of choice and rationality applied to analysis of crime, focusing on white-collar and corporate crime. Examines costs and benefits of crime control policies. Economics of participation in crime, law enforcement, prosecution, and punishment. G.E. Integration ID. **F**

ECON 150. Labor Economics (3 units)
Prerequisite: ECON 40 or 50 or 165. Alternative theories of wages, employment, and structure of labor market; impact of collective bargaining on level of wages, employment, and labor's share of national income; history and philosophies of labor movement; structure and functioning of labor unions. **F even**

ECON 152. Economics of Human Resources (3 units)
Prerequisite: ECON 40 or 50 or 165. Economic theory of investments in education and job training; economic theories of discrimination; analysis of earnings differentials for women and ethnic minorities. Issues discussed include educational choices, affirmative action, comparable worth, and human resource planning policies. **S odd**

ECON 162. Health Economics (3 units)
Prerequisite: ECON 40. Economic issues associated with the provision of health care in the U.S. Role of competitive market forces, non-profits, and government. Separate consideration of physicians, hospitals, insurance, and drug companies. Comparison to other countries. **S even**

ECON 165. The Modern American Economy (3 units)
No prerequisites. Not open to economics majors. Provides an overview of the major economic forces that shape our everyday experiences by introducing fundamental economic principles and applying them to the American economy. Audio-visual materials and computer simulations are presented. **FS**

ECON 167. Contemporary Socioeconomic Challenges (3)
In-depth analysis and discussion of major socio-economic challenges currently facing the U.S. Emphasis on understanding basic economic underpinnings of contemporary policy issues. Analysis of conflicting economic, social, political, and historical forces which condition and constrain policy implementation. **S even**

ECON 176. Economics Themes in Film (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Emphasizes economic concepts, issues, and institutions through an integrated series of classic films, lectures, and discussions. Students will apply the economic way of thinking to social problems involving such topics as economic growth, unemployment, income distribution, discrimination, and the global economy. G.E. Integration ID. (2 lecture, 2 lab hours) **F**

ECON 178. International Economics (3 units)
Prerequisites: ECON 40, 50. International economic relations; problems and policies in the light of fundamental economic theory. **F**

ECON 179. International Political Economy (3 units)
Analysis of greater internationalization of national economies. Policies of states and transnational corporations in the context of globalization. Trade, finance, and production in the international context. Regional economic integration. Global assembly and labor issues. Evolution of multilateral institutions. (3 lecture/recitation hours) **S even**

ECON 181. Political Economy of Latin America (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Latin America's principal economic problems examined within a historical and contemporary context. Topics may include Colonialism, Neo-Colonialism, foreign corporations, debt crises, problems of industrialization, women and labor, agricultural backwardness, and free trade agreements. Intensive examination of major nations (particularly Mexico) and of dominant theoretical interpretations. Theories of development (structuralism, dependency, dualism, modernization) are integrated into case studies. G.E. Multicultural/International MI. **S even**

ECON 183. Political Economy of the Middle East (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. A survey of historical, social, cultural, political, and economic development, economic development in the Middle East. An examination of Western colonial policies, the creation of modern states and their political and economic policies, the role of religion, and cultural heritage. G.E. Integration ID. **S**

ECON 185. Directed Readings (1-3; max total 6 units)
Prerequisites: ECON 40, 50, and permission of instructor. Directed readings in the literature of economics. Intensive reading of economic literature on special topics under faculty supervision. **FS**

ECON 188T. Special Topics (1-3; max total 6 units)
Prerequisites: ECON 40, 50. Consideration of in-depth, special topics in political economy; systematic, detailed study into issues not possible in survey courses. Topics vary with the needs and interest of students and faculty.

ECON 189T. Topics in Public Policy (1-3; max total 6 units)
Prerequisites: ECON 40, 50. Detailed analysis of questions of economic policy. Areas of investigation include social welfare policy, farm policy, environmental quality policy, and others. Topics to be varied with the interests and needs of students and faculty.

ECON 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

ECON 191. Internship in Applied Economics (1-3; max total 3 units)
Prerequisite: senior standing, economics major. Supervised experience in either the private or public sector to provide students an opportunity to professionally apply economic theory and analysis. ***CR/NC*** grading only. **FS**

ECON 192. Senior Project (3 units)
Prerequisite: ECON 40, 50, economics major. Consists of a field trip, lectures and research. Designed to give students concrete experience on how economics is applied and how economists think, do research, and present the results of their investigations. **S**

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Economics (ECON)

ECON 365T. Economics for Teachers (1-6; max total 12 units)

Finance and Business Law

The Craig School of Business

Department of Finance and Business Law

K. C. Chen, *Chair*

Karen Linville, *Department Administrative Assistant*

Peters Business Building, Room 285

559.278.2341

FAX: 559.278.4911

www.craig.csufresno.edu/fbl/

B.S. in Business Administration

Options:

- Finance
- International Business
- Real Estate and Urban Land Economics

Certificate in Finance

The Department

The Department of Finance and Business Law offers three options (areas of emphasis) within the Bachelor of Science in the Business Administration degree program.

The **Finance Option** stresses the financial structure of businesses through a common set of courses and specialized courses directed at various applications. It is designed to provide students with the basic skills required to plan, supervise, and control the financial activities of business organizations. These include understanding the trade-off between risk and return, the time value of money, and the magnifying effect of leverage. Students also gain the skills related to evaluating the financial needs of a business, obtaining the funds required by the firm, and using these funds in such a way that the company's goals are met.

Career opportunities in finance include, but are not limited to, the following: (1) corporate finance — financial analyst, financial planning, project finance; (2) portfolio management — security analyst, stock broker, investment banker, portfolio manager; and (3) banking and financial institutions — commercial and residential loan officers, trust officer, marketing officer.

The **International Business Option** introduces students to the fastest growing part of business today. The information and communications revolution — and declining travel costs — have made all businesses aware of global markets. The option stresses the role of global communications and the growth of entrepreneurial opportunities in worldwide markets, with special attention to California and the markets of the Pacific Rim.

The **Real Estate and Urban Land Economics Option** provides the background for a wide range of career opportunities in addition to residential and commercial real estate sales. These areas include development, lending, banking, appraising, escrow, property management, and construction. Usually students who enroll in the real estate option will complete all courses necessary to take the California Brokers License Examination.

Faculty

The faculty comprises more than 20 full-time and part-time individuals who have outstanding reputations in both business and education. All full-time members of the department have earned an appropriate doctoral degree and many of them have gained national reputations for their scholarship. The faculty is extremely active in research and textbook writing as well as in working with the business community. A wide range of approaches are used in teaching the many different courses offered by the department. These include computer simulations, team projects, community projects, laboratory research, group discussions, collaborative work groups, case studies, internships, and foreign studies programs. The broad background of the faculty members and their strong commitment to business education assures students of a challenging and rewarding course of study.

K. C. Chen, *Chair*
Lynn M. Forsythe
J. Andrew Hansz
James M. Highsmith
Amir A. Jassim
Ida M. Jones
Deborah J. Kemp
Richard C. Lacy
Patricia A. LaRosa
Kevin Lee
Manuchehr Shahrokhi
Kuo-cheng Tseng
Rassoul Yazdipour

Bachelor of Science Degree Requirements

Business Administration Major

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; and (f) an integrative course requirement.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of *C* or better or achieve a passing score on the CSB computer competency waiver examination. See "computer competency waiver exam" at *www.craig.csufresno.edu/uss_home.aspx.*

	Units
Pre-Business requirements (ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50; (See *Pre-Business Requirement.*)	**16***
Upper-division core requirements DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100	**24**
Option requirements The Department of Finance and Business Law offers three options. (See options in the copy that follows.)	**24**
General Education requirements	**48****
Grade Requirement A grade of *C* or better must be earned for each course used to satisfy the requirements for the major.	
Upper-division writing skills requirement Business majors must select a minimum of 3 units from BA 105W or ENGL 160W (See *Writing Requirements.*) *Note:* the Upper-Division Writing Exam is not an option for business administration majors.	**3**
Integrative course requirement MGT 187 or FIN 139***	**3**
Electives and remaining degree requirements See individual option requirements.	**2**
Total	**120**

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.

** *Note*: Business majors are exempt from G.E. Area MI.

*** Finance majors only.

Options

The three options available to students are outlined in the copy that follows. The completion of General Education requirements, pre-business requirements, upper-division business core, upper-division writing skills requirement, and the 24 units as required by the options total the 121 units required for the Bachelor of Science in Business Administration.

Finance Option	*Units*
General Finance Track	
FIN 121, 128, 178	**9**
Select at least 15 units from the following: FIN 122, 123, 129, 131, 138, 186, 195; BA 150; ACCT 120A	**15**
Total	**24**

International Business Option	*Units*
BA 174, 175, 176	**9**
Select at least 6 units from the following: ACCT 165; BA 177; FIN 178; MKTG 140; and MGT 131	**6**
Select three upper-division courses outside the Craig School of Business that can be justified as contributing to global cultural awareness. Introductory language courses and courses used for a second major are not accepted. Electives must be approved in advance by the coordinator of the International Business Option, in consultation with the department chair	**9**
Total	**24**

The Language Requirement. English is the required language of the International Business Option. Every student is also required to demonstrate to the coordinator, by a note from a faculty member of the Department of Modern and Classical Languages and Literatures or by special test, a working commercial knowledge of a second language. The second language is chosen by the student and approved by the coordinator of the program.

The International Business Association (IBA). While not a university requirement, membership in IBA is strongly encouraged. More than a student club, IBA is the vehicle by which students acquire the personal international network they will need for a successful career in international business. IBA also sponsors field trips and invites current practitioners in international business to speak and interact with students in the program.

Real Estate and Urban Land Economics Option	*Units*
BA 154	**3**
FIN 122, 180, 181, 182, 183, 186	**18**
Select at least 3 units from the following: FIN 123, 185, 195	**3**
Total	**24**

Requirements for Certificate Program

Before entering either of the programs, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno,
2. have a bachelor's degree in any field from an accredited institution, or
3. have an Associate of Arts degree from a two-year accredited college and a minimum of two years of business experience.

For successful completion of a certificate, the student must receive a grade of *C* or better in each course.

Certificate in Finance	*Units*
FIN 120, 128, 178	**10**
Elective courses	**9-10**
Select three courses from the following: FIN 121, 122, 123, 129, 131, 138, 139	
Total	**19-20**

COURSES

Business Administration (BA)

BA 18. Business and the Legal Environment (4 units)
Prerequisite: sophomore standing. Introduction to legal system; relation of ethics to law; administrative, criminal, tort, and labor law; and legal aspects of international trade. A more extensive study of the law of contracts and agency. Case studies; discussion and analysis. **FS**

BA 88. Public Law Environment of Business (1 unit)
Required of students seeking transfer credit for a 3-unit business law course in lieu of BA 18. Not open to students who completed BA 18 at California State University, Fresno. Relationship of ethics to law. Administrative law and government regulation framework, labor and employment law framework, and legal aspects of international trade. **F**

BA 101. Business Ethics (3 units)
Traditional and contemporary ethical principles and their historic context and relevance to business practice. Identifying the ethical beliefs and values of self and others. Examining contemporary business problems from an ethical perspective.

BA 104. Global Business (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Studies globalization of business; role of trade, investment liberalization, and economic integration; technology; multinational enterprises. Examines influence of cultural, social, economic, political, geographic, philosophical, and environmental forces on individual and institutional competitiveness at regional, national and global levels; appropriate strategies. G.E. Multicultural/International MI.* **FS**

BA 105W. Business Communication (3 units)
Prerequisites: satisfactory completion (*C* or better) of the ENGL 5B or 10 graduation requirement or approved equivalent, and junior standing. Business communication theory; analysis of communication alternatives; effective business writing and speaking; case studies. Meets the upper-division writing skills requirement for graduation. **FS**

BA 150. Law and Business Activity (3 units)
Prerequisite: BA 18. Examination of the law of bailments, shipments, sales, commercial paper, and secured transactions. Nature of property; and the relation of the legal, ethical, and regulatory environment to commercial transactions. Case studies; discussion and analysis. **FS**

BA 152. Law for Entrepreneurs (3 units)
Prerequisite: BA 18 or permission of the instructor. Special legal problems of entrepreneurs. Topics include hiring legal counsel, selecting a business form, operating small corporations, obtaining capital, using employees to foster organizational goals, and protecting intellectual property. Focus will be on preventative law. (Formerly BA 189T) **S**

BA 154. Real Estate Law (3 units)
Meets California statutory course requirement for real estate broker's license. Prerequisite: BA 18. Legal aspects of acquisition and ownership of real estate; conveyances, mortgages, evidences of title; planning and zoning. **S**

BA 174. Introduction to International Business (3 units)
Competing in global markets. Accommodating to differing cultural, legal, and political systems. Role of start-up and medium-sized firms, importing, exporting, international contracts, and investment, multi-country production and distribution. Forecasting and compensating for changing government policies, market conditions affecting profitability. **FS**

BA 175. Tools and Techniques of International Business (3 units)
Prerequisite: grade of *C* or better in BA 174 and FIN 120. Organizing international operations, entering foreign markets using global communications, finding business connections and potential imports or exports. Selling abroad, government support services, pricing, shipping, documentation, taxes, duties, quotas, trade licenses. International personnel strategies, accounting systems, travel, international business control. **F**

BA 176. The International Business Environment (3 units)
Prerequisite: grade of *C* or better in BA 174. Evolution of international business. Political regimes, economic success and failure, identifying prosperity, picking winners. Dealing with changing cultures, variations within cultures. Doing business in unstable regions. Implications of global downsizing. Trading blocks and their effects. Forecasting and international business opportunities. **S**

BA 177. Legal Environment of World Commerce (3 units)
Prerequisites: BA 18; junior standing; BA 150 recommended. Seminar on international sales, documents, credits, dispute resolution; trade law, including GATT/WTO customs, tariff laws; regulatory ethical environment of international marketplace, intellectual property transfers, political risk, exploitation of labor and environment. **F**

BA 179. Legal and Ethical Environment of Sports Marketing (3 units)
Study and application of agency, franchise, government regulation, antitrust, and contract and tort law principles as they affect the business of sports marketing. Review of ethical aspects of the sports marketing business. (Formerly BA 189T)

* With advance approval, business majors may use this course to meet some option electives, but not to meet G.E. requirements.

BA 189T. Topics in Business Administration (1-3; max total 9 if no topic repeated)
Studies in business administration. **FS**

BA 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

BA 195. Internship (3; max total 6 units)
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval required. Only one internship may count towards option requirements. ***CR/NC*** grading only. **FS**

BA 200 Series Courses
Graduate courses are listed under *Business — Graduate Program*.

Finance (FIN)

FIN 30. Personal Financial Planning (3 units)
Personal financial analysis, planning, and management for lifelong decision making. Topics include financial planning strategies; money and credit management; home ownership; home, health, and auto insurance needs; savings and investment strategies; and retirement and estate planning. G.E. Breadth E1. **FS**

FIN 120. Principles of Finance (4 units)
Prerequisites: ACCT 4A; DS 71; BA 105W or ENGL 160W (BA or ENGL course may be taken concurrently). Introduction to corporate financial management, investments, and financial institutions. Focus on financial policy, analysis, and valuation in a global environment. Topics include capital markets, risk and return, financial planning, capital budgeting, cost of capital, and working capital management. **FS**

FIN 121. Intermediate Financial Management (3 units)
Prerequisite: grade of ***C*** or better in FIN 120. Modern theories of corporate finance; financial decision making under uncertainty; efficient allocation of financial resources; advanced financial planning and control strategies. **FS**

FIN 122. Financial Institutions and Financial Markets (3 units)
Prerequisite: grade of ***C*** or better in FIN 120. Role of the Federal Reserve in monetary policy; interaction of fiscal and monetary policy; analysis of depository and nondepository financial institutions; regulatory issues in financial markets; public policy toward financial institutions. **FS**

FIN 123. Business Forecasting (3 units)
Prerequisite: DS 123; grade of ***C*** or better in FIN 120. Business activity analysis; methods of forecasting; general and specific forecasts; analysis of trends in product groups, sectors, regions, and other areas of the world economy; mathematical models and statistical decisions; analysis of case problems. **FS**

FIN 128. Investments (3 units)
Prerequisite: grade of ***C*** or better in FIN 120. Basics of investing; analysis of financial securities including debt and equity instruments, mutual funds, and exchange-traded funds; theories and techniques of asset allocation, active and passive portfolio management, and portfolio performance evaluations; fundamental analysis; technical analysis. **FS**

FIN 129. Student Investment Fund (3 units)
Prerequisite: grade of ***C*** or better in FIN 120. Student-managed, privately donated funds; design of investment strategies; analysis of investment vehicles; fundamental and technical analyses; assessing market and portfolio risks; portfolio performance evaluation. **FS**

FIN 131. Entrepreneurial Finance (3 units)
Prerequisite: grade of ***C*** or better in FIN 120. Using financial and entrepreneurial perspectives to make better decisions at each stage of the entrepreneurial process, from identification of opportunity to harvest. Issues: venture capital markets, deal structuring, valuations, later stage financing, going public and other harvesting methods. **FS**

FIN 138. Derivatives (3 units)
Prerequisite: grade of ***C*** or better in FIN 120 and 128. Introduction to the use and pricing of derivative assets such as options, futures, swaps, and option-like features embedded in corporate/treasury securities; mathematical concepts underlying derivative markets and contracts and basic pricing models; derivative strategies for hedging and arbitrage. **FS**

FIN 139. Financial Policy and Strategy (3 units)
Prerequisites: FIN 121 and last-semester senior standing. Integration and application of financial analysis, policy, strategy, and theory across functional areas in a globally competitive environment. Case analysis/computer simulations included. **FS**

FIN 143. Risk and Insurance (3 units)
Fundamentals of insurance and risk management. Covers the basic areas of property, liability, auto, life, health, and social insurance. Other areas including marketing, underwriting, claims, investments, and loss control.

FIN 150. Financial Planning (3 units)
Prerequisite: permission of instructor. The concept of a total coordinated system of personal financial planning; evaluate existing programs, design improved plans and coordinate execution to achieve stated objectives. Includes data gathering, the psychology of financial counseling, and the counselor's fiduciary responsibilities. Case studies.

FIN 178. International Finance (3 units)
Prerequisite: grade of ***C*** or better in FIN 120. Evolution of international monetary system; balance of payment accounting; foreign exchange; forecasting exchange rates; management of foreign exchange risk; political risk analysis; foreign direct investment; international money and capital markets; Eurocurrency markets; international banking; international monetary and banking organizations. (Formerly BA 178) **FS**

FIN 180. Real Estate Principles (3 units)
Meets California statutory course requirement for real estate salesperson's and broker's license. Theory and practice of urban land use. Location and legal dimensions, planning, and market processes; financial and investment decisions in real estate; computer analysis and case studies. **S**

FIN 181. Real Estate Appraisal (3 units)
Prerequisite: grade of *C* or better in FIN 120 and 180. Theory and determinants of real property value. Methods used in urban and rural property appraisals. Statistical techniques and the appraisal process; special purpose appraisals. Fieldwork required. **F**

FIN 182. Real Estate Practices (3 units)
Meets California statutory course requirement for real estate broker's license. Relationship between public and private organizations active in real estate; company formation; selling and marketing techniques; financing; advertising; aspects of taxation; escrow procedure; property insurance; computer analysis and case studies. **F**

FIN 183. Real Estate Finance (3 units)
Prerequisite: grade of *C* or better in FIN 120 and 180. Characteristics and underwriting standards of institutions furnishing funds for real estate investment and development. Alternative financial instruments and their effect on property economics and value. **S**

FIN 185. Housing Market Analysis (3 units)
Prerequisite: junior standing. Analysis of local and regional housing markets and submarkets; availability of market data; primary versus secondary data; design of data collecting instruments; interviewing techniques and interviewer bias; data analysis and presentation of findings; field studies required.

FIN 186. Business and Real Estate Economics (3 units)
Prerequisites: ECON 40, 50. Applications of economic principles in business and real estate management; measure of profit, analysis of demand, cost analysis; price, wage, and public policies; case studies, analysis. (Formerly BA 100) **S**

FIN 189T. Topics in Finance (1-3; max total 9 if no topic repeated)
Studies in business including agricultural economics, business economics, legal environment of business, international business, finance, financial services, risk and insurance, and real estate.

FIN 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

FIN 195. Internship (3; max total 6 units)
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval required. Only one internship may count towards option requirements. ***CR/NC*** grading only. **FS**

FIN 200 Series Courses
Graduate courses are listed under *Business — Graduate Program.*

Information Systems and Decision Sciences

The Option

Computer and information systems are at the forefront of most courses offered in the department. Every course deals with the development and use of information technology (IT) by managers in support of their decision-making roles. Those interested in specializing in the Information Systems (IS) option can choose from a broad set of courses designed to prepare them for challenging, productive, and well-paying jobs in one of the fastest growing career paths. The IS graduate is qualified for literally hundreds of different jobs being performed by IT professionals. Graduates of this department have found successful employment at prestigious firms such as Andersen Consulting, Hewlett-Packard, Siemens, and Gallo.

The Computer Information Systems Option provides students with the knowledge, skills, and modern tools in the area of IT. Students will learn about the strategic role of IS in business decision making. They will also learn how to design systems to solve management problems in all functional areas of business. Included in the curriculum are courses in data communication, network administration, database systems, geographic information systems, end-user computing, expert systems, webpage design, programming, and systems analysis and design.

Job titles fall into three categories: application development, technical development, and systems support.

Applications developers (e.g. **systems analysts**) are responsible for creating and maintaining the business software and systems a company needs. Systems analysts' jobs require strong interpersonal skills, as they spend much of their time with the users determining needs and processing functions. In addition, they must have thorough knowledge of business application systems. They often know as much about the company's work (for example, banking) as anyone in the company. Many of our IS graduates are hired in this category.

Technical developers (e.g. **database administrators**, **network specialists**) work with the operating, database, and network systems. Their jobs are generally concerned with managing the computer environment. Usually, working in teams, they are responsible for integrating the different hardware and software systems within the company.

Systems support personnel (e.g. **Web site managers**, **system administrators**) are responsible for the daily operation of all computer systems, both hardware and software. Support jobs differ with the computer environment. Support people often do not create, maintain, or develop software. They often move into technical development as they gain more on-the-job experience.

The **Certificate in Business Information Systems** is directed toward enhancing the knowledge of candidates for entry level IS-related positions. The program consists of five-course sequence involving the same IS core courses required for the IS option students. The details regarding this certificate are outlined on the next page.

The **Certificate in Network Administration** is designed to enhance the knowledge, practical experience, and employability of candidates who have had IS-related job experience and wish to expand their expertise. The details regarding this certificate are outlined on the next page.

Statistical and Computer Laboratories

Students who study in the Information Systems and Decision Sciences Department receive classroom instruction, listen to guest speakers, and enjoy field trips. They are also exposed to modern computer laboratories for the quantitative, computer, and business communication classes throughout the semester. The computer laboratories provide the student with the valuable opportunity of hands-on computer experience for such classes as computer programming and statistical analysis.

Faculty

The Department of Information Systems and Decision Sciences employs full-time and part-time faculty with extensive expertise in statistics, systems analysis and design, computer programing, networking, telecommunications, geographic information systems, business communication, database systems, expert systems and webpage design. These faculty come from all over the world and have Ph.D. degrees from major American and foreign universities.

The Craig School of Business

Department of Information Systems and Decision Sciences

Donald N. Stengel, *Chair*

Rosalie Avery, *Department Administrative Assistant*

Peters Business Building, Room 287

559.278.2823

FAX: 559.278.5648

www.craig.csufresno.edu/isds/

B.S. in Business Administration

Option: Computer Information Systems

Certificate in Business Information Systems

Certificate in Network Administration

Faculty

Donald N. Stengel, *Chair*
Randy J. Anderson
Priscilla M. Chaffe-Stengel
Myron Hatcher
James M. Henson
Ojoung Kwon
Wallace C. Liu
Kathleen E. Moffitt
Sasan Rahmatian
Rafael Solis
Tomasz R. Wielicki

Bachelor of Science Degree Requirements

Business Administration Major

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; and (f) an integrative course requirement.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of *C* or better or achieve a passing score on the CSB computer competency waiver examination. Students who pass the CSB computer competency waiver examination are considered to have satisfied stated prerequisites of IS 52 and 52L for any course offered by the department. See "computer competency waiver exam" at *www.craig.csufresno.edu/uss_home.aspx.*

	Units
Pre-Business requirements	**16***
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50; (See *Pre-Business Requirement.*)	
Upper-division core requirements	**24**
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100	
Option requirements	**24**
IS 51, 158**, 166**, 181, 186	(15)
Select 9 units from the following courses: IS 106, 140, 150, 156T, 162, 182, 183, 184, 189T, 190, 195; any approved upper-division IS courses	(9)
General Education requirements	**48*** **
Grade Requirement	
A grade of *C* or better must be earned for each course used to satisfy the requirements for the major.	
Upper-division writing skills requirement	**3**
Business majors must select a minimum of 3 units from BA 105W or ENGL 160W (See *Writing Requirements.*) *Note:* the Upper-Division Writing Exam is not an option for business administration majors.	
Integrative course requirement	**3**
IS 187**	
Electives and remaining degree requirements	**2**
See individual option requirements.	
Total	**120**

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.

** This is a three-semester sequence of classes that cannot be taken concurrently or out of order.

***_Note_: Business majors are exempt from G.E. Area MI.

Requirements for Certificate Programs

Prior to entering either of these programs, applicants will need to demonstrate that they have completed at least 6 units of elementary accounting and are conversant in computer concepts (equivalent to IS 52 and 52L at a minimum.) Applicants must also fill out the appropriate form in the ISDS Department office prior to entering either certificate program. Approval of the certificate program coordinator or the department chair is required.

Eligibility. Applicants for either certificate will need to meet one of the following criteria:

- Have a bachelor's degree in any field from an accredited institution
- Have an associate of arts degree from a two-year accredited college and a minimum of two years of business experience
- Have a major in business (except IS) at an accredited four-year institution of higher education.

Note: Students majoring in IS (or an equivalent program) are ***not*** eligible for these certificates.

Certificate in Business Information Systems

	Units
Required Courses	**9**
IS 158, 166, 181	
Elective Course	**6**
Select a minimum of 6 units from the following: IS 51, 106, 140, 156T, 162, 182, 183, 184, 186, 190, 195	

Certificate in Network Administration

Students must have a background in IS and a strong interest in computer network environment.

	Units
Required Courses	**9**
IS 162, 181, 182	
Elective Courses	**6**
Select a minimum of 6 units from the following: IS 51, 106, 140, 156T, 166, 183, 184, 186, 190	

COURSES

Decision Sciences (DS)

DS 71. Quantitative Analysis (3 units)
Prerequisite: students must take the ELM exam; students who do not pass the exam must record a grade of ***C*** or better in a college-taught intermediate algebra course. Quantitative formulation and solution of problems in various disciplines, including mathematics of finance, linear programming, probability, and differential calculus. G.E. Foundation B4.

DS 71L. Quantitative Analysis Lab (1 unit)
Prerequisite: concurrent enrollment in DS 71. DS 71L is not required for DS 71. Extends instruction in DS 71, providing three hours of additional support per week. One-on-one tutoring. Small group and technology-enhanced instruction relating to DS 71 curriculum. ***CR/NC*** grading only. (Does not apply to major.)

DS 73. Statistical Analysis I (3 units)
Prerequisites: ELM exam, DS 71 or equivalent; ECON 40, 50 recommended. Introduction to descriptive statistical tools as applied to management decision making. Central tendency and dispersion measures; index numbers (CPI, deflators); time series analysis (trends, seasonal variations); probability theory; probability and sampling distributions (normal, exponential, binomial, Poisson); central limit theorem.

DS 73L. Statistical Analysis I Lab (1 unit)
Prerequisite: concurrent enrollment in DS 73. DS 73L is not required for DS 73. Extends instruction in DS 73, providing three hours of additional support per week. One-on-one tutoring. Small group and technology-enhanced instruction relating to DS 73 curriculum. ***CR/NC*** grading only. (Does not apply to major.)

DS 123. Statistical Analysis II (3 units)
Prerequisites: DS 71, 73; IS 52, 52L. Statistical inference as applied to managerial problems and decision making. Emphasizes the inferential process; interval estimation, hypothesis testing, one- and two-way analysis of variance, regression, and correlation and related inferential analysis, nonparametric methods, Bayesian decision theory. (May include computer lab hours)

DS 123L. Statistical Analysis II Lab (1 unit)
Prerequisite: concurrent enrollment in DS 123. DS 123L is not required for DS 123. Extends instruction in DS 123, providing three hours of additional support per week. One-on-one tutoring. Small group and technology-enhanced instruction relating to DS 123 curriculum. ***CR/NC*** grading only. (Does not apply to major.)

DS 189T. Topics in Decision Sciences (1-3; max total 6 if no topic repeated)
Prerequisites: 12 units in decision sciences. Theory or application of statistics or operations research applied to current developments.

DS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

DS 195. Internship (3; max total 6 units)
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a prequalified, academically-related work station (business, government, or nonprofit agency.) Reflective journal, final report, and work station evaluation. ***CR/NC*** grading only. As a course substitution, prior department approval required. Only one internship may count towards option requirements.

DS 200 Series Courses
Graduate courses are listed under *Business — Graduate Program.*

Information Systems (IS)

IS 51. Programming Fundamentals (3 units)
Prerequisite: IS 52 and 52L or equivalent. Structured program design using Visual Basic. Concepts of object-oriented and event-driving programming, user interface design, algorithm development, testing and debugging, and documentation using business examples. (2 lecture, 2 lab hours)

IS 52. Computer Concepts (2 units)
Introduction of computer hardware and software systems, impact of computers on society, ethical issues, and application of computer technology in many career fields. No credit if taken after IS 50.

IS 52L. Computer Concepts Lab (1 unit)
Hands-on study of office productivity software to include elements of word processing, electronic spreadsheets, database, and presentation software. Modules may differ by major. Some sections use self-paced computer-based training. No credit if taken after IS 50. ***CR/NC*** grading only. (2 lab hours)

IS 106. Intermediate Web Site Design (3 units)
Prerequisites: IS 52 and 52L. Theory and practice of Web site design and authoring (HTML). webpage usability, graphic design optimization concepts, and the basics of CGI, Java, and Javascript; introduction to Internet architecture concepts and protocols. (2 lecture, 2 lab hours)

IS 130. Management Information Systems (3 units)
Prerequisites: IS 52 and 52L or demonstration of computer literacy; ACCT 4A, 4B; BA 105W or ENGL 160W (may be taken concurrently). Management concepts in the role/administration of information/information system functions in organizations; enhancement of management with computers; management of systems development; planning and budgeting, analysis, design, implementation and operation of computer-based systems; measurement of operating performance.

IS 140. Geographic Information Systems (GIS) for Business (3 units)
Prerequisites: solid computer skills. Application of geographic information systems to solution of business problems. Study of GIS concepts, software, management, ethical issues, and cases using local data and problems. (2 lecture, 2 lab hours)

IS 150. End-User Computing (3 units)
Prerequisites: IS 51, 52, 52L. Use of data resources in business problem solving. Integration of microcomputer packages with systems development concepts to implement information systems. Topics include information centers, 4GLs, and decision support tools. (2 lecture, 2 lab hours)

IS 156T. Topics in Emerging Information Technologies (3; max total 6 if no topic repeated)
Prerequisites: IS 52, 52L. Overview of the most recent tools and techniques in information technology, and their utilization in the business environment with specific content of the course updated and refocused every year. (2 lecture, 2 lab hours)

IS 158. Database Systems (3 units)
Prerequisites: IS 51; 150 recommended. Data structures; file design; database design concepts emphasizing the relational model; data administration; application of database management system software. (2 lecture, 2 lab hours)

IS 162. Data Communications (3 units)
Resource sharing; computer traffic characterizations; multiplexing; network structure; packet switching and other switching techniques; computer network examples; routing and flow control; satellite and ground radio packet switching; transmission media and methods; line control procedures; line capacity assignment; communication processors.

IS 166. Information Systems Analysis and Design (3 units)
Prerequisite: IS 158, ACCT 4A, 4B, and upper-division standing. Systems approach to problem solving; systems development life cycle; systems analysis; use of system modeling tools; logical systems design, including user interfaces, database, structure, and controls; implementation and testing. (2 lecture, 2 lab hours)

IS 181. Computer Networks Management (3 units)
Prerequisites: IS 52, 52L. Theory and practice of computer network design, installation, and management focusing on the role of the information communications system in a distributed business computing environment. Concepts include network operating systems, protocols, topologies, security, supporting services, applications, and disaster recovery. (2 lecture, 2 lab hours)

IS 182. Advanced Network Design and Management (3 units)
Prerequisites: IS 181. Design and management of advanced business telecommunications network components and services. Conceptual foundations and direct hands-on experience in designing, installing, and managing the relevant equipment, software, and services. (2 lecture, 2 lab hours)

IS 183. Advanced Web Site Design and Management (3 units)
Prerequisites: IS 51, 158. (IS 158 may be taken concurrently.) Theory and practice of Web site design and authoring. Dynamic HTML and cascading style sheets; Web-based e-commerce application design (client-side scripting and server-side scripting with a back-end database.) Web development, project management, user interface design, interactivity design, and information design. (2 lecture, 2 lab hours)

IS 184. Advanced Database (3 units)
Prerequisites: IS 158, 166. Not open to pre-business or undeclared majors. Advanced study of database systems. Possible topics include advanced database theory, database administration, physical design and implementation, query processing and optimization, transaction management, recover, security, and other advanced topics. (2 lecture, 2 lab hours)

IS 186. Project Management (3 units)
(Same as MGT 158.) Phases of the project life-cycle; basic tools and techniques for planning, scheduling, and control of projects; project organizations; project roles; techniques for building effective project teams; risk management; information technology and e-business projects; computer/Internet applications of project management.

IS 187. IS Practicum (3 units)
Prerequisites: IS 158, 166, 186; senior standing. Integration and application of IS skills and knowledge across business functional areas. Students learn to deliver practical and strategic solutions in an integrative organizational environment. Students work in groups as consultants to solve real business problems. Course incorporates ethical considerations into decision -making. Students undergo competitive review and evaluation. (2 lecture, 2 lab hours)

IS 189T. Topics in Information Systems (1-3; max total 6 if no topic repeated)
Prerequisite: permission of instructor. Theory or application of information systems or information management as applied to current developments in the field.

IS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

IS 195. Internship (3; max total 6 units)
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a prequalified, academically related work station (business, government, or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval required. Only one internship may count towards option requirements. ***CR/NC*** grading only.

IS 200 Series Courses
Graduate courses are listed under *Business — Graduate Program.*

Management

The Department

The Department of Management offers three options within the Bachelor of Science in the Business Administration degree program: (1) Entrepreneurship, (2) Human Resource Management, and (3) Management.

The **Entrepreneurship Option** offers students a comprehensive academic experience in entrepreneurship that starts with the classroom and links to the community. It integrates core business concepts around the formation, start-up, and growth of an entrepreneurial firm. By taking a select group of entrepreneurship courses, the students learn how to launch their own business idea.

Students can facilitate their learning experience through active involvement in the Lyles Center for Innovation and Entrepreneurship, Craig School's Small Business Institute, and the Institute for Family Business.

The **Human Resource Management (HRM) Option** is one of only 57 programs nationally — and the only program in the California State University system — that has been certified by the Association of University and College Industrial Relations and Human Resource programs. The HRM Option has consistently ranked in the top five programs nationally. This ranking is based on the number of students who pass the Professional in Human Resource exam given by the Society of Human Resource Management.

HRM students explore how organizations can best utilize their most important resource — their employees. Among the issues discussed are how to recruit and select the best employees, how to determine fair compensation, how to use benefit and performance appraisal systems that reward high performance, how to comply with federal and state employment laws, and how to negotiate and resolve employment disputes. The courses offered are intended to help those interested in creating a work environment that promotes teamwork and encourages employee excellence.

The **Management Option** develops skills, knowledge, attitudes, and abilities necessary for effective leadership in a wide variety of organizations. Graduates are prepared for entry-level leadership positions in today's rapidly-changing workplace through a dynamic curriculum combining theory, skill development, and practical experience, including internships in the student's area of interest. Courses develop those leadership abilities demanded by employers that include written, oral, analytical, and people skills. The option also provides a strong foundation for the M.B.A. Students may choose one of the following three tracks:

Organizational Leadership — Courses in this track prepare students for positions as project leaders, team leaders, and business managers. Courses emphasize leadership issues such as self-directed work teams, performance improvement, negotiating, vision and goal setting, and change management.

Production/Logistics Management (PLM) — This track provides students with a foundation for a variety of management career opportunities in manufacturing and distribution. With total quality management as a common basis, the PLM curriculum combines the two integrated disciplines of production/operations (transformation of resources into high quality products and services) and logistics (management of supply and distribution activities). Emphasis is placed on complementing the student's knowledge of PLM subject matter with hands-on, industrial experience gained through internship programs with local firms.

Special Management Applications — This track is designed for Management Option students who have a professional interest in a particular industry chosen by the student (agriculture, fashion merchandising, health science, industrial technology, recreation, theater, etc.) Students take business and organizational leadership courses and then, with approval of the department chair, select courses in their specific areas of interest.

The Craig School of Business

Department of Management

Julie B. Olson-Buchanan, *Chair*

Denise Biggert, *Administrative Assistant*

Peters Business Building, Room 289

559.278.2851

FAX: 559.278.4911

www.craig.csufresno.edu/departments/mgt

B.S. in Business Administration

Options:

- Entrepreneurship
- Human Resource Management
- Management

Minor in Entrepreneurship

Certificate in Entrepreneurship

Certificate in Organizational Management

Certificate in Human Resource Management

Faculty

The faculty of the Department of Management comprises individuals who have studied and pursued business careers throughout the world. Well over a dozen specializations within the field of business administration are taught, researched, and shared with the business community by these professors. Case studies, experiential exercises, computer simulations, laboratory research, business community projects, guest speakers, and seminar discussions are just a few of the ways in which instructors provide the students with a "real-world" exposure to business. The combination of faculty expertise, teaching skills, research activities, and business experiences assures the student of receiving the best possible management education.

Julie B. Olson-Buchanan, *Chair*

William Bommer
Jill C. Bradley Geist
Mark J. Keppler
Eric W. Liguori
John M. Moghaddam
Joseph J. Penbera
Rudolph J. Sanchez
James M. Schmidtke
Timothy M. Stearns
George S. Vozikis
Jia Wang

Bachelor of Science Degree Requirements

Business Administration Major

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; and (f) an integrative course requirement.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of ***C*** or better or achieve a passing score on the CSB computer competency waiver examination. See "computer competency waiver exam" at *www.craig.csufresno.edu/uss_home.aspx.*

	Units
Pre-Business requirements (ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50; (See *Pre-Business Requirement.*)	**16***
Upper-division core requirements (DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100	**24**
Option requirements	**24**

The department offers three options as part of the Business Administration major: Entrepreneurship, Human Resource Management, and Management.

General Education requirements	**48****

Grade Requirement

A grade of ***C*** or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement	**3**

Business majors must select a minimum of 3 units from BA 105W or ENGL 160W

(See *Writing Requirements.*)

Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (MGT 187)	**3**
Electives and remaining degree requirements (See individual option requirements.)	**2**
Total	**120**

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.

*****Note***: Business majors are exempt from G.E. Area MI.

Options

The three options available to students are outlined in the copy that follows. The completion of General Education requirements, pre-business requirements, upper-division business core, upper-division writing skills requirement, and the 22-25 units as required by the options, total the 120-125 units required for the Bachelor of Science in Business Administration.

Entrepreneurship Option	*Units*
ENTR 81, 151, 153, 157; MGT 127	**15**
Select three courses from the following: BA 152; ENTR 155, 161, 163, 165, 167, 169; FIN 131 or courses approved by the option coordinator	**9**
Total	**24**

Human Resource Management Option	*Units*
HRM 150, 152, 153, 154, 157, 159 MGT 127	**21**
Take a minimum of 3 units from the following: AFRS 144, 146; ANTH 120; ECON 150, 152; PH 143, 145, 168B; HRM 189T, 190, 195; MGT 189T; PLSI 185; PSYCH 144, 149, 176	**3**
Total	**24**

Management Option	*Units*
MGT 127, 133S, 182; HRM 150	**12**
and a minimum of 12 units selected from ENTR 81, 151, 153, 157, 165; HRM 152, 153, 154, 157, 190; MGT 131, 158, 180, 190, 195	**12**
Total	**24**

Requirements for Certificate Programs

Before entering a program, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Applicants must also fill out the appropriate form in the Management Department office prior to entering any of the certificate programs. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno,
2. have a bachelor's degree in any field from an accredited institution, or

3. have an Associate of Arts degree from a two-year accredited college and a minimum of two years of business experience.

For successful completion of a certificate, you must receive a grade of *C* or better in each course.

Advising Note
Students with an option in entrepreneurship, human resource management, and management are **not** eligible for the certificate programs. Other business options or minors may only count up to 6 units upper-division core toward the requirements. One certificate program allowed per student.

Certificate in Entrepreneurship	*Units*
Required courses	**12**
ENTR 81, 151, 153; MGT 127	
Elective courses	**6**
BA 105W; ENTR 155, 157, 161, 163, 165, 167, 169; FIN 131 or courses approved by certificate program coordinator or department chair	
Total	**18**

Certificate in Organizational Management	*Units*
Required Courses	**12**
MGT 110 (or MGT 104 and 106), 127, 133S	
Elective courses	**3-4**
ENTR 81; HRM 150; MGT 124, 133S, 158, 180, 189T or courses approved by certificate program coordinator or department chair	
Total	**15-16**

Advising Note: Business majors will need to substitute two elective courses for MGT 110 requirement.

Certificate in Human Resource Management	*Units*
Required Courses	**12**
HRM 150, 153, 154, and 157	
Elective courses	**3**
HRM 152, 159; MGT 106 or courses approved by certificate program coordinator or department chair	
Total	**15**

COURSES
Entrepreneurship (ENTR)

ENTR 81. Introduction to Entrepreneurship (3 units)
Develops an understanding of the complex tasks faced by individuals engaged in entrepreneurial activities. Identifies the methods for developing a business idea, the process of starting a business, how to acquire resources, and the key parts of a business plan.

ENTR 151. Opportunity Assessment (3 units)
Prerequisite: ENTR 81 with a *B* or better. Presents tools and techniques for evaluation and assessment of opportunities for new businesses. Evaluates idea assessment, market and competitive analysis, trends, distribution systems, and customer needs to determine if launching a business is feasible. Assessments are made across industries, including retail, manufacturing, distribution, services, and technology. Provides the foundation for writing a business plan.

ENTR 153. Business Plan Writing (3 units)
Prerequisites: ENTR 81, 151; MGT 110. This course is designed to provide the student with both (1) an understanding of what is required to start a new firm and (2) the skills needed to write a business plan that will meet the standards for funding by an investor or financial institution.

ENTR 155. Managing the New Venture (3 units)
Prerequisites: ENTR 81 and 153. Special problems of small businesses: initiation, financing, operations. Class projects: studying local business operations; preparing business plans and financial requests.

ENTR 157. New Venture Laboratory (3 units)
Prerequisite: ENTR 151, 153. Students develop a business idea that results in a business plan. In a laboratory setting, students interact with entrepreneurs, suppliers, customers, and experts in order to create a new venture that may become viable.

ENTR 161. Urban Entrepreneurship (3 units)
Prerequisite: ENTR 81. Examines urban environments and their own special planning, psychology, economics, design, and politics. Develops different skill set required for the entrepreneur. Students will participate in urban space, identify opportunities, and develop projects that may lead to successful launches of new enterprises. Presentation of a business concept for urban space concludes the course. (Formerly INOV 191T)

ENTR 163S. Social Entrepreneurship (3 units)
Explores current thoughts, trends, and challenges in social entrepreneurship. Special attention is placed on service-learning and measuring social impact. Students gain hands-on experience working with supporting social ventures. Guest lectures and site visits. (Formerly INOV 191T, ENTR 163)

ENTR 165. Corporate Entrepreneurship (3 units)
Prerequisite: ENTR 81. Covers entrepreneurship in established companies, or intrapreneurship. Addresses the emerging theories and practices of entrepreneurship and applies them to a corporate setting. Presents issues of how to establish corporate entrepreneurial vision, strategy, and direction. Students discuss methods for relating intrapreneurship to other functions such as human resource management, new product development, research and development, and corporate venturing.

ENTR 167. Franchising (3 units)
Prerequisite: ENTR 81. Students examine franchising from both the franchisor and franchisee perspectives. Topics include the evaluation of franchising opportunities; legal concerns of franchising; the development of appropriate franchising strategies; and the successful planning, implementation, and launching of franchise networks and franchised outlets. (Formerly ENTR 189T)

ENTR 169. Family Business Management (3 units)
Prerequisite: ENTR 81. Addresses aspects of managing an established family business (on a day-to-day basis) and planning for succession to the next generation.

ENTR 189T. Topics in Entrepreneurship (1-3; max total 9 if no topic repeated)
Studies in entrepreneurship, business plan writing, and problems in small business management.

ENTR 190. Independent Study (1-3; max total 6 if no topic repeated)
See *Academic Placement—Independent Study*. Approved for ***RP*** grading.

ENTR 195. Internship (3; max total 6 units)
Prerequisites: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically related work station (business, government, or nonprofit agency). Reflective journal, final report, and work station evaluation. Prior department approval is required for course substitutions. Only one internship may count toward option requirements. *CR/NC* grading only.

Human Resource Management (HRM)

HRM 150. Administration of Personnel (3 units)
Prerequisites: MGT 110, and BA 105W or ENGL 160W (may be taken concurrently). Composition of labor force; acquisition and utilization of human resources; recruitment; selection; performance appraisal; motivation; compensation; communications; social issues and government influence. Individual and group projects; written and oral reports.

HRM 152. Labor Relations and Collective Bargaining (3 units)
Prerequisites: HRM 150 and BA 105W or ENGL 160W. Relations between employers and organized employee groups; organization, election, and certification procedures; techniques of collective bargaining; labor agreements; grievance handling; settlement of industrial disputes. Class discussion, student presentations.

HRM 153. The Staffing of Organizations (3 units)
Prerequisites: HRM 150 and BA 105W or ENGL 160W. In-depth study of major staffing issues such as recruitment and selection of employees. Emphasis on practical application of issues for future managers and HRM professionals. Group projects, class discussion, guest lecturers, and experimental exercises. **F**

HRM 154. Compensation Administration (3 units)
Prerequisite: HRM 150 and BA 105W or ENGL 160W. Analysis of compensation programs for organizations. Special attention given to job evaluation programs, motivation-to-work theory, micro and macro forces influencing compensation decisions. Case analysis; individual and group reports. **S**

HRM 157. Legal Aspects of Human Resource Management (3 units)
Prerequisites: HRM 150 and BA 105W or ENGL 160W. Survey of law related to employment, including discrimination, wrongful discharge, safety and health requirements, and other government regulations. Attention given to prevention and resolution of legal complaints and to emerging public policy issues. Oral presentations, discussions.

HRM 159. Seminar in Human Resource Management (3 units)
Prerequisites: last-semester senior status; HRM 150, BA 105W or ENGL 160W, and completion of at least three of the following classes: HRM 152, 153, 154, 157. Integration of human resource management knowledge. Case analysis and discussion. Students will be required to take the PHR certification exam and to independently pay a mandatory test fee.

HRM 189T. Topics in Human Resource Management (1-3; max total 9 if no topic repeated)
Prerequisite: senior standing. Studies in personnel and labor relations, recruitment, selection, retention, compensation, employment law, and business ethics.

HRM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for *RP* grading.

HRM 195. Internship (3; max total 6 units)
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval is required. Only one internship may count toward option requirements. *CR/NC* grading only.

HRM 200 Series Courses
Graduate courses are listed under *Business — Graduate Program*.

Management (MGT)

MGT 104. Administrative Principles of Management (3 units)
Prerequisite: BA 105W or ENGL 160W (may be taken concurrently). Not open to students with credit in MGT 110. Business majors need department consent to take this course. Focus on planning techniques, organization theory, and ethical control processes in domestic and international business. Case analysis, management simulations, and written projects.

MGT 106. Behavioral Principles of Management (3 units)
Prerequisite: BA 105W or ENGL 160W (may be taken concurrently). Not open to students with credit in MGT 110. Business majors need department consent to take this course. Focus upon the human dimensions and interpersonal skills of management, including motivation, job design, leadership, conflict, communication networks, and organizational change. Case analysis, written projects, small group exercises, and development of communication and interpersonal skills.

MGT 110. Administration and Organizational Behavior (6)
Prerequisite: BA 105W or ENGL 160W (may be taken concurrently). Not open to students with credit in MGT 104 or MGT 106. Development of management skills with emphasis on organization, communication networks, leadership, reward systems, conflict management, change, ethics, and stress. Case analysis, written projects, small group exercises.

MGT 124. Production/Operations Management (4 units)
Prerequisites: DS 123 (may be taken concurrently); BA 105W or ENGL 160W; MGT 110. Production/operations systems and problems in manufacturing and service organizations, including product development and process selection; facility location and design; operations planning and control; materials handling; inventory and quality control; project management. Lecture discussion; computer simulation.

MGT 127. Contemporary Leadership (3 units)
Prerequisites: MGT 110 and BA 105W or ENGL 160W (may be taken concurrently). Individual and team leadership development. Leadership potential assessment, contemporary leadership theories, and oral and written communications skill development. Guest speakers, experiential exercises, and case studies.

MGT 131. International Management (3 units)
Prerequisites: MGT 110. A review of the unique issues, problems, and challenges of managing enterprises in an international environment. Comparative analysis of management styles and cultures, managerial processes and strategy formulation. Focuses on American, European, and Japanese enterprises. Seminar discussion and cases.

MGT 133S. Managing Nonprofit and Socially Responsible, Sustainable Organizations (3 units)
Prerequisites: MGT 104 and 106, or 110 and BA 105W or ENGL 160W (may be taken concurrently). Examination and analysis of the critical features of nonprofit and socially responsible, sustainable organizations in the private sector. Topics include ethics issues in management, governance, managing and motivating volunteers and employees in nonprofit context, sustainability approaches, and practices. Lecture, case studies, field experience (including service learning), and research. (Formerly MGT 133)

MGT 158. Project Management (3 units)
(See IS 186.)

MGT 180. Seminar in Management Theory and Organization Design (3 units)
Prerequisites: MGT 110 and BA 105W or ENGL 160W (may be taken concurrently). Organizations as open systems functioning in the external environment; organization development as a planned intervention emphasizing effective implementation of system changes, integrating mechanisms in response to perceived contingencies; and strategic issues of organizational life cycles.

MGT 182. Seminar in Applied Conflict Management Techniques (3 units)
Prerequisites: MGT 110 and BA 105W or ENGL 160W (may be taken concurrently). Sources of conflicts and how to resolve them in organizations; theory and practice of negotiation, alternative conflict resolution techniques, mediation, employee voice, and employee deviance. Experiential exercises and case analyses are used to enhance the application of the course material. (Formerly MGT 182S)

MGT 187. Seminar in Strategic Management (3 units)
Prerequisites: last-semester senior, completion of all CSB core requirements (only MGT 124 may be taken concurrently), and BA 105W or ENGL 160W. Focuses on strategic management, industry analysis, global competitive environment, formulation and implementation of strategy, ethical issues, mergers and acquisitions, and management of strategic alliances. Case analysis/computer simulations included.

MGT 189T. Topics in Management (1-3; max total 9 if no topic repeated)
Prerequisite: senior standing. Studies in management, organizational theory, organizational behavior, production, transportation, business administration, special management and organizational problems.

MGT 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

MGT 195. Internship (3; max total 6 units)
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. Prior department approval is required for course substitutions. Only one internship may count toward option requirements. ***CR/NC*** grading only.

MGT 200 Series Courses
Graduate courses are listed under *Business — Graduate Program*.

Marketing and Logistics

The Craig School of Business

Department of Marketing and Logistics

Reza Motameni, *Chair*

Kathy Uchiyama, *Department Administrative Assistant*

Peters Business Building, Room 388

559.278.7830

FAX: 559.278.8577

www.craig.csufresno.edu/Departments/MRKT

B.S. in Business Administration

Options:

- Marketing
- Logistics and Supply Chain Strategies
- Sports Marketing

Certificate in Marketing

Certificate in Logistics and Supply Chain Strategies

Certificate in Sports Marketing

Certificate in Mass Communication and Journalism

Marketing and Logistics

The Department of Marketing and Logistics offers three options within the Bachelor of Science in the Business Administration degree program: (1) Marketing, (2) Logistics and Supply Chain Strategies, and (3) Sports Marketing. In addition, four certificates are offered: the Certificate in Marketing, the Certificate in Logistics and Supply Chain Strategies, the Certificate in Sports Marketing, and the Certificate in Mass Communications and Journalism. The mission of the department is: "While maintaining the AACSB accreditation, become a preeminent department of applied marketing. Create alliances with the local business community to give our students 'real world' experiential learning in order to successfully compete with all major universities in California." Emphasis is on excellent teaching through practical application and the integration of cutting-edge technology. The department is dedicated to providing students with opportunities for personal growth and professional development in a continually improving educational environment.

The Marketing Option

Marketing is the process by which organizations define and select target markets, design products and services, set prices, determine distribution channels, develop promotions, and design after-sale customer service. When all of these elements are correctly mixed, the firm is able to build long term relationships with its customers. Building on marketing theories and concepts, marketing students study the basics of marketing information systems. They also learn about exchanging relationships, personal communication, market segmentation, positioning strategies, Internet marketing, and marketing strategic planning. In addition, students can explore special interest areas such as promotion, retailing, international marketing, services marketing, logistics and supply chain strategies, sales management, distribution management, buyer behavior, and sports marketing. Particular emphasis is placed on marketing applications through experiential learning projects, service-learning experiences, hands-on projects with local companies, and semester long internships. Marketing is an exciting, fast-paced, dynamic field that offers career opportunities in e-marketing, marketing research, product design, retail and wholesale management, distribution, sales, sales management, purchasing, advertising and public relations, and marketing management. These exciting careers stimulate personal growth, challenge your creativity and imagination, and appeal to a variety of interests.

The Logistics and Supply Chain Strategies Option

Logistics is associated with the movement, storage, and handling of materials and finished products. The option will also take into consideration the movement of agricultural commodities, fresh and processed foods, and managerial and safety issues pertinent to transportation and storage of agricultural commodities. Logistics includes all of the activities focused on efficiently moving goods to the right place at the right time. Logistics has come to be regarded as a key determinant of business competitiveness. Companies are substantially improving their competitiveness and productivity by overhauling their internal logistics and by more effectively managing their external links with suppliers and customers. The aim is to learn how to optimize the distribution of freight and freight-flow information from manufacturer to consumer, using advanced information systems and expertise to reduce inventories, cut transportation costs, speed delivery, and improve customer services. The current and long-term projected demand for logistics managers at all levels is very high. Currently logistics is the second largest employment sector in the United States. Logistics management offers everything that is expected in an ideal career including better than average salaries and advancement opportunities. The type of organizations that employ logistics managers include manufacturing firms, wholesalers, distributors, service institutions, and transportations firms.

Sports Marketing Option

California boasts the largest number of sports organizations in the entire U.S. In California's Central Valley alone, semi-professional or professional teams are well represented, in all the major sports, including the increasingly popular motor racing industry. Additionally, the Central Valley offers a plethora of university, community college, high school, and community sports programs. It is also home to sporting goods manufacturers. The global sports industry is rapidly growing, with the United States sports industry contributing more than $213 billion to the economy, outpacing agriculture and motor vehicle sales combined. In addition, more than 75% of the jobs being created in sports in the U.S. are marketing-related. The proliferation of sports-related businesses in California offers a wide variety of career opportunities for students prepared to enter the market after completion of a bachelor's degree program in sports marketing. The openings for sports marketing and recreation professionals are growing faster on average than for all other professions. The industry needs educators and managers who can create and manage programs to meet the ever-growing demand for leadership in sports and recreation. Graduates who earn bachelor's degrees in sports marketing will be prepared for positions such as sports marketing account managers, event planning and conference managers, facility managers, ticket operations directors, sporting goods marketing and sales managers, and sponsorship sales managers. The list of potential employers includes, but is not limited to, all professional (MLB, NHL, NBA, NFL, etc.), and semi-professional sports, collegiate sports (NCAA, NAIA, etc.), sporting event management, and sports agency.

Note: Out of 23-24 required units in options, 16 units should be taken at Craig School of Business. Any transferred course(s) should be taken at an AACSB accredited institution. Students who transfer 3 units for MKTG 100S must complete one unit of service learning independent study at the Craig School of Business.

Faculty

The faculty of the Department of Marketing and Logistics is composed of individuals who have studied and pursued business careers and teaching extensively throughout the world. Case studies, experiential exercises, business and community service projects, guest speakers, seminar discussions, and internships are just a few of the ways in which instructors provide students with practical applications in business. The combination of faculty expertise, teaching skills, research activities, and applied experience assures the student of receiving a quality education in marketing.

Reza Motameni, *Chair*
Monique L. Bell
Susan D. Geringer
Beng S. Ong
William E. Rice
Andy W. Stratemeyer

Bachelor of Science Degree Requirements

Business Administration Major

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six or seven upper-division courses, (d) option requirements of 23-24 units in an area of specialization; (e) the upper-division writing skills requirement; and (f) an integrative course requirement.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of *C* or better or achieve a passing score on the CSB computer competency waiver examination. See "computer competency waiver exam" at *www.craig.csufresno.edu/uss_home.aspx.*

	Units
Pre-Business requirements	**16***
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50; (See *Pre-Business Requirement.*)	
Upper-division core requirements	**24**
DS 123; FIN 120; IS 130; MGT 110 or 104-106, MGT 124; MKTG 100S	
Option requirements	**23-24**
The department offers three options: (1) Marketing, (2) Logistics and Supply Chain Strategies, and (3) Sports Marketing as part of the Business Administration major.	
General Education requirements	**48****
Grade Requirement	
A grade of *C* or better must be earned for each course used to satisfy the requirements for the major.	
Upper-division writing skills requirement	**3**
Business majors must select a minimum of 3 units from BA 105W or ENGL 160W (See *Writing Requirements.*) ***Note:*** the Upper-Division Writing Exam is not an option for business administration majors.	
Integrative course requirement	**4**
MKTG 188	
Total	**120**

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 51 units.

** *Note*: Business majors are exempt from G.E. Area MI.

Options

The options available to students are outlined in the copy that follows. The completion of the 23-24 units as required by the option, the General Education requirements, special course requirements, and the electives (which may include a minor), total the 120-123 units required for the Bachelor of Science in Business Administration.

Units

Marketing Option

Take the following courses:
MKTG 101, 110, 132, and 160 .....(16)
Select 7 or 8 units from the following:
MKTG 114, 115, 126, 130, 134, 140, 144, 150, 153, 161, 162, 163, 164, 165, 166, 167, 189T, 190, 195..... (7-8)
Total 23-24

Units

Logistics and Supply Chain Strategies Option

Take the following courses:
MKTG 101, 114, 115, and 160 .....(16)
Select a minimum of 7-8 units from the following:
MKTG 126, 190, 195; MGT 158; and IS 140..... (7-8)
Total 23-24

Units

Sports Marketing Option

Take the following courses:
MKTG 101, 150, 160, 195; and BA 179.....(17)
Select 6-7 units from the following:
ECON 144; RA 150 or 152; MKTG 140, 190 ..... (6-7)
Total 23-24

Requirement for Certificate Programs

Before entering a program, students will need to demonstrate that they have foundation knowledge of business practices and possess good writing skills. Prior approval of the certificate program coordinator or the department chair is required. Students need to meet one of the following criteria:

1. be currently admitted to California State University, Fresno, or
2. have a bachelor's degree in any field from an accredited institution, or
3. have an associate of arts from a two-year accredited college and a minimum of two years of business experience.

Note: a grade of *C* or better in each course is required.

Certificate in Marketing *Units*

Take the following courses:
MKTG 100S, 160..... 8
Select 7-8 units from the following: MKTG 101, 110, 114, 130, 132, 134, 140, 144, 150, 153, 188, or approved 189T 7-8
Total 15-16

Certificate in Logistics and Supply Chain Strategies

Take the following courses:
MKTG 100S, 114, 115, 126 and 195
Total 19

Certificate in Sports Marketing

Required courses: MKTG 100S, 150; BA 179; ECON 144
Elective courses: select 6 units from MKTG 195; KINES 111, 167; RA 150 or 152
Total 19

Certificate in Marketing

(For MCJ Option students only. See *Mass Communication and Journalism.*)

Certificate in Mass Communication and Journalism

(For Marketing Option students only)
Take the following courses:
MCJ 142, 144, 146, 148, 152S.
Units may not be applied toward the Marketing Option.
Total 15

COURSES

Marketing (MKTG)

MKTG 100S. Marketing Concepts (4 units)
Recommended for first semester juniors. Prerequisite or corequisite: BA 105W or ENGL 160W. Learn how marketing activities such as pricing, promotion, packaging, and distributing goods and services in international, national, profit, not-for-profit, service, consumer, and industrial markets are used to facilitate satisfaction of consumer needs. S sections include a service-learning requirement (See *Community Engagement and Service-Learning*.) **FS SU** (Formerly MKTG 100 or 100S)

MKTG 101. Marketing Research (4 units)
Recommended early in the Marketing Option. Prerequisite: a grade of ***C*** or better in MKTG 100S. Examination of the role of marketing research in management decision making, using the Internet as a source of information and as a marketing tool. Also covers the marketing research process, including questionnaire development, surveys, and how to understand and use statistical data analysis. **FS**

MKTG 110. Consumer Behavior (4 units)
Prerequisite: a grade of *C* or better in MKTG 100S. Understanding consumer behavior (individual and industrial) in the marketplace. Theories from sociology, anthropology, economics, and psychology are applied to behavior in the market place. This understanding is then translated into more effective marketing strategy and tactics.**FS**

MKTG 114. Principles of Logistics and Supply Chain (4 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S. Analyzes how firms utilize collaborative distribution intermediaries to gain a competitive advantage in local and global markets through integration of logistics and SCM. Examines the management of the physical flow of products and information throughout the entire supply chain. Other topics: plant and warehouse location analysis, transportation, fleet, warehousing, and storage management. **FS**

MKTG 115. Global Logistics and Supply Chain Strategies (4 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S. Operating, controlling, and evaluating integrated logistics and supply chain management-oriented channel structures for globally competitive environments. Customer service and CRM, security, and privacy. Inbound and outbound traffic management. Export/import logistics and procedures. Introduction and demonstration of ERP (e.g., SAP, Oracle/PeopleSoft, J.D. Edwards, and Microsoft Dynamics supply chain management softwares.)

MKTG 126. Purchasing and Materials Management (4 units)
Prerequisite: a grade of *C* or better in MKTG 100S. Purchasing and supply chain management planning, policies, and procedures; purchasing organization; sources of supply, pricing; contract negotiation; value analysis; traffic management; quality assurance; inventory management; public purchasing; and legal and ethical aspects of purchasing. **F**

MKTG 130. Retail Managing and Merchandising (4 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S. Location, price, and promotion topics are enhanced with the buying and merchandising process, including buying planned stocks, style merchandising, and accounting and controlling systems.

MKTG 132. Promotion Mix: Principles and Practices (4 units)
Prerequisite: a grade of *C* or better in MKTG 100S. The focus is on promotion as a communications process and the integration of promotional elements into the total strategy of the firm. Students examine what makes promotions work, when and where to promote, and how promotions utilize data from the Marketing Information System. **FS**

MKTG 134. Entrepreneurial Marketing (4 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S. A practical look at building a marketing plan for the person or firm interested in the development of a new product or service. A key element of the course is a project; students build a detailed plan to solve marketing-related problems a business faces, whether old or new.

MKTG 140. Global Marketing (4 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S; (BA 174 required for International Business Option only.) Examination and evaluation of business policies and practices of firms engaged in world trade; the marketing area; organization, product, channels of distribution, marketing research, demand creation and other management problems. **S**

MKTG 144. Services Marketing (4 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S. Service strategies in industries representing 75 percent of the overwhelming majority of the national job market, including telecommunications, healthcare, financial services, fine arts, professional services, distribution, entertainment, and not-for-profit organizations. Emphasis is on the distinctive approach necessary for successful long-term marketing of services. **S**

MKTG 150. Sports Marketing (3 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S. Development and application of marketing strategies in sports and sports-related industries. Focuses on research, segmentation, product development, pricing, sponsorships, consumer behavior, licensing, branding, and promotions in sports venues. A key element of the course is a comprehensive group project. **FS**

MKTG 153. E-Marketing Technologies and Social Media (4 units)
Prerequisite: a grade of ***C*** or better in MKTG 100S. Marketing products and service using current Internet technologies. Developing e-product, e-price, e-promotion, e-place strategies, e-marketing plan, and organization websites. **F**

MKTG 160. Professional Selling and Sales Force Management (4 units)
Prerequisites: a grade of C or better in MKTG 100S and BA 105W or ENGL 160W. Persuasion tools to cultivate ideas and sell products/services; modem behavioral techniques to build a productive sales force. Personal marketing: presentation skills, resume creation, and job interview strategies.

MKTG 161. Sports Licensing, Sponsorship, and Promotion (4 units)
Prerequisites: MKTG 100S and BA 105W or ENGL 160W. Promotional practices used in the field of Sports Marketing: licensing, sports sponsorships, sports selling, and the use of social media as a sports promotional tool. **S**

MKTG 162. Healthcare Marketing (2 units)
Prerequisites: MKTG 100S and BA 105W or ENGL 160W. Introduction to the principles and practices associated with marketing's role in the healthcare industry. Evaluation and implementation of marketing strategies within healthcare and managed-care environments.

MKTG 163. Political Marketing (2 units)
Prerequisites: MKTG 100S and IS/BA 105W or ENGL 160W. Marketing strategies used in the U.S. political arena: campaign strategy, spending regulations, fundraising, press relations, various communication delivery systems, promotions, media usage, and candidates' image development and positioning.

MKTG 164. Profitability and Pricing (2 units)
Prerequisites: MKTG 100S and BA 105W or ENGL 160W. The role of marketing in price determination and the critical impact that pricing has on profitability and product success. New product pricing, competitor price analysis, global pricing strategies, and legal considerations.

MKTG 165. Marketing to the Base of the Pyramid (2 units)
Prerequisites: MKTG 100S and BA 105W or ENGL 160W. Market characteristics, challenges, and business models for low income markets. Developing the market and improving quality of life by leveraging technologies, co-creating products, and using microfinance.

MKTG 166. Principles and Practices of Branding (2 units)
Prerequisites: MKTG 100S and IS/BA 105W or ENGL 160W. Branding in business to business and business to consumer environments; value and benefits of brands; key elements/methodologies required to create and maintain strong brands and to protect brand assets.

MKTG 167. Environmental Sustainability and Marketing (2 units)
Prerequisites: MKTG 100S and BA 105W or ENGL 160W. Subtle inter-relations of regulations,technological innovations, policies, organizational and consumer behaviors in the pursuit of envIronmental sustainability; perspectives, meaning, goals, and assessment of sustainability; role of marketing in environmental sustainability.

MKTG 188. Strategic Planning in Marketing (4 units)
Prerequisites: a grade of ***C*** or better in MKTG 101, 160 (MKTG 160 may be taken concurrently). Last semester senior standing. Integration of marketing with other functional areas of business. Focus is on strategic planning process and procedures leading to development of marketing plans, including financial analysis and budgeting. Must be taken at Fresno State. **FS**

MKTG 189T. Topics in Marketing (1-3; max total 6 if no topic repeated)
Prerequisite: senior standing or permission of instructor. Topics in advertising, consumer behavior, distribution, industrial procurement, marketing research, retailing, wholesaling.

MKTG 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

MKTG 195. Internship (3 units)
Prerequisite: permission of the internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station. When completing more than one internship for credit, students are required to do so in different sectors (business, government or nonprofit.) Reflective journal, final report, and work station evaluation. ***CR/NC*** grading only. **FS**

MKTG 200 Series Courses
Graduate courses are listed under *Business — Graduate Program*.

Military Science

The Program

The Army Military Science Program, also known as Reserve Officer Training Corps (ROTC), is an officer-producing program that commissions qualified students into the United States Army, just like West Point. Our program is a part of a national ROTC program that has historically produced leaders such as Gen. Colin Powell, former Secretary of State; Earl Graves, chairman and publisher, *Black Enterprise* magazine; and Henry Cisneros, former president and chief operating officer, Univision Communications, Inc. Our program is founded in both theoretical instruction and practical application of leadership. Students learn a range of skills (such as decision making, time management, communications, and counseling) that prepare them to succeed in both military and civilian settings.

Students who are uncertain about what ROTC is all about and what it can offer may enroll in introductory courses for either one or two units. The courses acquaint the student with ROTC, the Army, and what opportunities are available. The emphasis in the introductory courses is on familiarization in the basics of ROTC and Army life, adventure training, success in college, and learning to be physically fit.

Those students who want to continue in the program and pursue an opportunity to serve their country as a commissioned officer enroll in a structured curriculum from 12-21 units over a period of two years (see *course listings*, next page). The emphasis in these courses is on development of leadership skills, decision-making skills, written and oral communications skills, time management, and continued physical fitness. Students who enroll in this curriculum are required to attend the Leadership Development and Assignment course at Joint Base Lewis-McChord, Washington. This course is a 30-day leadership laboratory in which students apply leadership skills while leading peers through variety of exciting events. Students' travel and accommodations are paid for and students are paid to attend.

Career Opportunities

Upon completion of the military science requirements, you are commissioned as a second lieutenant in the United States Army with pay and benefits yielding about $42,000 a year. Newly assigned officers will serve in one of 18 career fields such as aviation, engineering, medical service, communications, transportation, and military intelligence. You may serve your obligation on active duty or request a Guaranteed Reserve Forces Duty contract (GRFD), in which you will serve part-time in the Reserves or National Guard. Choosing a GRFD contract will allow you to pursue a civilian career and still be an officer in the U.S. Army. Whatever you decide, it should be noted that the recruiters for major corporations, the FBI, and the CIA actively seek former military officers to fill management positions because of the great personal leadership and technical skills, discipline, and maturity that are hallmarks of the military officer.

Enrollment Requirements

Those students who are simply interested in finding out about our program should enroll in one of our introductory courses (see *course listings,* next page). Those who are considering pursuing the full military science course must meet certain requirements. Information on these requirements can be obtained by telephoning or visiting the Army ROTC office on campus, 559.278.2887, or in California, 800.660.ROTC.

Financial Assistance

All students who qualify and formally enroll in the Military Science Program earn at least $3,000 a year and can earn in excess of $50,000 during their college careers. Qualified students receive a stipend from $300 to $500 (tax free) each month depending on their academic status ($300 freshman, $350 sophomore, $450 junior, and $500 seniors) during the school year. In addition cadets attending our nationally run leadership development course can earn approximately $700. Students who qualify may elect to join a California National Army Guard or a United States Army Reserve unit as an officer trainee and be paid a minimum of $288 per weekend drill. The Army also has made available two-, three, and four-year scholarships — ***on a competitive basis*** — which pay all tuition, book, and fees in addition to a tax-free stipend each month.

Extracurricular Activities

The Military Science Program offers students the opportunity to participate in a wide variety of challenging and exciting activities that emphasize teamwork and increase a student's self-discipline and personal confidence. Some of these activities include leadership reaction courses, rappelling, orienteering, water survival training, marksmanship, map reading, helicopter insertions, and various individual confidence-building exercises. For those who seek additional training, the Military Science Program offers cadets the opportunity to attend a U.S. Army school such as Airborne, Air Assault, Northern Warfare, and Sapper.

Faculty

Lieutenant Colonel Lorenzo Rios, *Chair*

Advisers:

Marc Abraham
SGT Armando Gurule
Nathan Hoepner
Michael Roman
MSGT Donald Spock

The faculty members of the Department of Military Science are hand-selected by the Department of the Army based on their proven leadership abilities and record of superb performance. Each instructor has years of experience in teaching and counseling. In addition to post graduate degrees in a variety of disciplines and extensive military professional education, all faculty members bring a unique perspective and a wide range of life experiences to the program. Many have been a part of the making of our nation's recent history. All of the faculty and the staff in the Military Science Department are extremely committed to the welfare, education, and success of the student while at Fresno State and beyond.

Military Science Minor

Each student enrolled in the ROTC Advanced Course and who completes the 21 units (19 upper-division) necessary for commissioning will be eligible for the award of a Minor in

The Craig School of Business

Department of Military Science

Lt. Col. Lorenzo Rios, *Chair*
Nancy Kobata, *Administrative Support Coordinator*
North Gym, Room 211
559.278.2887
In California, 800.660.ROTC

Army Reserve Officer's Training Corps Program (ROTC)

Minor in Military Science

Military Science. Coordination with the department faculty adviser is required.

	Units
Required courses	**21**
MS 50A, 50B, 131, 132, 141, 142, 150A, 150B; HIST 144; KAC 42	
Optional course	**3**
MS 192	
Total	**21-24**

Note: The Military Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Professional Military Education Requirements (PME). In addition to the required courses above, students in the ROTC Advanced Course must fulfill prescribed professional military education requirements by satisfactorily completing courses in written communication, human behavior, military history, and computer literacy. Students must obtain approval from their military science department faculty adviser to ensure their planned course of study will satisfy this requirement prior to graduation and commissioning.

COURSES

Military Science (MS)

MS 1. Introduction to Military Science (1 unit)
Organization and function of the U.S. Army; basic traditions, customs, and protocol. Introduction to basic leadership skills, map reading, and management techniques.

MS 2. General Military Skills and Survival Training (1 unit)
Training in basic soldier skills. Focuses on basic training skills, first-aid procedures, field crafts, and leadership.

MS 11. General Leadership Skills (2 units)
Basic rope work to include knots and rappelling, basics of orienteering and land navigation, basic marksmanship and military briefings.

MS 12. Basic Leadership and Management (2 units)
Principles of leadership; principles of resource management; group goal attainment focusing on leader, group, and situational needs.

MS 13. Leadership Training Course (3 units)
Prerequisite: permission of instructor. A four-week training program during the summer. This course is a "no obligation" look at the U.S. Army's basic leadership skills and training overview. Training is held and pay provided at Fort Knox, Kentucky.

MS 50A. Freshman Leadership Laboratory (1; max total 2 units)
Open to freshman Army ROTC students. Practical work to augment classroom instruction. Weekly laboratories plus one field trip each semester. Attendance at all functions is voluntary.

MS 50B. Sophomore Leadership Laboratory (1; max total 2 units)
Open to sophomore Army ROTC students. Practical work to augment classroom instruction. Weekly laboratories plus one field trip each semester. Attendance at all functions is voluntary.

MS 131. Advanced Leadership and Management (3 units)
Prerequisite: permission of instructor. Personnel management problems and techniques of motivation as applied to a military environment; techniques and methods of instruction; application of basic military skills; military law.

MS 132. Small Unit Leadership (3 units)
Prerequisite: MS 131 or permission of instructor. Principles of tactics and operations; organization of small units and their employment; field orders and instructions; small unit leadership techniques.

MS 133. Leadership Development and Assessment Course (LDAC) (3 units)
Prerequisite: permission of instructor. A four-week summer camp conducted at Fort Lewis, Washington. Topics include familiarization with U.S. Army weapons systems, military skills, confidence training, light infantry tactics, and leadership and management techniques.

MS 141. Adaptive Leadership (3 units)
Prerequisite: permission of instructor. Military Professional Ethics, Military Justice, Command and Staff Functions, Mission and Organization of the U.S. Army and Military Correspondence.

MS 142. Leadership in a Modern World (3 units)
Prerequisite: permission of instructor. Required course for MS IV cadets. Instruction focuses on transitioning cadets to lieutenants. Topics include responsibilities of army officers, army leadership doctrine, introduction to insurgency, and the army promotion system. Emphasis on skills used early in an officer's career.

MS 150A. Junior Leadership Laboratory (1; max total 2 units)
Open to junior Army ROTC students. Practical work to augment classroom instruction. Weekly laboratories plus one field trip each semester. Attendance at all functions is mandatory. Must be taken each semester a student is enrolled in the Advanced Course.

MS 150B. Senior Leadership Laboratory (1; max total 2 units)
Open to senior Army ROTC students. Practical work to augment classroom instruction. Weekly morning laboratories plus one field trip each semester. Attendance at all functions is mandatory. Must be taken each semester a student is enrolled in the Advanced Course.

MS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

MS 192. Directed Reading in Selected Military Topics (3 units)
Prerequisites: MS 131, 132, 141 and permission of instructor. Directed reading in military history and/or the role of the army in the formulation of national policy in consultation with a faculty adviser. Requires a substantial writing requirement.

Special Option for Business Administration

Special Option for the Bachelor of Science in Business Administration

The special option for the Bachelor of Science degree in Business Administration provides an opportunity for students who are well grounded in the core areas of study required for the undergraduate degree in Business Administration to individualize a course of study not accommodated by any of the ten standard areas of specialization. The special option is offered for students who want to correlate studies in two or more areas of business and is not intended as a means of bypassing normal graduation requirements.

Students requesting a special option must obtain application forms from the Office of Undergraduate Student Services in the Craig School of Business. On these forms, the student must do the following:

1. Prepare a statement giving their reason for desiring a special option in terms of academic and professional goals and why these goals cannot be met through any of the standard options in business.
2. Develop a specific list of courses which would, in their opinions, lead to the stated academic and professional goals.
3. Secure the signed approval from the Office of Undergraduate Student Services, as well as from a faculty adviser, all department chairs in the business areas from which the option courses are drawn.

Students must submit the foregoing material to the Office of the Dean of the Craig School of Business for final approval.

Bachelor of Science Degree Requirements

Business Administration Major

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; and (f) an integrative course requirement.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of *C* or better or achieve a passing score on the CSB computer competency waiver examination. See "computer competency waiver exam" at *www.craig.csufresno.edu/uss_home.aspx.*

The Craig School of Business

Robert M. Harper, *Dean*
Kathleen Moffitt, *Associate Dean*
Peters Building, Room 282
559.278.2482
www.craig.csufresno.edu

	Units
Pre-Business requirements	**16***
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50; (See *Pre-Business Requirement.*)	
Upper-division core requirements	**24**
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100	
Option requirements	**24**
Coursework in the specialized area must be approved in advance by a faculty adviser, all department chairs in the business areas from which the option is drawn, and the Office of the Dean of the Craig School of Business.	
General Education requirements	**48****
Grade Requirement A grade of *C* or better must be earned for each course used to satisfy the requirements for the major.	
Upper-division writing skills requirement	**3**
Business majors must select a minimum of 3 units from BA 105W or ENGL 160W (See *Writing Requirements.*) *Note:* the Upper-Division Writing Exam is not an option for business administration majors.	
Integrative course requirement	**3**
MGT 187	
Electives and remaining degree requirements	**2**
See individual option requirements.	
Total	**120**

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.

** *Note*: Business majors are exempt from G.E. Area MI.

Business — Graduate Programs

The Craig School of Business

Craig Graduate Programs
Tom Burns, *Manager*
Peters Business Building, Room 183
559.278.2107

Master of Business Administration (M.B.A.)

Executive Master of Business Administration (E.M.B.A.)

Master of Science in Accountancy (M.S.)*

Master of Business Administration

The Master of Business Administration (M.B.A.) degree program is designed to provide professional education for managers of business, agriculture, education, government, and nonprofit organizations. The M.B.A. program offers elective area courses in special areas of professional practice, such as entrepreneurship, finance, general management, human resource management, international business, management information systems, and marketing. We are committed to developing one of the top applied M.B.A. Programs in the nation. As a result, your studies are complemented by numerous opportunities to solve real world business problems through internships and team consulting projects.

Admission. The program is open to college graduates without regard to the area of undergraduate study. Applicants are expected to show intellectual promise to do well in the program, and upon graduation, to perform effectively as professional managers. Applicants must submit the following to be considered for admission into the traditional M.B.A. program:

1. a completed California State University, Fresno Graduate Application form
2. a completed M.B.A. Program Application form
3. complete university or college transcripts — last 60 units require a GPA of 2.5 or higher
4. official record of the Graduate Management Admission Test (GMAT). The GMAT requirement may be waived for the E.M.B.A. based on a recommendation by the school's Graduate Committee to the graduate director that the candidate has substantial work experience (minimum of 10 years) and significant managerial or professional experience (minimum of three years) and has successfully completed and individual interview. The terms "managerial or professional experience" are defined as follows:
   - Managerial Experience: experience in work in which the primary duty includes overall responsibility for an enterprise, subdivision, department, or similar independent or quasi-independent organization. Duties typically includes such things as hiring and firing personnel, planning, discretion and judgment, and organizing and controlling work that substantially affects a major aspect of the organization's operations. Individuals with this level of responsibility usually have titles such as "manager," "director," "vice-president," "president," "chief information officer," "chief financial officer," "chief operating officer," or "chief executive officer."
   - Professional Experience: experience in work that requires advanced knowledge acquired by a prolonged course of specialized study and involved work that is predominately intellectual and varied in character. Examples would include medical doctors, dentists, psychologists, lawyers, and certified public accountants.

M.B.A. Degree Requirements

The M.B.A. is awarded to students upon completion of requirements in three groups of courses. These groups generally are completed in sequence. Students may not take Group III courses prior to the semester they complete their Group I requirements without permission from the graduate business director.

Group I

The following five courses or equivalent knowledge are required of non-business majors, business majors from non-Association to Advance Collegiate Schools of Business, International (AACSB) business schools, or students who graduated from an AACSB Program more than seven years ago: MBA 200, 201, 203, 204, and 205. Some or all of Group I requirements may be waived on the basis of an evaluation of previous coursework. Equivalent knowledge may be demonstrated through examinations offered two times each year (before the beginning of fall and spring semesters).

Units

Group II..... 18

These courses develop the core managerial skills for the M.B.A. candidate. Course topics include leadership and organizational behavior, management information systems, financial management, managerial accounting, marketing management, and the regulatory and ethical environment of business.

MBA 210, 211, 212, 213, 214, and 215

The university's graduate-level writing proficiency requirement is fulfilled by passing the writing component of MBA 210.

Group III Electives 12

These courses allow the student to integrate the knowledge from Group I and II. Students may take any 12 units from MBA 230-274, or other approved electives.

Group III Required Courses 6

These courses represent the culminating experience and include MBA 279 (Policy and Strategy) and either MBA 298 (Management Project) or MBA 299 (Thesis).

Note: Students may opt to take some of their Group III (elective) courses offered through the International Study Abroad Program. Requires approval from the Graduate Business Programs office. Choose electives from one of the following subject areas: Entrepreneurship (MBA 270, 272, 273, 274), International Business (MBA 231, 251, 261), Finance (MBA 230, 231, 232, 233, 234), General Management (MBA 230, 240, 250, 260, 270), Human Resource Management (MBA 240, 242, 243, 244, 245, 246, 247), Management Information Systems (MBA 250, 251, 252, 253), and Marketing (MBA 260, 261, 262, 263, 264).

Executive Master of Business Program (E.M.B.A.) The on-campus E.M.B.A. program is administered by the Craig Graduate Business Programs in the Craig School of Business and is an alternative path for the Master's in Business Administration. The program is one of about 150 in the Untied States designed especially to meet the needs of mid-career executives and one of the limited schools in Central California that are accredited by the Association to Advance Collegiate Schools of Business (AACSB).

* Admission to the M.S. in Accountancy is currently suspended.

Students in the program are required to have a minimum of ten years of work experience and three years of significant managerial or professional experience to ensure a wealth of practical knowledge is brought to the classrooms' discussions.

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as set forth by the university's Division of Graduate Studies, students must complete the 36-unit program by taking predetermined courses in a predetermined pattern over a 17-month period. **No transfer courses and no substitute classes are accepted.**

To be considered, candidates must have the following:

1. A minimum of 10 years of business experience, at least three years of which involves significant managerial or professional responsibility
2. A completed application form, with the applicant's sponsor's signature
3. A minimum GPA of 2.5 in the last 60 units of education
4. A bachelor's degree (official undergraduate transcripts)
5. A current resume and a cover letter stating why the applicant is interested in this program
6. A personal statement that includes a statement of job responsibilities
7. Two letters of recommendation (one from a senior member of the sponsoring organization)
8. Recommendation of leadership potential by a panel of distinguished faculty
9. A ***nonrefundable*** application fee of $55 made payable to California State University, Fresno.

Students accepted for the on-campus M.B.A. program for executives are fully matriculated in the university and meet all university requirements as established by the Division of Graduate Studies. (Please see the *Division of Graduate Studies* section of the university's *General Catalog* for detailed information on admissions, advancement, and graduation requirements.) For the convenience of students, however, courses are scheduled in a modular fashion on Saturdays rather than the traditional semester time frame. The fee structure is also unique to the program and unrelated to the usual California State University, Fresno fee schedule. Students should contact the Craig Graduate Programs Office or review the M.B.A. program Web site at *www.craig.csufresno.edu/mba* for a program description, admission requirements, courses, calendar/class schedules, and fee summary.

The official program for all students in any one cycle, or cohort, is identical. (All students are in the "General Management" elective area.) Advancement to candidacy requires passing the writing requirement component of MBA 210 and at least 9 units with at least a 3.0 grade point average.

Online Master of Business Program (Online M.B.A.)

The Online M.B.A. program is administered by the Craig Graduate Business Programs in the Craig School of Business and is an alternative path for the Master's in Business Administration. The Online M.B.A. Program is one of about 55 in the United States that are accredited by the Association to Advance Collegiate Schools of Business (AACSB). It is designed especially to meet the needs of those seeking advanced business education but whose geographic location or work/family schedules make attending a traditional face-to-face semester-based program problematic.

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as set forth by the university's Division of Graduate Studies, students must complete the 36-unit program by taking predetermined courses in a predetermined pattern over an 18-month period. **No transfer courses and no substitute classes are accepted.** Up to 15 units of preparatory work or equivalent knowledge are required of non-business majors, business majors from non-Association to Advance Collegiate Schools of Business, International (AACSB) business schools, or students who graduated from an AACSB Program more than seven years ago. Some or all preparatory work may be waived on the basis of an evaluation of previous coursework.

To be considered, candidates must have the following:

1. A completed California State University, Fresno graduate application form
2. A completed Online M.B.A. Program application form
3. Complete university transcripts - last 60 units require a GPA of 2.5 or higher
4. Official record of the Graduate Management Admission Test (GMAT) with a score of at least 550 and placement at or above the 25th percentile in the verbal and quantitative portions of the test
5. Two letters of recommendation
6. Statement of purpose
7. $55 non-refundable university application fee

Students accepted for the Online M.B.A. program are fully matriculated in the university and meet all university requirements as established by the Division of Graduate Studies. (Please see the *Division of Graduate Studies* section of the university's General Catalog for detailed information on admissions, advancement, and graduation requirements.) For the convenience of students, however, courses are scheduled in six-week offerings rather than the traditional semester time frame. The fee structure is also unique to the program and unrelated to the usual California State University, Fresno fee schedule. Students should contact the Craig Graduate Programs Office or review the M.B.A. Program website at *http://www.craig.csufresno.edu/mba* for a program description, admission requirements, courses, calendar/class schedules, and fee summary.

The official program for all students in any one cycle, or cohort, is identical. (All students are in the "General Management" elective area.) Advancement to candidacy requires passing the writing requirement component of MBA 210 and at least 9 units with at least a 3.0 grade point average.

Master of Science Degree Requirements

*Accountancy Major**

The Master of Science requires a minimum of 30 units after the completion of the baccalaureate degree according to the criteria below. Undergraduate courses used toward fully classified status may not be used toward the master's degree.

	Units
Core MSA courses	**16**
MSA 220, 222, 224, 226	
Select MBA courses	**6**
Two courses from MBA Group II or III, excluding MBA 213 and MBA 215	

Approved electives 8
Culminating experience
(Comprehensive Exam) 0
Total 30

* Admission to the M.S. in Accountancy is currently suspended.

GRADUATE COURSES

(See *Catalog Numbering System*.)

Master of Business Administration (MBA)

MBA 200. Managerial Economics (3 units)
Prerequisites: finite mathematics, admission to graduate business program or permission of director. Logic and methods of economic analysis for business decisions. Production, cost, supply; buyer behavior, consumer demand, derived demand; forecasting; market structure, pricing, negotiation; government regulation; risk, uncertainty, macroeconomic concepts.

MBA 201. Accounting and Information Systems (3 units)
Prerequisites: electronic spreadsheet literacy, and either admission to graduate program in business or permission of director. Concepts and terminology of financial and managerial accounting and information systems. Transaction processing systems and planning and control systems integrated with data capture, data classification, information storage and organization, information access and display/reporting.

MBA 203. Methods of Decision Sciences (3 units)
Prerequisites: linear functions, familiarity with PC-based microcomputing and spreadsheets, and either admission to the graduate business program or permission of director. Statistical concepts, inferential statistical methods, management science techniques. Descriptive statistics; discrete random variables; expected value decision theory; continuous distributions; sampling distributions; estimation; hypothesis testing; analysis of variance; linear regression and correlation; chi-square tests; time series analysis and forecasting; simulation. (2 seminar, 2 lab hours)

MBA 204. Global Environment of Business (3 units)
Prerequisite: admission to the graduate business program or permission of director. Introduction to global business environment. Cultural, economic, political, and legal systems. Advances in global trade, marketing, production, accounting, taxation, financial and payment systems. Impact of technological advances, multinational corporations, and nation-states on the performance and competitiveness of businesses. Lecture and case.

MBA 205. Production and Operations Management (3 units)
Prerequisites: MBA 203 or concurrently, admission to the program or permission of director. Production and operations systems; product development; process selection; facility location and design; transportation management; method analysis; job design; work measurement; planning and control; project management; inventory control; just-in-time philosophy; total quality management.

MBA 210. Leadership and Organizational Behavior (3 units)
A seminar that examines management functions and behavioral processes as they relate to complex problems in today's dynamic organizations. Special emphasis on leadership, organizational change, and motivational issues. Lectures, discussions, case studies, and experiential exercises.

MBA 211. Management Information Systems (3 units)
Prerequisites: MBA 200 and 201. Management and technical aspects of computer-based information systems. Emphasis is on issues for non-IS managers in the areas of inter- and intra-organizational systems; system development, acquisition, and implementation; software, hardware, and data resource management and control.

MBA 212. Financial Management (3 units)
Prerequisites: MBA 200, 201, and 203. Theories, concepts, and techniques in financial management; financial analysis, planning, forecasting, and working capital; risk and return analysis, valuation models, cost of capital and capital budgeting; capital structure, dividend policy and long-term financing. Special contemporary topics in financial management.

MBA 213. Managerial Accounting (3 units)
Prerequisites: MBA 200 and 201. In-depth consideration of several topical areas in accounting analysis related to both profit and not-for-profit organizations, with emphasis on currently controversial issues. Analysis includes budgetary planning, cost analysis, internal control and case studies.

MBA 214. Marketing Management (3 units)
Prerequisites: MBA 200-204; 203 or concurrently. Analysis of the concept of marketing, the marketing strategy development process at strategic business unit level, and segmentation and positioning strategies. The development of product, price, promotion, and distribution strategies. Examination of product, price, promotion, sales, and distribution management topics and issues through case analysis.

MBA 215. Regulatory and Ethical Environment of Business (3 units)
Prerequisites: MBA 210-214 or concurrently. Relationships among personal ethics, corporate social responsibility, and regulatory policy on business decision making. Evaluation of business decisions, corporate goals, and regulatory statutes and process in terms of their ethical quality and adherence to sound policy.

MBA 216. Business Research (3 units)
Prerequisites: MBA 200-205. Logic and methods of survey and experimental research methods for business. Multivariate analytical methods for interpretation of survey and experimental results. Research using secondary data for business decisions. Preparation of a plan for thesis, project, or other business research.

MBA 230. Seminar in Advanced Financial Management (3 units)
Prerequisite: MBA 212. An applied case-method analysis of theories, concepts, and analytical techniques of financial management, financial analysis and planning, capital budgeting, leasing, refunding, mergers and acquisitions, corporate restructuring, financial engineering, derivative securities. Lecture and cases. (Formerly BUS 244)

MBA 231. Seminar in International Finance (3 units)
Prerequisite: MBA 212. An advanced study of theories and techniques in global finance and investment. The international financial system; currency markets; risks and exposure management; balance of payments; political risks; international banking and capital markets; euro-currencies; portfolio and foreign direct investment.

MBA 232. Seminar in Investments and Portfolio Management (3 units)
Advancement analysis of equity and fixed-income securities and mutual funds; operation of financial markets and investment environments; contemporary theories and techniques of security selection and management available to the institutional portfolio manager; and portfolio performance evaluations. Lectures and cases.

MBA 233. Seminar in Management of Financial Institutions (3 units)
Prerequisite: MBA 212. Comprehensive analysis of the role of financial institutions and markets in allocating capital. Application of economic and financial analytical techniques to the managerial problems of financial institutions. Lecture and cases.

MBA 234. Seminar in Options, Futures, and Other Derivatives (3 units)
Introduction to the use and pricing of derivative assets such as options, futures, swaps, and option-like features embedded in corporate securities. It covers mathematical concepts underlying derivative markets and contracts and basic pricing models. The use of derivatives for speculative purposes, hedging purposes, and arbitrage will be discussed. Lecture and cases.

MBA 240. Managing Human Capital — Applications of Human Resource Management Theory to Practice (3 units)
Analysis of theories and application of the major human resource management functions that affect managerial decisions. Particular emphasis on strategy, program evaluation, legal issues, employee and labor relations, and managing human resources in a global environment. Lecture and cases.

MBA 241. Seminar in Comparative Human Resource and Industrial Relations Systems (3 units)
Analysis of human resource and industrial relations practices of transnational and multinational corporations operating in the global environment. Particular emphasis on the emergence, evaluation, structures, functions and challenges of labor movements in developed and less-developed countries. Lecture and cases.

MBA 242. Seminar in Human Resource Planning, Recruitment, and Selection (3 units)
Prerequisite: MBA 240. Analysis of theories/techniques for "getting the right people into the right jobs at the right time." Specifically, recruiting, selecting, and placing employees to meet strategic goals , while developing/maintaining a diverse workforce, addressing legal issues, and staffing in an evolving environment. Lecture and cases.

MBA 243. Seminar in Training, Compensation, and Performance Appraisal (3 units)
Prerequisite: MBA 240. Analysis of the behavioral, social, legal, and economic issues involved in designing, administering , and evaluating effective orientation and training programs, employee compensation programs, and employee performance management systems to maintain a qualified and motivated workforce. Lecture and cases.

MBA 244. Seminar in Applications of Technology in Human Resource Management (1-2; max total 3 if no topic repeated)
Analysis of the use and implications of technology in human resource management. Topics include human resource information systems, employee monitoring and telecommuting.

MBA 245. Seminar in Negotiation and Conflict Resolution Topics (3 units)
Analysis of resolving conflicts in the workplace. Addresses the behavior of individuals, groups, and organizations in the context of organizational conflict. Topics include negotiation, dispute resolution systems in the workplace, and employee relations.

MBA 246. Seminar in Workforce Issues (1-2; max total 3 if no topic repeated)
Analysis of special topics as they relate to the current workforce such as empowered work teams, virtual teams, changing demographics, and the human resource professional acting as a change agent.

MBA 247. The Context of Human Resource Management (1-2; max total 3 if no topic repeated)
Analysis of current human resource management trends, including workplace safety, ergonomics/workplace design, and genetic testing.

MBA 250. Seminar in End User Computing (3 units)
Prerequisite or concurrent MBA 211. Use of database and geographic information systems in the analysis and solution of business problems; management of end-user computing; innovative application of cutting-edge technologies.

MBA 251. Seminar in Information Systems in a Global Environment (3 units)
Analysis of systems through study and application of systems theory; special emphasis on information systems. Application of systems theory in national and international environments; lecture and case analysis.

MBA 252. Seminar in Information Systems Management (3 units)
Prerequisite: MBA 211. Study of information systems management from the viewpoint of the chief information officer. Study of the strategic and innovative use of technology and the managerial, political, legal, ethical, financial, and behavioral issues involved in managing the IS function.

MBA 253. Seminar in Information Technology (3 units)
In-depth analysis of a selected information technology with application to business problem solving and decision making. Topics from database; telecommunications; decision support systems; expert systems; artificial intelligence. Lecture and cases.

MBA 260. Seminar in Market Research and Analysis (3 units)
Prerequisite: MBA 214. Traditional as well as hi-tech research methodology. Research project management from conception of research ideas and design to data analyses and presentation of findings. Blending art and science of research, qualitative and statistical interpretations, and leveraging the information in decision-making.

MBA 261. Seminar in Global Marketing and Logistics (3 units)
Prerequisite: MBA 214. Analysis of problems of product design, channel structure, promotion, and inter-organization cooperation and control in international marketing. Negotiation, bargaining, and contracting across national boundaries. Special emphasis on the importance of logistics in generating customer satisfaction in both domestic and international markets.

MBA 262. Strategic Market Planning (3 units)
Prerequisite: MBA 214 or permission of instructor. Strategic market planning and decision making in both start-up and existing businesses. Emphasis on detailed planning, clear strategy articulation, and good marketing plan preparation. Actual consulting projects and/or case analysis.

MBA 263. Seminar in "X" Marketing (3 units)
Prerequisites: MBA 214. With approval of instructor, students explore a current hot topic in marketing and prepare a major investigative paper and presentation for professional critique. Example topics include relationship marketing, e-marketing, societal marketing, green marketing, nonprofit marketing, and database marketing.

MBA 264. E-Marketing (3 units)
Prerequisite: MBA 214. Examines the impact of the Internet on marketing processes and the marketing mix. Emphasis on the Internet as a content, communication, and distribution resource. Role of customer service, fulfillment, and customer relationship management in achieving long run customer satisfaction.

MBA 270. Seminar in Business Ventures (3 units)
Overview of the entrepreneurial process beginning with the initial idea through start-up, growth, and harvesting the business. Using the business plan as a primary learning vehicle, students learn to manage all elements of a business in the entrepreneurial context. Course is team taught.

MBA 272. Seminar in New Venture Management (3 units)
Prerequisite: MBA 270 or permission of professor. Study of the management and growth of a new firm. Skill and knowledge building through case analysis, interaction with community entrepreneurs, and readings. Students are encouraged to do an internship with an entrepreneurial firm while enrolled in the course. Course is team taught.

MBA 273. New Venture Creation (3 units)
Prerequisite: MBA 270, MBA 272, or permission of instructor. Through team projects emphasizing real world experience, this course covers the process by which business ideas are developed, screened, and tested. Topics include business idea generation, techniques for screening ideas, the development of product and business concepts, prototype development, and feasibility analysis. This course is team taught.

MBA 274. New Venture Launch (3 units)
Prerequisite: MBA 270, 272, and 273, or permission of instructor. Through team projects emphasizing real world experience and hands-on instruction, this course provides an understanding of the process of starting-up, growing, and harvesting a new business. Case analysis, and a heavy emphasis on practical exercises. This course is team taught.

MBA 279. Policy and Strategy (3 units)
Prerequisite: completion of Group II or concurrently. Evolution of strategic management, globalization of strategy, role of multinationals, competitive advantage strategy formulation; implementation; control issues; role of top and middle management; ethics; and culture.

MBA 289T. Seminar in Business Topics (1-3; max total 3 if no topic repeated)
Prerequisite: completion of 9 units of 200-level courses. Theory and developments in accounting, administration and organization, business education, communication, consumer economics, finance, industrial and regional studies, real estate and urban economics, information systems, decision sciences, resource economics, risk and insurance, or transportation.

MBA 290. Independent Study (1-3; max total 6 units)
Prerequisite: advanced to candidacy; permission of director and instructor. Approved for *RP* grading.

MBA 292. Readings in Business (2-3; max total 3; not repeatable for credit)
Prerequisite: Advanced to Candidacy; permission of director. Approved for *RP* grading.

MBA 295. Internship (1-3; max total 3 units)
Prerequisite: permission of the internship coordinator and the graduate program director. Requires at least 150 hours of work at a prequalified, academically related work site. Final report and presentation of findings also required. Only one internship may count toward the Group III requirements.

MBA 298. Management Project (3 units)*
Prerequisites: MBA 216, Advanced to Candidacy, and permission of director. See *Criteria for Thesis and Project.* Examination of the work and problems general managers of business units face as chief strategists and organization builders. Independent analysis of an operating industry, business, or a principals functional area of an organization. Case studies and field research project. Approved for ***RP*** grading.

MBA 299. Thesis (3 units)*
Prerequisites: MBA 216, Advanced to Candidacy, and permission of director. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for **RP** grading.

Note: Group III AGBS prefix courses under the Agribusiness Specialization elective area are listed under *Graduate Courses* within the Department of Agricultural Business.

* For 298C and 299C courses, see *Graduate Studies.*

Master of Science in Accountancy (MSA)

MSA 220. Advanced Cost/Managerial Accounting (4 units)
Covers advanced and emerging topics in cost/managerial accounting, including accounting for quality, performance evaluation, transfer pricing, advanced variance analysis, Just-in-Time, Backflush costing, cost accounting history, capital budgeting, and the measurement of the cost capacity.

MSA 222. Advanced Financial Accounting (4 units)
Covers advanced financial accounting topics with an in-depth study of principles, procedures, and reporting requirements of consolidated financial accounting and partnerships.

MSA 224. Professional and Legal Responsibilities (4 units)
Covers advanced legal concepts and topics relevant to professional accountants, including agency, contracts, debtor-creditor relationships, government regulation of business, uniform commercial code, and real property.

MSA 226. Professional Research and Accounting Theory (4 units)
Covers accounting theory and the components of authoritative sources for tax, accounting, and audit rules and regulations; examination of a variety of issues and topics focusing on the authoritative sources to determine and apply relevant codes, rules, and regulations.

MSA 290. Independent Study (1-4; max total 4 units)
Prerequisite: advanced to candidacy; permission of director and instructor. Approved for ***RP*** grading.

IN-SERVICE COURSES

(See *Catalog Numbering System.*)

Business (BUS)

BUS 367. CPA Review (2-4)

BUS 380T. Topics in Business (1-3; may be repeated if no topic repeated)

BUS 381. Instructional Procedures in Vocational Business Education (2-3)

BUS 385. Bridging the Gap (2-4)

BUS 389. Workshop in Business Education (1-6; max total 6 units)
Credit may not exceed 1 unit per week of workshop activity. Open only to experienced teachers. Study and critical analysis of problems in content and teaching in secondary school business education.

BUS 398. Business Internship (1-6; max total 6 units)
Designed for graduate students who need or desire supervised work experience. ***CR/NC*** grading only.

The Kremen School of Education and Human Development

Education Building, Room 210, 559.278.0210
Paul L. Beare, *Dean*

The Mission of the School

The Kremen School of Education and Human Development's mission is the recruitment and development of ethically informed leaders for classroom teaching, education administration, counseling, and higher education. This NCATE-accredited unit fosters the candidate dispositions of collaboration, valuing diversity, critical thinking, ethical judgments, reflection, and life-long learning. Our mission is realized through a framework of teaching, scholarship, and services that addresses regional, state, national, and international perspectives.

The Kremen School of Education and Human Development (KSOEHD) prepares highly competent educators and human development specialists, while providing professional support and leadership to the community, promoting applied research, and providing experiences and opportunities that will enable employed professionals to remain current in their fields.

Students attend classes, study, and work in a state-of-the-art Education Building, which is a five-story facility that includes clinical areas and computer and microteaching laboratories.

Students also take classes and experience fieldwork in professional settings such as school districts and Fresno Family Counseling Center.

KSOEHD fosters the realization of human potential by preparing those who work in the field of education and human development to function more effectively and productively in a mutable and increasingly diverse society.

The KSOEHD theme, "Leadership for Diverse Communities," places considerable emphasis on an educator who can function effectively as a leader in a culturally and linguistically diverse society.

The Kremen School of Education and Human Development includes the departments of Counselor Education and Rehabilitation; Curriculum and Instruction; Educational Research and Administration; and Literacy, Early, Bilingual, and Special Education. The Liberal Studies Program, the Doctorate in Educational Leadership, the Education Student Services Center, and the Instructional Technology and Resource Center are also integral parts of the school.

Education

Vision

The Kremen School of Education and Human Development is a center for academic excellence and collaboration in the fields of education and counseling. Graduates will be community leaders who advocate high standards and democratic values with attention to professional ethics and diversity. Integration of educational technology and performance assessment is essential to all programs.

Goals

The specific goals of the KSOEHD are as follows:

- to recruit qualified candidates who are representative of the diversity in our community into the fields of education and counseling, beginning with students in the public schools;
- to be at the cutting edge of the application of best practice models and educational technology;
- to prepare education professionals who have a command of content knowledge and pedagogy and who continuously strive to improve their practice;
- to support the lifelong development of practicing professionals with services and programs, including the doctorate;
- to prepare professionals who are committed to leadership and service in diverse community settings;
- to integrate performance assessment as a key evaluation technique in each of our programs;
- to sustain a university work environment that is exemplary in its humanity, ethics, effectiveness, and intellectual vitality;
- to secure, through advancement efforts, the supplemental funding needed to provide the margin of excellence for programs and special initiatives; and
- to be the higher education partner of choice for the public schools and other relevant institutions of the five counties we serve in the Central Valley.

Kremen School of Education and Human Development

Paul L. Beare, *Dean*
Education Building, Room 210
559.278.0210

James Marshall,
Associate Dean
Education Building, Room 205
559.278.0205

Mona Cummings,
Director of Development
Education Building, Room 210
559.278.0373

Education Student Services Center:
Advising Center
Education Building, Room 100
559.278.0300

Kremen School of Education
and Human Development

Paul L. Beare, *Dean*
Education Building, Room 210
559.278.0210
http://www.fresnostate.edu/kremen/

Credentialing and Graduate Programs
Education Building, Room 151
559.278.0299

Program Contacts

Liberal Studies Major
Janell Morillo, *Coordinator*
559.278.0300

Multiple Subject Credential Program (Elementary Education)
Lisa Nyberg, *Coordinator*
559.278.0240

Single Subject Credential Program (Secondary Education)
Jody Daughtry, *Coordinator*
559.278.0300

Education Specialist Credential Program (Special Education)
Hong Shen, *Coordinator*
559.278.0289

CalStateTEACH
Robin Chiero, *Regional Director*
559.278.0216

Professional Field Experiences
Janine Quisenberry, *Director*
559.278.0257

Teacher Internship Program
Richard Firpo, *Director*
559.278.0232

Graduate Programs
Susan Tracz, *Coordinator*
559.278.0347

Sharon Brown-Welty, *Director*
Doctoral Program
in Educational Leadership
Education Building, Room 310
559.278.0427

Early Childhood Education
Susan Macy, *Coordinator*
559.278.0267

Educational Leadership and Administration
Linda Hauser,, *Coordinator*
559.278.0309

Curriculum and Instruction Master's in Teaching
Carol Fry Bohlin, *Coordinator*
559.278.0237

Counselor Education
Kyle Weir, *Coordinator*
559.278.0169

Pupil Personnel Credential
Sarah Lam, *Coordinator*
559.278.0283

Rehabilitation Counseling
Carol Rankin, *Coordinator*
559.278.0316

Reading/Language Arts
Steven Hart, *Coordinator*
559.278.0319

Special Programs and Services

Development. In its effort to provide the highest quality programs and services to the educational community in the Central Valley, the KSOEHD has begun a comprehensive plan for development. The school intends to involve faculty, emeriti faculty, business leaders, students, alumni, and friends of education in providing "state-of-the-art" instruction, facilities, and programs for continuing development and support of education. Coordination of the Development Program is provided by Mona Cummings, director of development, in ED 205. For more information, call 559.278.0249.

The Bonner Center for Character Education and Citizenship promotes character education in the Central Valley by conducting and supporting related research, and by providing nationally recognized speakers for the Fresno area, forums on character education and professional ethics, materials and professional resources for review, and coordination for a variety of character award programs. For more information, call Jacques Benninga at 559.278.0253.

The mission of the **Central Valley Educational Leadership Institute (CVELI)** is to assist school districts throughout the Central Valley to create cultures of high achievement for students. CVELI will accomplish this mission through conferences, training, coaching, and consulting activities in collaboration with the 150 school districts served by the Kremen School of Education and Human Development (KSOEHD).For more information, call Walt Buster at 559.278.0405 or Virginia Boris at 559.278.0715.

Fresno Family Counseling Center is a community-based project providing superior training in marriage and family therapy. FFCC teaches time-tested therapeutic techniques and applies the most recent congruent innovative approaches. Children and families from the community benefit from this high quality, intensely supervised, low-cost professional counseling services. For more information, call Chris Lucey at 559.278.0407.

The **Human Development Center** provides support for instruction and also includes specialized services for clientele ranging in age from infant through adult. This center is comprised of two major areas: the Joyce M. Huggins Early Childhood Education Center and the Clinic.

- The Joyce M. Huggins Early Childhood Education Center provides training, demonstration, and research in early learning and early childhood programs through supervised classroom experiences for children from student families and others.
- The Clinic provides laboratory space in support of instruction in counseling, reading, and special education programs. Services include individual and group testing, special reading instruction, work skills assessment, and parenting instruction.

For more information, call the Huggins Early Education Center at 559.278.0225.

The **Instructional Technology and Resource Center (INTERESC)** provides support to faculty in the utilization and integration of technology in the curriculum. INTERESC staff provide assistance in design of instructional materials such as video, multimedia, and Internet-based programs such as streaming video and video conferencing; consult with students, faculty, and staff in selecting computer hardware, software, and audiovisual equipment; manage KSOEHD computerized classrooms and laboratories; and it offers technology workshops for faculty and staff. It houses the NASA Educator Resource Center (ERC) to help teachers learn about and use NASA's educational resources. For more information about INTERESC and the NASA ERC, contact Director Otto E. Benavides at 559.278.0379.

Mini Corps recruits university students knowledgeable about the migrant lifestyle and prepares them to assist classroom teachers in providing instructional services to migrant children who have a priority for services. The program provides training, mentoring, advising, and financial support for the university students interested in becoming teachers. For more information contact Coordinators Lilly Lomeli or Jose Mejia at 559.278.0359.

The **Teaching Fellows Scholarship** supports talented students committed to education as a long-term profession. Teaching Fellows work in schools throughout their college career, gaining an average of 3000 hours of pre-service, on the job experience. They attend professional development seminars monthly through the Saturday Academy, and have a variety of extracurricular activities to broaden their college experience, build leadership, and gain an understanding of education in a greater social context. For more information, call Anne Murphy at 559.278.0256.

Turning Points Academy brings 140 students from McLane High School in Fresno Unified School District to the University for one semester of full-time study. The purpose of the program is to encourage these students to complete a college preparatory curriculum and attend college. While attending the academy, students earn both high school and college credits. For more information, call Jody Daughtry at 559.278.0307.

The **San Joaquin Valley Writing Project** (SJVWP) is dedicated to improving the quality of writing instruction in grades K-college in Fresno, Kings, Tulare, Madera, and Mariposa counties. Each year a cadre of exceptional classroom teachers is selected through an interview process to participate in the Summer Invitational Institute at California State University, Fresno. Then these teachers become teacher consultants in the SJVWP and continue to work with the writing project in a variety of ways. They continue their own learning about writing instruction and they provide staff

development and other types of mentoring in area schools. The SJVWP supports different programs for teachers throughout their professional careers. For more information, call Joanne McKay at 559.278.0219.

The **California Reading and Literature Project** is part of a statewide professional development network forming the California Subject Matter Projects. Its mission is to provide high quality, standards-based professional development in reading and language instruction. This will help ensure that every California student Pre K-12 achieves the highest standards of academic performance. The CRLP collaborates with California State University, Fresno and partnership districts to support and sustain continuous improvement in literacy. For more information, call Cheryl Caldera, regional director, at 559.278.0429.

Mediator Mentors is a university-public school partnership in which future teachers, counselors, social workers, and school psychologists support the development of conflict resolution skills in school children. Currently the program is training students, teachers, and administrators in peer mediation and conflict resolution education program development. Since 1998, collaborators have been the Fresno, Clovis, Sanger, Hanford, Chowchilla, Dinuba, Kerman-Floyd, and Central Unified school districts; the Bonner Family Foundation; the Garabedian Foundation; Friends of Civic Engagement; the Association for Conflict Resolution; the Center for Research, Evaluation, Assessment and Dissemination; the Bonner Center for Character Education; the Fresno Grizzlies; Spano Enterprises; Rotary Fresno; Judges, Arbitrators and Mediators; Fig Garden Rotary; and University Outreach Services. Teachers and students in local schools receive ten to twelve hours of communication and conflict resolution training. University students (future helping professionals) coach during trainings, mentor at lunch periods, and assist site staff with program development. More than 5,000 children, teachers, and administrators have participated. For more information please contact professors Pam Lane-Garon, project director and Karen DeVoogd, project coordinator through the Web site *www.fresnostate.edu/mediatormentors/*.

Department of Counselor Education and Rehabilitation

Albert Valencia, *Chair*
Education Building, Room 350
559.278.0340
www.fresnostate.edu/cser/

Career Opportunities

- Counselor
- School Counselor
- Higher Education Counselor
- Rehabilitation Counselor
- Teacher – Special Education

M.S. in Counseling
Options:
- Marriage and Family Therapy
- Counseling and Student Services

M.S. in Rehabilitation Counseling

Pupil Personnel Services Credential

Education Specialist Credential

Criminal Justice Counseling Specialist Certificate of Advanced Study

Department Description

The Department of Counselor Education and Rehabilitation offers programs and master's degrees in the areas of counseling, rehabilitation counseling, and special education. The programs utilize the services and facilities of community agencies and school districts within the university service area.

Faculty

Albert Valeencia, *Department Chair*, 559.278.0340

Kyle Weir, *Coordinator of Counselor Education*, 559.278.0169

Sarah Lam, *Coordinator of Pupil Personnel Services/Student Services*, 559.278.0283

Carol Rankin, *Coordinator of Rehabilitation Counseling*, 559.278.0316

Juan C. Garcia
L. Marinn Pierce
Sarah Lam
Song Lee
Christopher Lucey
Janell Morillo
Jenelle Pitt
Ruth Shaeffer
Claire Sham Choy
H. Dan Smith

Department of Curriculum and Instruction

Jacques S. Benninga, *Chair*
Education Building, Room 250
559.278.0240
www.fresnostate.edu/ci/

Career Opportunities

- Teacher – Elementary
- Teacher – Secondary

Basic Teaching Credentials
- Multiple Subject (Elementary Teacher)
- Multiple Subject, BCLAD
- Multiple Subject Internship Program
- CalStateTEACH
- Single Subject (Secondary Teacher)
- Single Subject Internship Program

M.A. in Education
Option: Curriculum and Instruction

M.A. in Teaching

Certificate in Advanced Study in Educational Technology

Department Description

The mission of the Department of Curriculum and Instruction is the preparation and continuing education of K-12 educators, particularly teachers. Coursework and field experiences are designed to prepare teachers who are reflective thinkers, problem solvers, and decision makers to meet the challenges of teaching in a rapidly changing world characterized by social, economic, and cultural/linguistic diversity.

Supervised field experiences along with instructional planning and evaluation techniques provide the foundation for productive and responsive teaching.

CalStateTEACH. See *Teaching – Elementary School – CalStateTEACH* for program description.

Faculty

Jacques S. Benninga, *Chair*

Jacques S. Benninga, *Director of Bonner Center for Character Education and Citizenship*, 559.278.0253

Carol Fry Bohlin, *Coordinator of Curriculum and Instruction Graduate Program*, 559.278.0237

Walter J. Ullrich, *Coordinator of Master of Arts in Teaching Program,* 559.278.0356

Jody Daughtry, *Coordinator of Single Subject Credential Program,* 559.278.0300

Lisa Nyberg, *Coordinator of Multiple Subject Credential Program,* 559.278.0313

Janine Quisenberry, *Director of Professional Field Experience,* 559.278.0257

Rich Firpo, *Coordinator of Teacher Internship Program,* 559.278.0232

Colleen Torgerson, *Coordinator of Partnership Program*, 559.278.0235

Robin Chiero, *Regional Director of CalStateTEACH*, 559.278.0234 or 559.278.0216

Bernard Arenz
Otto E. Benavides
Kathryn Biacindo
Roy M. Bohlin
Jose Lomeli
Susana C. Mata
Jane Moosoolian
Frederick L. Nelson
Joe Parks
Kien T. Pham
Susan Schlievert

Department of Educational Research and Administration

Kenneth Magdaleno, *Chair*
Education Building, Room 350
559.278.0350
www.fresnostate.edu/era

Career Opportunities

- Principal
- Superintendent
- Higher Education Administration

M.A. in Education
Option: **Educational Leadership and Administration**

Administrative Credentials

- Administrative Internship Credential
- Preliminary Administrative Services
- Professional Administrative Services

Department Description

The Department of Educational Research and Administration offers a master's degree and credentials for school administrators. It offers research courses in support of all graduate programs in the Kremen School of Education and Human Development.

Faculty

Ken Magdaleno, *Chair*

Linda Hauser, *Coordinator of Educational Leadership and Administration Credential Programs*

Virginia Boris
Walter Buster
Juan Carlos González
Jason Immekus
Diane Oliver
David Tanner
Susan M. Tracz
Ronald P. Unruh

Department of Literacy, Early, Bilingual, and Special Education

Glenn DeVoogd, *Chair*
Education Building, Room 250
559.278.0250
www.fresnostate.edu/lee/

Career Opportunities

- Teacher – Reading Specialist
- Teacher – Bilingual
- Teacher – Special Education
- Early Childhood Specialist

Minor

- Urban Civic Education

Credentials

- Early Childhood Education
- Multiple Subject, BCLAD
- Early Childhood Specialist
- Reading/Language Arts Specialist

M.A. in Education
Options:

- Early Childhood Education
- Reading/Language Arts

M.A. in Special Education

Department Description

The mission of the Department of Literacy, Early, Bilingual, and Special Education is to prepare knowledgeable and professionally competent teachers and curriculum leaders in the areas of early childhood education (K-3), bilingual/cross-cultural education (K-12), and reading/language arts (K-12) in both public and private educational settings.

Faculty

Glenn DeVoogd, *Chair*

Susan Macy, *Coordinator of Early Childhood Education Specialist Credential and ECE Master's Programs and of Early Childhood Education Emphasis*, 559.278.0267

Steven Hart, *Coordinator of Reading/Language Arts Specialist Credential and Master's Programs*, 559.278.0319

Teresa Huerta, *Coordinator of BCLAD Credential Programs,* 559.278.0364

Elisa Jamgochian, *Coordinator of Special Education,* 559.278.4011

Shareen Abramson
Laura Alamillo
Imelda Basurto
Jyothi Bathina
Élaine Garan
Pamela Lane-Garon
Joanne McKay
Dana Powell
Marilyn R. Shelton
Hong Shen
Colleen Torgerson
Anthony Vang

LIBERAL STUDIES PROGRAM
Janell Morillo, *Coordinator*
Jessica Choy, *Adviser*
Johnny Conley, *Adviser*
Education Building, Room 100
559.278.0300
http://www.fresnostate.edu/liberalstudies/

Program Description

The mission of the Liberal Studies Program is to provide a strong knowledge-based education in the liberal arts that will provide subject matter preparation for elementary teaching or foundation preparation for other professions such as law, medicine, journalism, and various fields of public service.

The blended program allows students the opportunity to blend subject matter preparation and teacher preparation by offering coursework in both areas concurrently.

Faculty

The liberal studies degree program faculty represent a broad cross-section of academic disciplines. At present many different departments offer courses that can be applied toward this major. The initial point of contact is the Education Student Services Center in ED 100.

Career Opportunities

Liberal studies majors preparing for careers in elementary teaching should expect to find a favorable job market. Recent statistical reports for the Central Valley show that the area population and the number of school-aged children continue to grow. This pattern of growth, along with anticipated attrition from the teaching profession will require additional well-prepared, credentialed elementary teachers.

Liberal studies majors not planning careers in teaching will find that a number of area employers are seeking prospective employees with a broader vision of the world, not normally provided by a narrow specialization. Opportunities are available in people-oriented jobs such as public relations, personnel, medicine, etc.

As liberal studies candidates prepare for entrance into the teaching profession or other careers, they are provided expert assistance from the campus Career Services Office. Assistance in preparing placement files, preparing for job interviews, and searching for suitable employment is readily available for each candidate.

Scholarship Requirement

Liberal studies majors who plan to obtain a Multiple Subject Credential (elementary teaching) or Education Specialist Credential (special education) must earn a high GPA and meet other prerequisite requirements as conditions for admission to a teacher education program. For additional information regarding admission to the credential programs, contact the Education Student Services Center in ED 100 or visit the KSOEHD Web site at *www.fresnostate.edu/kremen*.

Credential Programs

Liberal studies students who wish to complete a credential program that will lead to authorization to teach in an elementary school must follow a specific course of study. Students may wish to use their electives to begin work on one of the following preliminary credential programs:

- Multiple Subject Credential
- Multiple Subject Credential with BCLAD emphasis
- Multiple Subject Credential - emphasis in Early Childhood Education
- Education Specialist Credential (Special Education)

Program Advisement

Liberal studies majors are expected to attend a group orientation describing the program before their first semester on campus. Dates for orientation sessions are posted at *www.FresnoStateDogDays.com*. These orientations, which are scheduled regularly each term, enable students to understand major requirements and ensure effective planning of their coursework. Students seeking individual advisement (customarily following the group orientation) can call the Education Student Services Center at 559.278.0300. In addition, all students should purchase the Liberal Studies Handbook, available in the Kennel Bookstore.

Freshmen. Follow the catalog description for General Education and select from appropriate categories.

Transfer Students. Select upper-division courses from the liberal studies major requirements. An official university evaluation of your prior work (DARS Report) will be completed and you will be notified by mail. Attend a group orientation as soon as possible to ensure a smooth transition into the Liberal Studies Program.

Liberal Studies Blended Program

The Blended Program blends or integrates three elements — the General Education program, the courses required in the liberal studies major, and the courses required for teacher preparation — which can result in a B.A. in Liberal Studies and a preliminary Multiple Subject Teaching Credential or Educational Specialist Credential. All liberal studies students complete the same program of 99-103 units of general education and major courses but then have several ways in which they may complete their degree. For those pursuing a Multiple Subject or Educational Specialist Credential, most of the credential courses may be included in a carefully planned four-year program.

Attention: The liberal studies degree and credential listed here are correct as of the time of publication of this catalog. As teacher education programs are subject to state and system legislative control, it is recommended that students interested in the credential consult the Education Student Services Center of the Kremen School of Education and Human Development for current program requirements.

Those intending to complete the bachelor's degree and not teach, should enroll only in the courses listed in the major requirements. However, they will have units remaining for elective or double major work. Those intending to teach should enroll in both the major requirements and each of the courses listed under the credential requirements.

Bachelor of Arts Degree Requirements

Liberal Studies Major *Units*

Major Requirements.....91-92

General Education Areas.....52-53

[A1] COMM 3, 7, or 8 .....(3)
[A2] ENGL 5B or 10 .....(3)
[A3] Any certified A3 course .....(3)
[B1] NSCI 1A .....(3-4)
[B2] BIOL 10.....(3)
[B4] MATH 10A.....(3)
[C1] ART 1; ARTH 10 and 11; MUSIC 9, 74; or DRAMA 62 .....(3)
[C1 or C2] ENGL 20, 30; HUM 10, 11 .....(3-4)
[C2] HIST 20* .....(3)
[D1] HIST 11 .....(3)
[D2] PLSI 2 .....(3)
[D3] GEOG 4 .....(3)
[E] CFS 39 .....(3)
[IB] NSCI 115 .....(3)
[IC] IAS 108 .....(3)
[ID] SSCI 110 .....(3)
[MI] SSCI 180 or SOC 111 .....(3)

Other Major Requirements.....39

CSCI 5 or IS 52 and 52L ....(3)
KINES 152 .....(3)
LING 11 .....(3)
MATH 10B.....(3)
PSYCH 169, SPED 120, or RA 125 .....(3)
ART 179, MUSIC 153, DRAMA 136, 137, or DANCE 160 .....(3)
ENGL 117W .....(3)
CI 100.....(3)
COMM 114.....(3)
ECON 165 .....(3)
LING 132 .....(3)
MATH 100 .....(3)
EES 9 .....(3)

Additional Requirements.....9-12

(Select one.) Consult your adviser for a list of concentrations. All concentrations require a total of 12 units. In most cases, the initial 3 units are fulfilled by the "lead-in" course which is found in the major. Courses taken for G.E. credit cannot count toward the concentration.

Electives and remaining degree requirements 16-21

Electives may be used to satisfy Multiple Subject or Education Specialist Credential Program requirements as listed in the copy that follows.

Total 120

* HIST 20 is G.E. Area C2 for liberal studies students only. (For all other students, HIST 20 is G.E. Area D3.)

Visual and Performing Arts Requirement Note

Selection of a visual and performing arts course in the major (ART 179, MUSIC 153, DRAMA 136, 137 ***or*** DANCE 160) must be from a discipline that is different from that taken to meet G.E. Area C1.

Multiple Subject Credential

Professional Preparation

- Prerequisite: EHD 50.
- Prerequisite or corequisite*: CI 100.
- For students pursuing a credential and a liberal studies degree simultaneously, the California Subject Examinations for Teachers (CSET) must be passed prior to enrollment in final student teaching (EHD 170 or SPED 175/176). For students pursuing a Multiple Subject Education/Specialist Credential ***after*** completion of a degree, the CSET must be passed as one condition for admission to the program.
- **Courses**
  CI 171, 175, 176; EHD 170, 174, 178; LEE 172, 173, 177; SPED 179

Total 34

Note: Consult adviser for sequencing of courses.

* CI 100 may be taken concurrently with Phase 1 courses. CI 100 must be completed prior to beginning Phase 2 courses.

Education Specialist Credential

Professional Preparation

- Prerequisite: EHD 50.
- Prerequisite or corequisite*: CI 100.
- For students pursuing a credential and a liberal studies degree simultaneously, the California Subject Examinations for Teachers (CSET) must be passed prior to enrollment in final student teaching (EHD 170 or SPED 175/176). For students pursuing a Multiple Subject Education/Specialist Credential ***after*** completion of a degree, the CSET must be passed as one condition for admission to the program.
- **Courses**
  CI 171, 175, 176; LEE 172, 173, 177; EHD 174, 178; SPED 125, 130, 156, 171/172, 175/176;
  Mild/Moderate
  SPED 126, 136, 137
  Moderate/Severe
  SPED 145, 146, 147
  Other approved courses

Total 51

* CI 100 may be taken concurrently with Phase 1 courses. CI 100 must be completed prior to beginning Phase 2 courses.

For additional information regarding admission to the Multiple Subject or Education Specialist Credential programs, contact the Education Student Services Center in ED 100 or visit the KSOEHD Web site at *www.fresnostate.edu/kremen/*.

Liberal Studies majors who plan to obtain a credential should attend an orientation by signing up in the Education Student Services Center in ED 100 during the semester prior to entering the credential program.

TEACHING – Basic Teaching Credentials

A basic teaching credential may be earned in conjunction with a baccalaureate degree or following completion of a fifth-year course of study. The three basic teaching credentials are Multiple Subject Credential (Elementary School), Single Subject Credential (Secondary School), and Preliminary Level I Education Specialist Credential (Special Education).

Admission Information

State Admission Requirements. Title 5, Article 9, Section 41100, mandates that for admission to a teaching credential program, the student shall be evaluated and a review conducted to determine that the student has met all entrance requirements which include the following:

Prerequisite Courses and Field Experiences. The candidate shall have successfully completed a supervised early field experience and other prerequisite courses and experiences prescribed by the campus.

Professional Aptitude. The candidate shall demonstrate suitable aptitude for teaching in the public schools. Aptitude may be assessed through interviews, letters of recommendation, and professional interactions.

Physical Fitness. The candidate shall satisfy the standards of physical fitness required by the State Credentialing Agency.

Fundamental Skills. The candidate shall demonstrate proficiency in fundamental skills in written and spoken English, reading, and mathematics.

Scholarship. The candidate shall have attained a grade point average of at least 2.67 in all baccalaureate and postbaccalaureate coursework or a grade point average of at least 2.75 in the last 60 semester units attempted.

Personality and Character. The candidate shall demonstrate personality and character traits that satisfy the standards of the teaching profession.

Admission Exceptions. If a candidate has not met one or more admission requirements but possesses compensating strengths in other required areas, he or she may apply for conditional admission which must be cleared prior to admission to final student teaching. The number of exceptions granted each year shall not exceed 15 percent of the total number of candidates admitted during the previous year.

University Admissions

University deadlines for admission applications normally are set during the semester prior to anticipated program enrollment. (Deadlines for fall and spring enrollment must be monitored.) The university may extend admission deadlines if anticipated enrollment targets are not met. For specific deadlines, applicants need to check with the Admissions Office, Joyal Administration Public Contact Window, call 559.278.2261, or look online at *www.csumentor.edu*.

TEACHING – Elementary School

Preliminary Multiple Subject Credential (2042)

Lisa Nyberg, *Coordinator*
Pat Christensen, *Adviser*
Esther Rodriguez, *Adviser*
Janell Morillo, *Lead Adviser*

Education Building, Room 100

559.278.0300

http://www.fresnostate.edu/kremen

Program Description

Holders of Multiple Subject Credentials are authorized to teach in self-contained classrooms commonly found in elementary schools. The Kremen School of Education and Human Development offers the Preliminary Multiple Subject Credential (2042). The cooperating departments are primarily responsible for developing subject matter competency and a baccalaureate degree in liberal studies. The Kremen School of Education and Human Development offers required coursework in professional education.

Career Opportunities

Teacher in an elementary setting (K-6) or self-contained (K-8) classroom.

A Preliminary Multiple Subject Credential (2042) provides authorization to teach in a self-contained classroom for a maximum time period of five years.

Requirements for Initial Admission

1. Attend a Multiple Subject Credential Program orientation meeting.
2. Provide evidence of successful completion of an appropriate pre-program field (45 hours) experience or EHD 50, Introduction to Teaching.
3. Complete an application to the credential program. Required application timelines and materials and forms are available online at *www.fresnostate.edu/kremen*. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
4. Provide evidence of having taken all three sections of the California Basic Educational Skills Test (CBEST) with passing scores. Verification of a minimum score of 41 is required when passing only the reading and writing sections.
5. Provide evidence of having taken and passed all three sections of the California Subject Examinations for Teachers (CSET) – Multiple Subject (exception for Blended students.)
6. Verify application for admission to California State University, Fresno with a Receipt of Application or admission with a current enrollment transcript.
7. Provide a complete verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
8. Complete an Admission Interview Form and obtain an interview from a Multiple Subject credential faculty member. Sign up for interviews in ED 250.
9. Provide the signed Multiple Subject Program Advising Form obtained at orientation.
10. Obtain a medical clearance at the University Health Center or from a private physician.
11. Obtain two letters of recommendation written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
12. Obtain appropriate clearance to teach in a public school by presenting a valid California Teaching Credential or applying for a Character and Identification Clearance.

Program Completion Requirements

(University and State Credentialing)

1. Successful completion of a core of profession education courses, dispositional assessments, and all performance assessment tasks associated with the Fresno Assessment of Student Teachers (FAST).

Professional Preparation

The courses have been sequenced by phases to provide a cohesive program. Teacher candidates must complete all courses in a phase before moving to the next phase.

Phase 1	*Units*
CI 171	3
LEE 172	3
LEE 173	3
EHD 174	2
EHD 174A	1
Phase 2	
CI 175	3
CI 176	3
LEE 177	3
EHD 178	2
EHD 178A	1
Phase 3	
SPED 179	3
EHD 170	9
EHD 170A	2
Total	**38**

Note: Teacher candidates must earn a GPA of 3.0 with a *C* or better, or a *CR* (Credit), on all professional preparation courses to be recommended for the credential.

2. Demonstration of subject matter competence by passing the California Subject Exam for Teachers (CSET) – Multiple Subject. Passing scores on the CSET are valid for five (5) years. (All candidates, including Blended)
3. Complete a bachelor's degree from an accredited institution.
4. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.
5. Pass the Reading Instruction Competence Assessment (RICA).
6. Pass the California Basic Educational Skills Test (CBEST). (All sections)
7. Verify completion of CPR training.

Requirements for the Preliminary and Professional (clear) Credentials can change, and subject matter tests can be revised. For an update or other information, contact the

Certification and Graduate Programs Office in ED 151 at 559.278.0299.

Time Restrictions. Courses required for preliminary credentials must be completed no more than 10 years prior to credential application. A preliminary credential provides authorization to teach for a maximum of five years. Requirements for completing the Professional (Clear) Multiple Subject Credential will be provided by the employing school district.

Withdrawal/Drop from Program

A student request to drop from the program made in writing, or through a complete withdrawal form, will be considered final. Reentry to the program will require reapplication to the program. An appeal for special consideration may be submitted to the Education Student Services Center, ED 100, in order to be reviewed by the Admissions and Standards Committee.

Requirements for Admission to Student Teaching

Multiple Subject Credential candidates must qualify for admission to two distinct levels of student teaching: (1) Fieldwork A and B (EHD 174 and 178) and (2) Fieldwork C – Final Student Teaching (EHD 160A, 160B, 170).

Requirements for Admission to Field Study A (EHD 174)

1. Submit an application form for EHD 174 by the specified deadline.
2. Complete all admissions requirements and receive notification of initial admission to the program.
3. Maintain a 3.0 GPA on all professional preparation courses. All courses (except those offered for *CR/NC* only) must be taken for a letter grade.

Requirements for Admission to Field Study C – Final Student Teaching (EHD 160A, 160B, 170.)

1. Submit an EHD 170 application form by deadline.
2. Successfully complete Phase 1 and 2.
3. Demonstrate subject matter competence by successfully passing all three sections of the California Subject Examinations for Teachers (CSET) – Multiple Subject. (All candidates, including Blended)
4. Complete an approved program of professional preparation in a specific program option (see Program Option section) and maintain a GPA of 3.0 with no individual course grade lower than a *C*. All courses (except those offered for *CR/NC* only) must be taken for a letter grade.
5. If admitted as an exception with conditions, satisfy all conditions specified.
6. Clarification: Students who receive permission to complete the EHD 170 assignment in two semesters must sign up for EHD 160A (5 units) and EHD 160B (5 units). Successful completion of EHD 160A and 160B must include a minimum of one week of full-time student teaching. Successful completion of EHD 170 requires one full semester, all day, every day of student teaching in each assignment. Students will be solely responsible for planning and teaching a minimum of two weeks all day in this EHD 170 assignment.
7. Provide evidence of passing all sections of the California Basic Educational Skills Test (CBEST) by presenting a CBEST Permanent Verification card.

Note: Students who receive a "No Credit" grade in any student teaching course are required to petition the Admissions and Standards Committee for approval to retake the course. Students who receive a grade of "No Credit" for a second time will be dismissed from the Multiple Subject Credential Program. Student teachers whose placements are terminated after the date for refund of tuition are responsible for full tuition regardless of circumstances leading to termination.

Preliminary Multiple Subject Credential (2042) Program Options

The following program options offer teacher candidates a variety of routes to obtain a Preliminary Multiple Subject Credential.

General. Provides professional preparation required for teaching in self-contained educational settings (typically found in the elementary school).

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students. BCLAD (Spanish and Hmong) will authorize teachers to provide academic instruction to English Learner students in their primary language.

Hmong	*Units*
HMONG 100*	3
HMONG 101*	3
ANTH 123*	3
LEE 129	3
LEE 135	3
Total	**15**

Spanish	*Units*
SPAN 119*	3
SPAN 121A*	3
SPAN 134*	3
CLS 116*	3
LEE 136	3
Total	**15**

*Courses taken prior to applying to credential program.

For more information, contact Teresa Huerta, the BCLAD coordinator at 559.278.0364.

CSU Mexico Bilingual Elementary Teaching Credential Program. A study abroad experience while earning credit towards your Bilingual Cross-Cultural Language and Academic Development (BCLAD) credential. For more information, see *www.edweb.csus.edu/bcladmexico/contact.html*.

Emphasis in Early Childhood Education. Prepares elementary teachers with special expertise and experience in grades K-3. This nationally accredited Early Childhood cohort program emphasizes a developmental knowledge base, professional ethics, and integrated curriculum, and provides field experiences at the preschool, kindergarten, primary, and upper elementary levels. The ECE program is compatible with the Intern, BCLAD, and Blended/Integrated programs. For more information, contact Dr. Susan Macy, ECE coordinator, at *smacy@csufresno.edu*.

Deaf Education. Prepares candidates to teach deaf and hard of hearing students. For more information, see the requirements for the Deaf Education and the Preliminary Level I Education Specialist: Deaf and Hard of Hearing Credential in the Department of Communicative Disorders and Deaf Studies, Health and Human Services section.

Partnership Schools are a collaborative approach to teacher education that involves school district personnel and university faculty in supervision and professional de-

velopment roles within the schools. Partnerships are daytime programs that use district facilities for university coursework and field experiences, allowing the candidates and university faculty to become part of the culture of the school and the cycle of the school year. Teacher candidates move through the program as a cohort. For more information please contact the Partnership coordinator, Colleen Torgerson, at 559.278.0328.

Dual Credential Program, Preliminary Education Specialist Credential Program (Basic Program) and Preliminary Multiple Subject Credential (2042) Program. Teacher candidates may simultaneously work on a Multiple Subject and Education Specialist Credential. Some of the courses are required for both credentials and specialized dual student teaching placements may be used. Students must attend a Multiple Subject/Special Education orientation. For more information see the Education Specialist Preliminary credential.

CalStateTEACH. CalStateTEACH is an alternative path to a multiple subject preliminary teaching credential. CalStateTEACH is designed specifically to serve teachers who are interns or who can volunteer to practice teach in an elementary school (grades K-6). The Kremen School of Education and Human Development houses one of the four regional centers in the state that administers this Web-enhanced program. (See *Special Programs*.)

TEACHING - High School and Middle School

Single Subject Credential (2042)

Jody Daughtry, *Coordinator*
Education Building, Room 100
559.278.0300
http://www.fresnostate.edu/departments/ci

Program Description

The Single Subject Credential authorizes the holder to teach in the subject area specified on the credential in departmentalized classrooms commonly found at middle schools, high schools, and adult educational settings. The Kremen School of Education and Human Development offers the Preliminary Single Subject Credential in cooperation with various academic departments. The cooperating departments are responsible for developing subject matter competency; the Kremen School of Education and Human Development is primarily responsible for developing professional education competency.

The Single Subject coordinator provides general advisement for Single Subject Credential candidates. Area advisers (see list) provide academic advisement for credential candidates majoring in their respective departments, teach methods courses in their subject fields, assign and supervise student teachers, and act as official liaisons between the subject matter departments and the Single Subject coordinator. Advisers may be contacted through the Kremen School of Education and Human Development's Advising Center.

Career Opportunities

Teacher in a secondary (6-12) or an adult education setting.

Single Subject Majors and Advisers

Agriculture: A. Parham/R. Vaughn/ S. Rocca
Art: D. Nadaner/P. Fleming
Business: R. Haller
English: K. Godfrey
English (Theatre Arts): K. Morin
English (Speech): R. Powell
Modern and Classical Languages (French): R. Kuhn
Modern and Classical Languages (Spanish): J. Amaral/D. Avila/T. Bergman
Industrial Technology: D. Austin
Kinesiology: D. Kinnunen
Mathematics: A. Tuska/R. Amarasinghe/ L. Burger
Music: T. Mowrer
Science: D. Andrews
Social Science (History): L. Clune

Types of Single Subject Credentials (2042)

Students may earn two types of credentials through the Kremen School of Education and Human Development:

- Preliminary Single Subject Credential
- Internship Single Subject Credential

A Preliminary Single Subject Credential provides authorization to teach a specified subject in a departmentalized classroom for a maximum period of five years. Requirements for completing the Professional (Clear) Single Subject Credential will be provided by the employing school district.

Requirements for Initial Admission

1. Attend a Single Subject Credential program orientation meeting.
2. Provide evidence of successful completion of an appropriate pre-program field experience (45 hours) or EHD 50, Introduction to Teaching.
3. Provide evidence of having taken all three sections of the California Basic Educational Skills Test (CBEST) with passing scores. Verification of a minimum score of 41 is required when passing only the reading and writing sections.
4. Complete an application to the credential program. Required application materials and forms are available online at www.fresnostate.edu/kremen. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
5. Prove current enrollment in or application to California State University, Fresno with a receipt of application, a current enrollment transcript, or class schedule.
6. Provide verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
7. Complete an Admission Interview Form and obtain an interview from a Single Subject Credential faculty member and from the subject area academic adviser.
8. Obtain a medical clearance at the University Health Center or from a private physician.
9. Obtain two recommendation letters written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
10. Obtain appropriate clearance to teach in a public school by presenting a valid California Teaching Credential or applying for a Character and Identification Clearance.

Program Completion Requirements

(University and State Credentialing)

Successful completion of a core of professional education courses, dispositional assessments, and all performance assessment tasks associated with the Fresno Assessment of Student Teachers (FAST).

Requirements for a Preliminary Single Subject Credential

1. Complete prerequisites/corequisites and a 34-unit core of professional education courses.

Prerequisite: EHD 50
Prerequisite or corequisite: CI 149

General Core	*Units*
CI 151	3
CI 152	3
CI 161	3
LEE 156	3
LEE 157	3
SPED 158	3
EHD 154A	1
EHD 154B	1
EHD 155A	4
EHD 155B	10
Total	**34**

Note: Teacher candidates must earn a GPA of 3.0 with a *C* or better, or a *CR* (Credit), on all professional preparation courses to be recommended for the credential.

2. Demonstrate subject matter competence:

a. Complete an approved subject matter preparation program or pass the subject matter examinations designated by the California Commission on Teacher Credentialing.

b. Receive clearance from the academic adviser that subject matter competency has been met.

3. Complete a bachelor's degree from an accredited institution in a subject matter other than education.

4. Pass the California Basic Educational Skills Test (CBEST).

5. Verify completion of CPR training.

6. Complete a course in the provisions and principles of the United States Constitution or pass an examination in the subject given by a regionally accredited junior college, college, or university, or verify meeting the interstate agreement requirements.

Requirements for the Preliminary and Professional (clear) Credentials can change, and subject matter tests can be revised. For an update or other information, contact the Certification and Graduate Programs Office in ED 151 at 559.278.0299.

Time Restrictions. Education courses required for a Preliminary Credential must be completed no more than 10 years prior to credential application.

Note: With the exception of the Internship Program, individuals may begin a Single or Multiple Subject Credential program if they are in their senior year, have completed at least 90 units toward a bachelor's degree, and have been admitted to a credential program.

Requirements for Admission to Initial Student Teaching (EHD 155A)

1. Submit an EHD 155A application form by the specified deadline.
2. Receive notification of initial admission to the Single Subject Credential program.
3. Maintain a 3.0 GPA on all professional education courses. All courses (except those offered for CR/NC only) must be taken for a letter grade.
4. Complete a program advising form and have it signed by the academic area adviser and the Single Subject coordinator or Single Subject adviser.
5. Have completed or be enrolled concurrently in CI 151 and CI 152. Be concurrently enrolled in SPED 121 and CI 159.

Requirements for Admission to Final Student Teaching (EHD 155B)

1. Submit an EHD 155B application form by deadline.
2. Demonstrate subject matter competence.
3. Maintain a 3.0 GPA on professional education coursework. All courses (except those offered for *CR/NC* only) must be taken for a letter grade.
4. If granted an "Exception" admission, satisfy all requirements specified when the exception was granted.
5. Show evidence of passing the California Basic Educational Skills Test (CBEST) by presenting a CBEST Permanent Verification card.
6. Have completed CI 151, CI 152, CI 159, SPED 121, and EHD 155A. Have completed or be concurrently enrolled in LEE 154. Have completed or be concurrently enrolled in CI 161 (depending on policy of the appropriate academic department).

Note: Students who receive a "No Credit" grade in any student teaching course are required to petition the Admission and Standards Committee for approval to retake the course. Students who receive a grade of "No Credit" for a second time will be dismissed from the Single Subject Credential Program. Student teachers whose placements are terminated after the date for refund of tuition are responsible for full tuition regardless of circumstances leading to termination.

TEACHING – Special Education

Preliminary Level I Education Specialist Credential

Options:

- Mild/Moderate Disabilities
- Moderate/Severe Disabilities

Hong Shen, *Interim Coordinator*
Education Building, Room 345
559.278.0289
http://www.fresnostate.edu/cser/

Program Description

The Education Specialist Credential authorizes the holder to teach students with mild/moderate or moderate/severe disabilities (K-age 22) in public or private school programs, clinics, special schools, resource classrooms, educational programs, residential facilities, hospitals, and other agencies serving persons with special needs. This credential program prepares the teacher candidates through required coursework and fieldwork.

The Preliminary Level I Education Specialist Credential has two areas of specialization: Mild/Moderate and Moderate/Severe Disabilities. These areas of professional emphasis distinguish the student population with which the candidate seeks to pursue a special education career.

1. **Mild/Moderate Disabilities.** This credential authorizes the provision of services to individuals with mild to moderate disabilities, in grades K through 12 (including adults to age 22). Students have high incident disabilities (e.g. eligibility categories of autism, learning disability, emotional/behavioral disorders, language delays). Students are typically on diploma track and will be served in general education (inclusive settings). Services may use the titles of resource specialist or teachers in a special day class. Students may have variable academic performance, attending (distractible) behaviors, and/or social behavioral needs.
2. **Moderate/Severe Disabilities.** This credential authorizes the provision of services to individuals with moderate to severe disabilities in grades K through 12 (including adults to age 22). Students have lower incidence disabilities (e.g. eligibility categories of autism, learning disability, emotional/behavioral disorders, language delays). Students are served in a range of settings, such as center-based sites, special day classes, and some inclusive and/or integrated settings. Students may have academic, functional, communication, and vocational learning needs.
3. **Dual Certification Program.** This program leads to the Multiple Subjects Credential and the Preliminary Level I Education Specialist Credential in Mild/Moderate or Moderate/Severe Disabilities. It is designed to prepare preservice multiple subjects and special education teachers to work cooperatively in serving the needs of an increasingly diverse student population. Special advising is required.

Career Opportunities

Teacher of students with disabilities in a variety of settings in collaboration with a variety of other professionals.

Requirements for Initial Admission

Applicants who already possess a Multiple Subject or Single Subject Credential will find the application process to be somewhat streamlined. Holders of one of these Basic Teaching Credentials may be exempted from some of the *Admission Requirements* below. Please see an adviser for further clarification.

Admission Requirements

1. Attend an Education Specialist Credential Program orientation meeting.
2. Provide evidence of successful completion of an appropriate pre-program field experience (48 hours) or EHD 50, Introduction to Teaching.
3. Complete an application to the credential program. Required application materials and forms are available online at www.fresnostate.edu/kremen. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
4. Provide evidence of having taken all three sections of the California Basic Educational Skills Test (CBEST) with passing scores. Verification of a minimum score of 41 is required when passing only the reading and writing sections.
5. Provide evidence of having taken and passed all three sections of the California Subject Examinations for Teachers (CSET) – Multiple Subjects. (Exception for Blended students)
6. Provide verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
7. Complete an Admission Interview Form and obtain an interview from a education specialist credential faculty member.
8. Provide the signed Education Specialist Credential Program Advising Form obtained at orientation.
9. Obtain a medical clearance at the University Health Center or from a private physician.
10. Obtain two Letters of Recommendation written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
11. Obtain appropriate clearance to teach in a public school by presenting a valid California Teaching Credential or applying for a Character and Identification Clearance.

Program Completion Requirements

(University and State Credentialing)

Units

Prerequisites to all programs 6
EHD 50, SPED 120

Basic Program

Units

SPED core courses 15
SPED 125, 130, 135, 145, 155

Area of Emphasis
Multiple Subjects.....(14)
EHD 178; CI 171; LEE 172, 173, 177
Single Subject .....(22)
EHD 155A; CI 151, 152, 159; LEE 172, 173, 177

Practicum
Mild/Moderate Disabilities.....(9)
SPED 175 *or*
Moderate/Severe Disabilities...(9)
SPED 176

Total 38-46

Dual Certification Program

Units

Multiple Subjects Core..... 33
EHD 110D, 170, 174; CI 171, 175, 176; LEE 172, 173, 177

Special Education Core..... 15
SPED 125, 130, 135, 145, 155

Practicum 9
Mild/Moderate Disabilities.....(9)
SPED 175 *or*
Moderate/Severe Disabilities...(9)
SPED 176

Total 57

New Students Beginning Spring 2011

Students entering the credential program in spring 2011 must take the following sequenced courses. The program was revised to meet new California Commission on Teacher Credentialing Standards in Special Education.

Program Completion Requirements

(University and State Credentialing)

	Units
Prerequisites to Basic Dual Programs	**9**
EHD 50, SPED 120, CI 100	

Basic Program	*Units*
Semester 1: CI 171; LEE 172,173; SPED 130; EHD 174	14
Semester 2: LEE 177; CI 175, 176; SPED 125; EHD 178	14
Semester 3: Mild/Moderate SPED 126, 136, 171 *or* Moderate/Severe SPED 145, 146, 172	9
Semester 4: Mild/Moderate SPED 137, 156, 175, 177 *or* Moderate/Severe SPED 147, 156, 176, 177	14
Total	**54**

Dual Program	*Units*
Semester 1: CI 171; LEE 172, 173; SPED 130; EHD 174	14
Semester 2: LEE 177; Cl 175, 176; SPED 125; EHD 110D	15
Semester 3: Mild/Moderate SPED 126, 136; EHD 170 *or* Moderate/Severe SPED 145, 146; EHD 170	15
Semester 4: Mild/Moderate SPED 156, 137, 175, 177 *or* Moderate/Severe SPED 147, 156, 176, 177	14
Total	**58**

Note: Teacher candidates must earn a GPA of 3.0 with a *C* or better, or a *CR* (Credit), on all professional preparation courses to be recommended for the credential.

2. Demonstrate subject matter competence by passing the California Subject Exam for Teachers (CSET) – Multiple Subjects. (All candidates)
3. Complete a bachelor's degree from an accredited institution.
4. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.
5. Pass the Reading Instruction Competence Assessment (RICA).
6. Pass the California Basic Educational Skills Test (CBEST). (All sections)
7. Verify completion of CPR training.

Requirements for the Preliminary and Professional (clear) Credentials can change, and subject matter tests can be revised. For an update or other information, contact the Certification and Graduate Programs Office in ED 151 at 559.278.0299.

Time Restrictions. Courses required for preliminary credentials must be completed no more than 10 years prior to credential application.

Requirements for Admission to Student Teaching

1. Submit a field placement information sheet by the specified deadline.
2. Maintain a GPA of 3.0 on all professional preparation courses.

Requirements for Admission to Practicum

(SPED 175/176 or EHD 160D)

1. Submit an application form for SPED 175/176 or EHD 160D by the specified deadline.
2. Demonstrate subject matter competence by successfully passing all three sections of the California Subject Examinations for Teachers (CSET) – Multiple Subjects. (All candidates, including Blended)
3. Complete an approved program of professional preparation in a specific program option (see Program Option section) and maintain a GPA of 3.0 with no individual course grade lower than a *C*. All courses (except those offered for CR/NC only) must be taken for a letter grade.
4. If admitted as an exception with conditions, satisfy all conditions specified.
5. Provide evidence of passing all sections of the California Basic Educational Skills Test (CBEST) by presenting a CBEST Permanent Verification card.

Note: Individuals must complete practicum and fieldwork courses with a grade of *B* or better. Up to 9 units of Preliminary Level I coursework may be applied to the Master of Arts

TEACHING – Internships

Teacher in Preparation (TIP) Internship Program. The TIP Internship program is designed for qualified individuals who have prior classroom experience and who seek an alternative route to obtaining a Preliminary Teaching Credential. Students must possess a bachelor's degree from an accredited institution and meet all criteria for admission to a basic credential program. Candidates who have been instructional assistants or successful long-term substitute teachers and who are holders of provisional short-term permits or short-term staff permits are good candidates for the internship program.

Interns have a year-long contract with a participating school district, earning a modestly reduced salary. In addition, interns enroll in coursework leading to a Preliminary Teaching Credential (Single Subject or Multiple Subject) or Level I Teaching Credential (Special Education).

For further information, please contact the Internship Office at 559.278.0232.

Admission Requirements

Applicants must complete the following:

1. Verify admission to California State University, Fresno with a Notice of Admission or a current enrollment transcript.
2. Verify admission to the Kremen School of Education and Human Development
3. Demonstrate subject matter competence.
4. Pass the California Basic Educational Skills Test (CBEST).
5. Complete a bachelor's degree from an accredited institution.
6. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.

Applicants must also participate in an interview with internship program faculty. Candidates must also be offered a teaching contract by a participating school district. Interns have the responsibility for finding their own jobs with participating districts.

Multiple Subject Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Single Subject Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Special Education Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Urban Civic Education Minor

The Urban Civic Education Minor (15-units) prepares students to become leaders of civic engagement working to address community issues. This interdisciplinary minor is available to all students in any academic discipline and is an excellent complement for students pursuing careers in education, psychology, criminal justice, social services, international affairs, and community advocacy. Through an emphasis on service-learning pedagogy, the program has been developed to provide an interdisciplinary perspective to the study of diverse urban cultural communities, issues facing these communities, and cultural and community influences on urban children's education. Students will actively engage in service-learning experiences to support community organizations in diverse urban contexts. Students will also implement projects with local K-12 school districts in order to learn how service-learning can serve as an instructional method to impact children's academic achievement and civic engagement. Such knowledge and skills are essential for students to become leaders who are able to transform our region and society as a whole.

Core Faculty

Steven Hart, *Literacy, Early, Bilingual, and Special Education, Coordinator*
James Mulooly, *Anthropology*
Matt Jendian, *Sociology/Humanics*
Chris Fiorentino, *Richter Center*

Affiliated Faculty

Janell Morillo, *Liberal Studies Coordinator*
Emily Nusbaum, *Special Education*
Meta L. Schettler, *Africana Studies Program*
Xinchun Wang, *Linguistics*

Requirements for the Minor

A total of 15 units, which will include the following:

1. COMS 1. Community Service-Learning (3 units)
2. LEE 145S. Service-Learning Pedagogy and Practice (3 units) 180T (Literacy and Service Learning)
3. 3-6 units from Area I: Diverse Families and Communities
4. 3-6 units from Area 2: Educational Issues
5. The minor also requires a minimum 3.0 GPA and six upper-division units in residence.
6. Courses also can fulfill General Education requirements as appropriate.

AREAS OF STUDY

AREA I – Diverse Families and Communities: AFRS 104W; CFS 133S; CFS 134; ASAM 110; CLAS 3; CLAS 116; SWRK 128; SWRK 137; SOC 130WS; SOC 144

AREA II – Educational Issues: ANTH 111; CFS 141; COMM 114; LING 141; LING 147; SOC 148; SPED 120; SPED 121

Advising Notes

Students must consult with an advisor to plan the minor. The advisor and minor coordinator must approve the minor program before it can be filed with the Evaluations Office and recorded on the transcript.

1. Complete an Urban Civic Education Minor advising sheet with an adviser for selection of courses.
2. Courses in a major cannot be applied toward a minor unless designated as additional requirements.
3. A minor may be earned only at the time a student earns the first baccalaureate degree.

Graduate Education Program

Master's Degrees and Advanced Credentials

Susan Tracz, *Coordinator*
Education Building, Room 447
559.278.0347
http://www.fresnostate.edu/kremen

Graduate Education Program in the Kremen School of Education and Human Development are focused on providing leadership in central California's diverse society by preparing education leaders for a new millennium. Postbaccalaureate advanced credential and master's degree programs are primarily focused on (1) preparation and enhancement of teachers and other educational leaders and (2) preparation of human service leaders who function in a variety of human development roles in both public and private sectors.

Master's Degree Programs

The KSOEHD offers five master's degree programs in separate areas of professional emphasis. These degree programs include the following:

1. M.A. in Education, Options:
   - Curriculum and Instruction
   - Early Childhood Education
   - Educational Leadership and Administration
   - Reading/Language Arts
2. M.A. in Reading
3. M.A. in Teaching
4. M.A. in Special Education
5. M.S. in Counseling, Options:
   - Marriage and Family Therapy
   - School Counseling
   - Student Affairs and College Counseling

Some master's degree programs can be pursued concurrently with a specialist credential or services credential program.

Advanced Credential Programs

Advanced Credential Programs are categorized as (1) specialist credentials and (2) services credentials. These credentials require professional preparation at the postbaccalaureate level. Most specialist and services credentials require successful completion of a basic Multiple Subject or Single Subject credential. Exceptions to this are in Pupil Personnel Services, Education Specialist, and in some cases Administrative Services.

Specialist Credential Programs offered at California State University, Fresno include the following:

1. **Agriculture**. (See Department of Animal Sciences and Agricultural Education, Adviser for the Agriculture Specialist Credential.)
2. **Early Childhood Education**. (See Coordinator of Early Childhood Education.)
3. **Reading/Language Arts**. (See Coordinator of Reading/Language Arts.)
4. **Professional Level II Education Specialist Credential:**
   - Deaf and Hard of Hearing. (See Department of Communicative Disorders and Deaf Studies, Coordinator of Education Specialist Credential.)
   - Mild/Moderate Disabilities (See Coordinator of Education Specialist Credential.)
   - Moderate/Severe Disabilities (See Coordinator of Education Specialist Credential.)

Services Credential Programs offered at Fresno State include the following:

1. **Administrative**:
   - Preliminary Administrative Services
   - Professional Administrative Services
   - Administrative Services Internship

   (See Coordinator of Education Administration.)
2. **Preliminary Speech-Language Pathology Services (SLPS)**. (See Department of Communicative Disorders and Deaf Studies, coordinator of program.)
3. **Health (School Nurse)**. (See Department of Nursing, Coordinator of School Nurse Services.)
4. **Pupil Personnel** - School Counseling. (See Coordinator of Counselor Education.)
5. **Pupil Personnel** - School Psychology. (See Department of Psychology, Coordinator of School Psychology Program.)
6. **Pupil Personnel** - School Social Work and Child Welfare and Attendance. (See Department of Social Work Education.)

Specialist and services credential programs can be pursued concurrently with a master's degree.

Graduate Education Program

Admission Requirements. Enrollment in a KSOEHD master's degree or advanced credential program requires that separate applications for admission be completed for the university and the KSOEHD.

Students may not enroll in 200-level courses until they have been admitted to the appropriate program.

University Admission Requirements. Applicants are required to complete the California State University Application for Graduate Admission. In addition to this form, and among other requirements, the applicant is expected to provide evidence of an appropriate four-year B.A. or B.S. and a minimum GPA of 2.5 on the last 60 (90 quarter) units attempted. University applications are available online at *www.csumentor.edu*.

KSOEHD Admission Requirements

In addition to making application for admission to the university Admissions Office, consult the Certification and Graduate Programs Office in ED 151 and read information online at *www.fresnostate.edu/kremen* for the following:

1. Program information.
2. KSOEHD graduate programs admission packet (available online at *www.fresnostate.edu/kremen*).

All students applying for admission to a master's degree or advanced credential program in the KSOEHD must meet the minimum admission requirements listed in the copy that follows and be approved for admission by a program Faculty Review Committee. Evidence of completion of these requirements is to be submitted along with required forms in one complete packet to the Education Student Services Center, ED 100, by the application closing date. A completed admissions packet will include the following:

1. Verification of application to California State University, Fresno.
2. An application to the KSOEHD graduate programs.
3. A complete set of transcripts of all prior college or university work.
4. Evidence of a minimum GPA of 2.75 overall or on the last 60 undergraduate units. Continuing postbaccalaureate students must have attained a cumulative GPA of 3.0 on all units attempted.
5. A statement of purpose.
6. Three letters of recommendation.
7. Evidence of receipt of a passing score on the Test of English as a Foreign Language (TOEFL) if an international student. The KSOEHD also retains the option to require international students to obtain additional preparation if English usage skills are judged to be inadequate.
8. Evidence of writing proficiency by one of the following:
   a. obtaining a passing score on the Upper-Division Writing Exam,
   b. completing English 117W or 160W with a grade of ***B*** or better,
   c. or obtaining a passing score on the CBEST and the CSET writing skills test.
9. Evidence of any additional requirements unique to each degree and program within the degree. Refer to the specific program information for details.
10. Evidence of passing CBEST.
11. Copy of valid California teaching credential.
12. PPS students only: medical clearance form, certificate of clearance or valid teaching credential, and evidence of passing CBEST.

Application Deadlines

University Admission Deadlines. University deadlines for graduate admission applications normally are set during the semester prior to anticipated program enrollment. For specific deadlines, applicants need to check online at *www.csumentor.edu*, or call 559.278.4073.

KSOEHD Admission Deadlines

All school admission materials required for full admission (classified standing) are to be submitted to the graduate technician in the Education Student Services Center, ED 100. For specific KSOEHD admission deadlines, contact the Education Student Services Center, ED 100, call 559.278.0299, or check the KSOEHD Web site at *www.fresnostate.edu/kremen*. Students submitting all application material within these timelines will receive priority consideration for admission.

Applicants who have not completed all requirements for full admission (classified standing) by the University admission deadline must meet with their program coordinator. For master's degree candidates, no more than 9 units of transfer and/or California State University, Fresno Extension credit may be included in the 30-unit program, or no more than 18 units in the 60-unit program.

Applicants must complete all program application requirements prior to the first semester of enrollment in a specific credential or degree program. Early completion of application materials assures timely review and written notification of admission status.

Program Faculty Review. Following submission of all application requirements, the program faculty representing each graduate program reviews the application. Notification is then sent regarding whether or not admission has been granted.

Appeal of Admissions Decision. Applicants who have received written notification of denial of admission may have an opportunity to submit a formal appeal for special consideration. Appeals for master's degree applicants are reviewed by program faculty, and appeals for advanced specialist and services credential program applicants are reviewed by the KSOEHD Admissions and Standards Committee. An appeal for special consideration must be submitted within two weeks of the date of the letter of denial in order to be considered by the program faculty during the same semester. Information regarding this process is obtained from the technician in the Education Student Services Center, ED 100.

Graduate Writing Requirement

In keeping with California State University, Fresno's Graduate Writing Requirement (GWR), all students enrolled in the various master's degree programs must demonstrate competence in graduate-level writing prior to being advanced to candidacy for a master's degree. The Graduate Writing Requirement is designed to determine students' ability to write clearly, logically, analytically, and knowledgeably. Each program designates specific course(s) to meet the Graduate Writing Requirement. Should the student receive a passing grade in the course content but fail to demonstrate adequate writing competence, there is an appeals process. Specific course information can be found in each program's requirements.

Advancement to Candidacy/ Completion of Master's Degree

For information regarding advancement to candidacy and procedures needed to complete a master's degree, contact the Certification and Graduate Programs Office in ED 151 or check online at *www.fresnostate.edu/gradstudies.*

In order to ensure selection of courses that will be acceptable for a master's degree program, candidates should consult with the appropriate program coordinator.

ADVANCED CREDENTIALS

Administrative Services Credentials

Linda Houser, *Coordinator*
Education Building, Room 459
559.278.0362

Individuals who wish to serve as educational administrators must complete preliminary and advanced levels of preparation. Holders of the Preliminary Administrative Services Credential and the Professional Clear Administrative Services Credential are authorized to serve in such positions as district superintendent, principal, program director, and any related administrative assignments at all school levels.

In special circumstances, students may be eligible for the **Administrative Internship Credential**. This credential allows students to have a full-time position requiring an administrative credential while they are working toward the completion of the Preliminary Administrative Services Credential.

P-12 Administration. The Preliminary Administrative Services Credential Program is a 24 semester unit program that provides basic preparation for employment in a P-12 public school administrative position. The Professional Administrative Services Credential Program is a 10 semester unit program. Once an individual completes the Preliminary Administrative Services Credential and obtains an administrative position, an application must be made to the Professional Administrative Services Credential Program within the first year of employment. The program provides individually designed advanced preparation in professional development, transformational leadership, school law, school finance, school human resource management, and other areas necessary for leadership in all education settings.

Grade Requirements. To be recommended for the Administrative Credential, a student must maintain academic excellence in all coursework. Once an *NC* or one letter grade of *C* or less has been earned in any course, the student will be placed on program academic probation. Upon the receipt of two *NC*s or letter grades of *C* or lower, at any point in the administrative credential program, the student will automatically be disqualified from the program.

Administrative Services Credential and Administrative Internship Credential (Preliminary)

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, Administrative Services Credential and Administrative Internship Credential program applicants must meet the following requirements:

1. Provide verification of advising.
2. Evidence of possession of a valid basic prerequisite credential (Multiple Subject, Single Subject, Education Specialist, or Pupil Personnel Services credentials).
3. Evidence of having passed the California Basic Educational Skills Test (CBEST).

Program Requirements

Candidates for the Preliminary Administrative Services Credential who have been admitted to the program and who want to be recommended for this authorization must meet the following requirements:

1. Possess a valid California teaching credential based on a bachelor's degree or a Pupil Personnel Services Credential.
2. Verify three years of successful, full-time experience in public schools (or in private schools of equivalent status.)
3. Complete ERA 288 (or CI 285); EAD 261, 262, 263, 269, 272, and 274.
4. Receive a passing score on the California Basic Educational Skills Test (CBEST).
5. Pass the competency exit review.
6. Complete a master's degree.

Administrative Services Credential (Professional)

The Professional Administrative Services Credential (Tier Two) currently is only available through the doctoral program in educational leadership. Candidates must be enrolled in the doctoral program in order to complete the professional credential.

Early Childhood Education Specialist Credential

Susan R. Macy, *Coordinator*
Education Building, Room 259
559.278.0267
e-mail: smacy@csufresno.edu
http://www.fresnostate.edu/lee/

An Early Childhood Education Specialist Credential may be earned by those who possess an elementary teaching credential (California Multiple Subject, Standard Elementary, or General Elementary Teaching Credential); who complete a commission-approved specialist program, including teaching; and who have two years of teaching experience at two levels of Early Childhood Education at the time the specialist credential is bestowed. The ECE Specialist Credential requires 30 units of postbaccalaureate study. Courses taken in the ECE Specialist Credential Program may be used to meet part or all of the requirements for the master's degree. It is strongly advised that application for the master's degree be completed at the same time as the application for the specialist credential is submitted.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Early Childhood Education Specialist Credential program applicants must meet the following requirements:

1. Be qualified for ECE Master Teaching Permit (B.A./B.S. plus 12 units of ECE or Child Development and 3 units of supervised ECE fieldwork) or hold a valid teaching credential.
2. Provide verification of advisement.

Program Requirements

Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

Program	*Units*
1. Required Early Childhood Education Core Courses: LEE 235 and 241	6
2. Select three of the four additional Early Childhood Education Core Courses: LEE 171, 232, 233, 271	9

3. Electives are selected from fields including early childhood education, special education, education administration, bilingual education, and other fields as determined in consultation with the ECE faculty adviser 15
4. Experience: Two years of successful teaching experience in at least two levels in early childhood education.

Total 30

Education Specialist: Deaf and Hard of Hearing Credential

See Department of Communicative Disorders and Deaf Studies in the College of Health and Human Services.

Education Specialist Credential – Professional Level II (Special Education)

Elisa Jamgochian, *Coordinator*
Education Building, Room 341
559.278.4011
e-mail: ejamgochian@csufresno.edu
www.fresnostate.edu/kremen/departments/lebse.html

In the 1990s, state regulations changed the credentialing process for special education teachers making it no longer necessary to first obtain a Single Subject or Multiple Subjects teaching credential before entering the field of special education. The teacher candidate must obtain the Preliminary Level I and within five years receive the Professional Level II Education Specialist Credential.

Career Opportunities

Persons completing the Education Specialist Credential in Mild/Moderate and Moderate/Severe Disabilities may seek employment in public or private school programs, clinics, special schools, resource classrooms, educational programs, residential facilities, hospitals, and other agencies serving persons with special needs.

As candidates near completion of the Preliminary Level I Education Specialist Credential program, they must plan for admission to the Professional Level II Education Specialist Credential Program. Upon admission, candidates must complete all coursework and obtain the Professional Level II credential no later than five years after obtaining the Preliminary Level I credential. The Level II credential program cannot be completed with fewer than two years of documented employment in a special education position that requires the Level I credential authorization. The Professional Level II credential is required as a condition for continued employment in special education in the state of California.

The Professional Level II credential program offers specialization in mild/moderate and moderate/severe disabilities as described under the Preliminary Level I credential program. Candidates will have selected one of these professional paths for completion of the Preliminary Level I credential program. The selected specialization will be consistent with the work setting in which the candidate is employed and working under the Level I credential authorization.

The Professional Level II credential program features close cooperation between the university and the employing school district. The candidate, the candidate's adviser from the university, and an assigned and appropriately credentialed Level II teacher's support provider from the employing district will work cooperatively to develop a professional credential induction plan. The induction plan will identify the unique needs of the candidate in relation to the candidate's professional setting and will establish goals and determine specific activities, including non-university activities, that will assist candidates in their development as a professional special educator. Ongoing progress on completion of the activities specified in the induction plan will be documented in the candidate's portfolio. The induction plan can include up to 25% of the total program in approved non-university activities if they are deemed appropriate to the professional development of the candidate.

Candidates may wish to pursue the Master of Arts in Special Education while completing the requirements for the Professional Level II credential program. There is considerable coursework consistency between the requirements of these two programs; the candidate must meet the admission requirements of both programs should this be the educational objective. Please note the requirements under Master of Arts in Special Education.

Admission Requirements. Candidates may complete their application for admission to the Level II credential program toward the conclusion of their Level I credential program.

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Professional Level II Education Specialist Credential program applicants must meet the following requirements:

1. Receipt of the Level I Education Specialist Credential.
2. Verification of employment in a special education position that is likely to have sufficient duration for the Level II credential program to be completed. (Day-to-day substitute positions do not satisfy this requirement.)
3. A letter of recommendation from the supervising administrator of the employing district recommending the candidate to the Professional Level II credential program.
4. An interview with the program faculty who will review progress in the Level I credential program and thus assess suitability for the program and the profession.
5. Evidence of having passed the California Basic Educational Skills Test (CBEST).
6. Obtain and submit a curent medical clearance at the University Health Center or from a private physician. (**Out-of-state students only**)
7. Submit a valid Certificate of Clearance to participate in public school field placement activities (**Out-of-state students only**)

Since candidates for the Professional Level II Education Specialist Credential have successfully completed the CBEST, have demonstrated subject matter competency, and have maintained an adequate grade point average required for successful completion of the Preliminary Level I credential program, these issues are reviewed only to determine compliance with program admission standards.

Program Requirements

Candidates must meet the following coursework requirements:

Level II Program

Prerequisite ..... Level I Credential

Units

Special Education Induction/ Evaluation and Program core..... 12
SPED 209A, 209B, 219, 233

Area of specialization 6
- Mild/Moderate Disabilities
  SPED 235, 237 *or*
- Moderate/Severe Disabilities
  SPED 236, 240

Specific emphasis **6**
Or equivalent. Activities may consist of university coursework or non-university activities that are approved as a component of the professional induction plan. Ninety clock hours of approved workshops and/or seminars may be deemed equivalent to the 6-unit requirement. Students may combine university and non-university activities.
Clear courses **6**
CI 225 and health course
Total **30**
Or equivalent.

Note: Teacher candidates must earn a GPA of 3.0 with a ***C*** or better, or a ***CR*** (Credit), on all professional preparation courses to be recommended for the credential.

Added Authorization in Special Education: Autism Spectrum Disorder

The Department of Counselor Education and Rehabilitation is now offering the Added Authorization in Special Education: Autism Spectrum Disorder (AASE: ASD). This authorizes the holder to conduct assessments and provide instruction and special education related services to individuals with a primary disability of autism.

The Added Authorization in Special Education: Autism Spectrum Disorder (AASE: ASD) at CSUN consists of a three-course sequence (9 units). These courses can be included in the units for the Level II/Clear credential and/or master's degree in special education, or can be taken separately.

ASD courses will also be open to teachers not enrolled at Fresno State but who currently hold an Education Specialist Credential in Mild/Moderate Disabilities, Deaf/Hard of Hearing, or the older Learning Handicapped Specialist credential authorizations. The courses (**SPED 250, 251, 252**) are available for teachers when they are required to earn the Autism Spectrum Disorders Added Authorization if they are providing services in the area of autism or the authorization is required for employment:.

For further information, please contact: Dr. Hong Shen at *hshen@csufresno.edu* or 559.278.0289.

Pupil Personnel Services (PPS) Credential - School Counseling

Sarah Lam, *Coordinator*
Education Building, Room 205
559.278.0171

The Pupil Personnel Services Credential is required to function as a counselor in a public school setting, grades K-12.

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, Pupil Personnel Services Credential program applicants must meet the following requirements:

1. Must complete the following prerequisite coursework and achieve a 3.0 in overall postbaccalaureate coursework. Prerequisite coursework must be completed with a ***B*** or better: ERA 153 and COUN 174 or PSYCH 174. Students applying for the PPS Credential program only do not need to complete COUN 176 or PSYCH 166.
2. Provide evidence of having passed the California Basic Educational Skills Test (CBEST)
3. Obtain and submit a current medical clearance at the University Health Center or from a private physician.
4. Submit a valid Certificate of Clearance to participate in public school field placement activities

Following receipt of the completed packet and the review by program faculty, applicants will receive written notification regarding admission status.

Program Requirements

Candidates for the Pupil Personnel Services Credential who have been approved by the Program Faculty Review Committee for admission to the program and who want to be recommended for the credential must complete the following program requirements:

1. COUN 150, 200, 201, 202, 203, 206, 208, 220, 233, 240, 241, 242, 249 (8 units), CI 285.
2. Complete practicum (with a grade of ***B*** or better) and field practice.
3. Pass the competency exit review.

Time restrictions. Courses required for the P.P.S. credential must be completed no more than 10 years prior to credential application.

Reading/Language Arts Specialist Credential

Steven Hart, *Coordinator*
Education Building, Room 250
559.278.0319
www.fresnostate.edu/kremen/departments/lebse.html

Program Description. Reading and Language Arts graduate courses are designed to help teachers learn how to make curricular decisions about teaching reading and how to meet the needs of students with varying language communication backgrounds. Students pursuing a degree or credential in Reading and Language Arts also learn to inspire other teachers to upgrade the reading/language abilities of students through demonstrations of effective reading strategies. Graduates will be qualified to plan, organize, and develop reading programs for schools.

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, Reading/Language Arts Specialist Credential program applicants must meet the following requirements:

1. Verification of advising.
2. Evidence of possession of a basic teaching credential (Multiple Subject, Single Subject, or Education Specialist credentials).
3. Evidence of having passed the California Basic Educational Skills Test (CBEST).

Program Requirements

Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

Program	*Units*
1. **Course Requirements** LEE 213, 214, 215, 224, 230, 234, 244, 254, 278	27
2. **Experience:** Completion of two semesters supervised field experience (LEE 230 and 254) and three years of successful teaching experience at any grade level (K-12).	
Total	**27**

CERTIFICATES

Reading/Language Arts Certificate

Steven Hart, *Coordinator*
Education Building, Room 250
559.278.0319
www.fresnostate.edu/kremen/departments/lebse.html

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Reading/Language Arts Specialist Certificate program applicants must possess a basic teaching credential.

Program Requirements

Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

Program	*Units*
LEE 213, 215, 224, 230, 278	15

Certificate courses may also be used to meet part of the requirements for a master's degree.

Victim Services Certificate Program

Dr. Bernadette Muscat, *Coordinator*
Science II Building, Room 146
559.278.1012

The primary goal of the Victim Services Program is to provide experiences, knowledge, and educational skills for working with victims within a criminological/human development framework. This program is also very useful for individuals interested in pursuing a career in the area of behavioral sciences.

Students working toward a Victim Services Certificate have an opportunity to receive an interdisciplinary/interagency examination of victim services as they relate to theoretical concepts, legal aspects, victim rights, causes of victimization, and services available to assist the victim. Emphasis is directed toward assisting the students in acquiring new perspectives and skills needed for working effectively with different types of victims.

Admission. For admission information, contact the Department of Criminology in Science II, Room 159, 559.278.2305.

Program Requirements

Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

	Units
1. Theory	**3**
Victimology (CRIM 175)	
2. Victim Issues	**3**
Select a minimum of 3 units:	
Family Violence (CRIM 140)	(3)
Child Abuse (EHD 107)	(3)
Domestic Violence (WS 116)	(1)
Rape (WS 108)	(1)
Incest (WS 109)	(1)
3. Service Delivery	**3**
Select a minimum of 3 units:	
Victim Services (CRIM 176)	(3)
Child Welfare (SWRK 128)	(3)
4. Legal/Social Policy	**3**
Select a minimum of 3 units:	
Legal Policy in Victim Services (CRIM 177)	(3)
Women and Violence (CRIM/WS 126)	(3)
Total	**12**

Field Experience

An additional 3-unit field experience (CRIM 182: Internship in Victimology) is available to interested students. Enrollment can be arranged by contacting the Department of Criminology.

Certificate of Advanced Study - Criminal Justice Counseling Specialist

Education Building, Room 340
559.278.0340

Individuals who are fully classified and advanced to candidacy in (or graduates of) the M.S. in Counseling program (MFT option) and M.S. in Rehabilitation Counseling may elect to take courses leading to the Criminal Justice Counseling Specialist Certificate of Advanced Study. The certificate program is designed to enhance professional skills for counseling service within the criminal justice system. In addition to coursework required for the M.S. in Counseling (MFT option) and M.S. in Rehabilitation Counseling, students seeking the Criminal Justice Counseling Specialist Certificate of Advanced Study are required to take a total of 16 units in Criminology (in addition to prerequisite CRIM 100 or equivalent), 6 units of which may be used as electives in the M.S. in Counseling (MFT option) and the M.S. in Rehabilitation Counseling with approval of a faculty adviser.

Program Requirements

The required certificate courses include CRIM 153, 201, 203, and 281. (***Note***: Counseling students must meet with a Criminology adviser a semester prior to enrolling in CRIM 281.)

Master of Science in Criminology students seeking the Certificate are required to take an equivalent number of counseling courses: COUN 176, 200, 208, 232, and 239 with COUN 174 as a prerequisite. (***Note***: Criminology students must meet with a Counseling adviser a semester prior to enrolling in COUN 239.)

Certificate of Advanced Study - Educational Technology

Roy Bohlin, *Program Adviser*
Education Building, Room 241
559.278.0245

This certificate program is not currently accepting applications.

The Certificate of Advanced Study in Educational Technology is a postbaccalaureate program designed to provide professional and specialized preparation for the candidate interested in acquiring knowledge and skills essential for technology-related leadership in educational settings.

Students completing this program will be able to do the following:

- describe the current and potential impact of advanced technologies on education and society
- analyze instructional needs and determine viable uses of technology for meeting those needs
- select and develop appropriate technology-based materials that correlate to curriculum objectives
- model the effective use of technology within educational settings
- demonstrate an understanding of the equitable and ethical use of technology
- plan, implement, and evaluate programs that exemplify the effective use of technology to attain curriculum objectives

Up to six units of coursework taken while working on this certificate may be counted as elective units toward a Master of Arts in Education with an option in curriculum and instruction. Students who hold a valid California teaching credential may also apply to the Commission on Teacher Credentialing (CTC) to have their files reviewed for the supplemental authorization "Computer Concepts and Applications."

Students who wish to pursue either of these options while working on the certificate should state such an intent early in their program so they can receive proper advising regarding master's or CTC requirements.

Admission Requirements. *See the admission requirements listed in the* Graduate Education Program *section of this catalog.*

Program Requirements

Under the direction of the program adviser, each student prepares and submits an individually designed program within the following framework:

Course Requirements	*Units*
CI 225, 227, and 230	9
Approved Electives	5-6
Total	**14-15**

MASTER'S DEGREE PROGRAMS

M.A. in Education

Option: Curriculum and Instruction

Carol Fry Bohlin, *Coordinator*

Education Building, Room 234

559.278.0237

www.fresnostate.edu/ci/graduate/ma_education.shtml

Program Description

The 30-unit Master of Arts degree in Education with an option in Curriculum and Instruction (MAE-C&I) is designed for teachers and other professionals who desire advanced study in curriculum, instruction, educational psychology, research design, and educational statistics. Although a majority of students are teachers, a teaching credential is not a requirement for admission. The program is unique in allowing students to pursue in-depth study in personally relevant areas of curriculum and instruction such as educational technology, reading/language arts, mathematics education, and other specialization areas through elective coursework.

Career Opportunities

Graduates of the M.A. in Education - C&I program hold a wide variety of positions: district director of research, evaluation, and assessment; teacher on special assignment for mathematics; literacy coach; doctoral program teaching assistant; high school department chair; education consultant; education coordinator for a national corporation; research associate for state and federal grants; technical college instructor; emergency preparedness coordinator; and many more. A number of graduates of the program have also chosen to remain in the classroom and use the knowledge they have gained to enhance their instructional effectiveness. The program is a pathway to helping students meet their unique professional goals.

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, program applicants must provide verification of advisement by the program coordinator.

Program Requirements

Under the direction of the program coordinator, each student prepares an individually designed program within the following framework:

	Units
1. Required courses	**12**
(a) MAE Core: CI 285 or ERA 288, ERA 220**	6
(b) C&I Option: CI 250*, CI 275	6
2. Electives	**15**
Electives are selected in consultation with the MAE-C&I program coordinator. The electives may constitute a broad-based program in curriculum and instruction or represent an in-depth study in a specialty area with the context of curriculum and instruction.	
3. Culminating Experience	**3**
Choose from among (a) 3 units of approved electives plus comprehensive exam [0 units], or (b) Cl 298A or (c) CI 299A.	
Total	**30**

* CI 250 includes the graduate writing requirement as part of the course.

** ERA 153 or an approved equivalent is a prerequisite for ERA 220 or ERA 288.

M.A. in Education

Option: Early Childhood Education

Susan R. Macy, *Coordinator*

Education Building, Room 259

559.278.0267

e-mail: smacy@csufresno.edu

Program Description

The Master of Arts in Education with an option in early childhood education offers specialized preparation for a wide variety of positions in educational settings with children from birth through the primary grades. The program is designed to meet individual needs of candidates with different experiential and educational backgrounds and varied career objectives.

Career Opportunities

Early childhood education graduate courses are designed to address individual professional development and career goals including the following:

- Infant/Toddler and Preschool Teacher-Leader
- Kindergarten-Primary Teacher-Leader
- Early Childhood Program Administrator
- Community College Instructor
- Early Childhood Curriculum Specialist

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, M.A. in Education – Early Childhood Education program applicants must meet the following requirements:

1. Be qualified for ECE Master Teaching Permit (B.A./B.S. degree plus 12 units ECE or Child Development and 3 units supervised ECE fieldwork) or hold a valid teaching credential.
2. Provide verification of advisement.

Program Requirements

Under the direction of a graduate adviser, each student prepares and submits an individually designed program within the following framework:

	Units
1. Course Requirements	**24**
a. MAE Core: ERA 220*; CI 285 or ERA 288	6
b. ECE Option: LEE 171, 232, 233, 235**, 241, 271	18
2. Approved Electives	**3**
3. Culminating Experience	**3**
Choose between (a) 3 units of approved electives plus comprehensive exam [0 units] or (b) LEE 298B or LEE 299 [3 units]	
Total	**30**

* ERA 153 or an approved equivalent is a prerequisite for ERA 220.

** Students meet the Graduate Writing Requirement by passing the writing component of LEE 235. See graduate program coordinator for further information.

M.A. in Education

Option: Educational Leadership and Administration

Linda Hauser, *Coordinator*

Education Building, Room 350

559.278.0350

www.fresnostate.edu/era/

Program Description

The Department of Educational Research and Administration offers a program leading to a Master of Arts degree in Education with an option in Educational Leadership and Administration. Candidates who qualify for a preliminary teaching credential, with prior

approval, may use part or all of a master's degree program to satisfy the fifth-year requirements for a clear teaching credential.

Career Opportunities

The degree program provides preparation for several career opportunities, including P-12 administration, higher education administration, and other general administration, as well as for those seeking development for careers or professional positions in universities, community colleges, government, corrections, hospitals, social services, the military, business, religious organizations, and other positions requiring expertise in education leadership and administration.

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, M. A. in Education – Educational Leadership and Administration program applicants must provide verification of advisement.

Program Requirements

Prepare and submit an individually designed program within the following framework:

Program Requirements

Units

1. Course requirements..... 27
a. MAE Core: ERA 220* and ERA 288 (or CI 285)..... 6
b. Educational Leadership and Administration Core: EAD 261 and 262 6
c. Pathway courses 15
- For individuals seeking careers in P-12 administrative positions: EAD 263, 269, 272, and 274
- For individuals seeking careers in higher education or other administrative positions: EAD 259, 264, 266, 273, 275, 278T, or 281

2. Culminating experience..... 4
a. Comprehensive exam (0 units) plus ERA 244 (4 units), or
b. EAD 298 (4 units), or
c. EAD 299 (4 units)

Total 31

* ERA 153 or an approved equivalent is a prerequisite for ERA 220.
** Students meet the Graduate Writing Requirement by passing the writing component of EAD 261.

Note: no more than 6 units of coursework taken for ***CR/NC*** only may be applied toward degree requirements.

M.A. in Education

Option: Reading/Language Arts

Steven Hart, *Coordinator*
Education Building, Room 250
559.278.0319
www.fresnostate.edu/kremen/departments/lebse.html

Program Description

The Master of Arts degree program in Education with an option in reading/language arts is designed to provide professional and specialized preparation for classroom and resource teachers and consultants; diagnosticians and supervisors in reading clinics, schools, and community colleges. It enables graduates to do consulting and editing for publishing companies and to pursue advanced graduate study in universities offering the doctoral degree.

Reading and Language Arts graduate courses are designed to help teachers learn how to make curricular decisions about teaching reading and how to meet the needs of students with varying language communication backgrounds. Students pursuing a degree or credential in Reading and Language Arts also learn to inspire other teachers to upgrade the reading/language abilities of students through demonstrations of effective reading strategies.

Career Opportunities

Graduates will be qualified to administer an array of formal and informal diagnostic tests and use a variety of correctional and remedial procedures. They also lead their staff in developing a creative and stimulating environment for growth in reading/language competency.

Reading and Language Arts graduate courses are designed to address individual professional development and career goals including:

- Classroom teachers
- Reading consultants
- Reading resource teachers
- Reading clinicians
- Informed administrators
- Reading coordinators

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, M. A. in Education – Reading/Language Arts program applicants must provide verification of advisement.

Program Requirements

Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

Units

1. Course Requirements 18
ERA 220*; ERA 288 (or CI 285) 6
LEE 213**, 215, 244, 278 12

2. Approved Electives 9
(See adviser for suggested courses or groupings. The program offers special elective groupings in Integrated Language Arts, Teaching English Language Learners, Diagnostic/Clinic Experiences, and Reading Recovery.)

3. Culminating Experience 3
Choose between (a) 3 units of approved electives plus comprehensive exam [0 units] or (b) LEE 298A or LEE 299 [3 units]

Total 30

* ERA 153 or an approved equivalent is a prerequisite for ERA 220.
** Students meet the Graduate Writing Requirement by passing the writing component of LEE 213. See graduate program coordinator for further information.

M.A. in Reading

Glenn DeVoogd, *Coordinator*
Education Building, Room 250
559.278.0279
http://mastersinreading.com

Program Description

The Master of Arts in Reading is designed to provide professional and specialized preparation for classroom and resource teachers and consultants; diagnosticians and supervisors in reading clinics, schools, and community colleges. It enables graduates to do consulting and editing for publishing companies and to pursue advanced graduate study in universities offering the doctoral degree.

Reading and Language Arts graduate courses are designed to help teachers learn how to make curricular decisions about teaching reading and how to meet the needs of students with varying language communication backgrounds. Students pursuing a degree or credential in Reading and Language Arts also learn to inspire other teachers to upgrade the reading/language abilities of students through demonstrations of effective reading

strategies. *All courses are online and no physical attendance is required on campus.*

Career Opportunities

Graduates will be qualified to administer an array of formal and informal diagnostic tests and use a variety of correctional and remedial procedures. They also lead their staff in developing a creative and stimulating environment for growth in reading/language competency.

Reading and Language Arts graduate courses are designed to address individual professional development and career goals including:

- Classroom teachers
- Reading consultants
- Reading resource teachers
- Reading clinicians
- Informed administrators
- Reading coordinators

Admission Requirements. M.A. in Reading applicants must have a 2.5. GPA. No letter of recommendation is required. See additional admission requirements listed in the *Graduate Education Program* section of this catalog.

Program Requirements

Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

	Units
1. Course Requirements	**18**
ERA 220*; ERA 288 (or CI 285)	6
LEE 213**, 215, 244, 278	12
2. Approved Electives	**9**
(See adviser for suggested courses.)	
3. Culminating Experience	**3**
Choose between (a) 3 units of approved electives plus comprehensive exam [0 units] or (b) LEE 298A [3 units]	
Total	**30**

* ERA 153 or an approved equivalent is a prerequisite for ERA 220.

** Students meet the Graduate Writing Requirement by passing the writing component of LEE 213. See graduate program coordinator for further information.

M.A. in Special Education

Elisa Jamgochian, Ph.D., *Coordinator*
Education Building, Room 351
559.278.4011
www.fresnostate.edu/kremen/graduate/ma-sped.html

Program Description

The Master of Arts in Special Education offers advanced preparation in mild/moderate disabilities and moderate/severe disabilities and is closely related to course requirements for the Professional Level II Education Specialist Credential program. It is expected that students seeking admission to the Master of Arts in Special Education will possess a substantial entry-level background in special education, such as having made significant progress toward completion of the Preliminary Level I Education Specialist Credential program in mild/moderate or moderate/severe disabilities.

Master's degree candidates are provided various opportunities to broaden their professional and educational preparation. Faculty regularly involve degree candidates in advanced research, professional conference presentations, and collaborative writing for publication. Interested students receive mentoring concerning scholarships, grant writing, positions of leadership in school districts, and doctoral programs.

Applicants seeking the Master of Arts in Special Education who also wish to teach in special education settings in the public schools of California should be concurrently enrolled in the Education Specialist Credential program. The master's degree alone will not provide authorization for classroom instruction in the state of California. Only students seeking teaching positions in states other than California, students seeking expertise for application to employment settings that specifically exclude public education, or students desiring to teach outside of the United States may pursue the Master of Arts without concurrent enrollment in the Education Specialist Credential program. Students with these unique aspirations are responsible for understanding credentialing/licensing requirements that may pertain to their desired work setting.

Students are not required to obtain this master's degree to be employed as a fully credentialed special education teacher in California. It is the credentials (both Level I and II) that provide the required state authorization. Most individuals at the Professional Level II will desire the master's degree as a reflection of their professional preparation beyond the entry level, and for purposes of possible salary augmentation. Students who already possess a master's degree in another field are not required to complete this degree program while pursuing the education specialist credentials.

It is essential that time considerations for admission to and completion of the Master of Arts and credential programs be observed. Applicants who wish to be fully credentialed as special education teachers must complete the Professional Level II Education Specialist Credential program in mild/moderate or moderate/severe disabilities within five years of completing the Level I program. The Master of Arts must be completed no later than five years subsequent to taking the first approved course for the degree.

Career Opportunities

Persons completing the Master of Arts in Special Education may seek employment in public or private school programs, clinics, special schools, resource classrooms, educational programs, residential facilities, hospitals, and other agencies serving persons with special needs.

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, M.A. in Special Education program applicants must meet the following requirements:

1. Evidence of a minimum GPA of 3.0 on all postbaccalaureate coursework.
2. For Clear Credential and/or master's degree only, students must provide evidence of Level I/Preliminary Credential.
3. An interview with the program coordinator.*

*Required for applicants coming from programs other than those at Fresno State.

Program Requirements

Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

	Units
Core requirements	**19**
SPED 155 [or equivalent - Level I Credential holders]	(3)
and	
SPED 175 (M/M) or 176 (M/S) [or equivalent]	(6)
or	

SPED 125 [or equivalent - Preliminary Credential holders] ..... (3)
and
SPED 175 (M/M) or 176 (M/S) [or equivalent] ..... (6)

SPED 219 ..... (3)
SPED 233 ..... (3)
SPED 243 ..... (3)
SPED 298 or 299 ..... (4)
Area of specialization 9
Mild/Moderate Disabilities
SPED 235, 236, and 246
Moderate/Severe Disabilities
SPED 235, 236, and 247
Total 31

* Students meet the Graduate Writing Requirement by passing the writing component of SPED 233. Contact the coordinator of the Special Education Program for more information.

M.A. in Teaching (MAT)

Walter J. Ullrich, *Coordinator*
Education Building
559.278.0356
wullrich@csufresno.edu

Program Description

The online Master of Arts in Teaching (MAT) integrates three themes — multicultural, social justice education, action research, and Web-based teaching/learning — to improve school curriculum and instruction, help close the achievement gap in our nation's public schools, and extend the academic and technological foundation provided in teacher credentialing programs. The online MAT focuses explicitly on applied advanced study in K-12 classrooms, incorporating a mixture of more critically oriented theoretical and research skills, as well as more emphasis on practitioner-oriented knowledge, skills and dispositions, to increase learning for all students. Program applicants must have a teaching credential to be admissible to the online MAT.

Career Opportunities

MAT graduate courses are designed to address individual professional development and career goals as well as to prepare educators for Ed.D. and Ph.D. terminal degrees. These include the following:

- Classroom teacher/leader
- Professional Learning Community (PLC) teacher/leader
- Curriculum, instruction, and technology consultant
- Multicultural social justice education consultant
- Action research consultant
- Community college instructor

Program Requirements

The MAT is a three-semester program (fall, spring, fall) offered to cohorts of students completing a prescribed sequence of courses. A two-day program orientation on the Fresno State campus is required for all entering students.

Course Requirements	*Units*
CI 240	3
ERA 243	3
CI 241*	3
CI 245	4
CI 246	4
Electives**	9
Culminating Experience	4
(a) Comprehensive exam [0 units], plus CI 260 [4 units]	
(b) CI 298B MAT Project [4 units] or	
(c) CI 299B MAT Thesis [4 units]	
Total	**30**

* CI 241 includes a graduate writing requirement (GWR) as part of the course.

** The MAT requires 21 units of residency. Electives are determined in consultation with the student's program coordinator/adviser and can include approved units from a postbaccalaureate credential program (e.g., CalStateTEACH, California State University, Fresno, etc.) and/or graduate program.

M.S. in Counseling

Options:

- **Marriage and Family Therapy**
- **School Counseling**
- **Student Affairs and College Counseling**

Kyle N. Weir, *Coordinator*
Education Building, Room 433
559.278.0169

Program Description

The Master of Science in Counseling is a professional degree program designed for persons who desire to practice in the field of counseling. The Master of Science includes three program options: (1) Option in Marriage and Family Therapy, (2) Option in School Counseling, and (3) Option in Student Affairs and College Counseling.

Career Opportunities

Completion of the M.S. in Counseling with an option in marriage and family therapy (MFT) may qualify graduates for employment in private or agency counseling practices, county mental health programs, employee assistance programs, drug and alcohol abuse centers, and hospital mental health settings. The MFT option may fulfill the educational requirements for the state of California Marriage and Family Therapist License. Since this program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), upon graduation MFT students are qualified to take the National Certified Counselor Exam, which is used in the professional counselor licensing process in more than 35 states.

Completion of the M.S. in Counseling with an option in School Counseling may qualify graduates for employment in public and private schools as elementary, middle, and high school counselors.

Completion of the M.S. in Counseling with an option in Student Affairs and College Counseling may qualify graduates for employment in public and private four-year and community college settings and non-profit organizations.

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, M.S. in Counseling program applicants must meet the following requirements:

1. Must complete the following prerequisite coursework and achieve a 3.0 in overall postbaccalaureate coursework. Prerequisite coursework must be completed with a *B* or better: ERA 153, COUN 174 or PSYCH 174, and COUN 176 or PSYCH 166.
2. Graduate program applications must have a minimum GPA of 3.0 in the last 60 semester (90 quarter) units attempted.

Option in Marriage and Family Therapy

The Master of Science in Counseling is a 60-unit professional degree program designed for persons who desire to practice in the field of counseling. The degree may qualify graduates for employment in private or

agency counseling practices, county mental health programs, employee assistance programs, drug and alcohol abuse centers, and hospital mental health settings. Completion of the M.S. in Counseling with an option in marriage and family therapy fulfills the educational requirements for the state of California Marriage and Family Therapist License.

Students seeking licensure should contact the coordinator of counselor education for information regarding licensing. This degree program is designed to meet the requirements of Division 2, Chapter 13, Section 4980.37 of the California Business and Professions Code. The MFT option is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Students are qualified to take the National Certified Counselor Exam upon graduation, which is used in the professional counselor licensing process in more than 35 states.

On October 11, 2009, the State of California approved a new mental health counseling license by adopting SB 788: Licensed Professional Clinical Counselor (LPCC), which was sponsored by the American Counseling Association (ACA). It has been approved and signed into law by the Governor, but the specific details of the license structure are still being promulgated by the California Board of Behavioral Sciences. At this time, all coursework required for the LPCC license is offered by the Counselor Education Program. Special advising is required to determine exact coursework and sequencing. This special advising coordinates acquisition of LPCC courses while a student is pursing one of the specific counseling degree options offered by the department.

Coursework required to meet the educational requirements for licensure as a Professional Clinical Counselor (LPCC) includes ERA 220; COUN 174, 200, 201, 202, 203, 206, 208, 220, 230, 231, 232, 233, 234A-E, 238, 239, and 280T Advanced Mental Health Theories.

Program Requirements

Under the direction of a graduate adviser, each student develops and submits an individually designed program within the following framework:

	Units
Core requirements	**25**
COUN 200, 201, 202, 203, 206, 208, 220; ERA 220	
Marriage and Family Therapy Option	**28**
COUN 230, 231, 232, 233, 234A, B, C, D, E, 238 (4 units), 239 (6 units)	
Culminating experience	**7**
Choose between (a) 7 units of electives plus comprehensive exam, (b) COUN 298 Project [3 units] plus 4 units of electives, or (c) COUN 299 Thesis [3 units] plus 4 units of electives.	
Total	**60**

Note: (1) Practicum must be completed with a grade of ***B*** or better. (2) During the semester that students are enrolled in COUN 208, the Clinical Review Committee of program faculty convenes to evaluate students. The criteria for this evaluation are based on skills and qualities considered appropriate for entry-level counselors. Students may be asked to leave the program if committee recommendations are not met. Students will not be allowed to advance to candidacy until they pass the clinical review. (3) Students meet the *Graduate Writing Requirement* by passing the writing component of COUN 220. Please refer to the specific counseling program's Student Handbook for additional information regarding the Graduate Writing Requirement and appeals process.

Option in School Counseling

The Option in School Counseling is a 48-unit program designed for individuals seeking advanced preparation for careers in educational settings (K-12).

The School Counseling option is designed to complement the Pupil Personnel Services Credential (PPS) curriculum and is intended to enhance preparation of public and private school counselors. The PPS credential is required of those seeking employment as counselors in the K-12 public schools.

Preparation for the School Counseling option requires knowledge of individual and group dynamics, advising practices in specialized settings, and an understanding of the developmental issues associated with students' maturation process. It requires an appreciation of organizational dynamics and a firm foundation in counseling theory as well as acquisition of counseling skills appropriate for use with students from diverse populations and backgrounds.

Program Requirements

Under the direction of a graduate adviser, each student develops and submits an individually designed program within the following framework:

	Units
Core requirements	**25**
COUN 200, 201, 202, 203, 206, 208, 220; ERA 220	
School Counseling Option	**16**
COUN 240, 241, 242, 249 (4 units); CI 285 or ERA 288	
Culminating experience	**7**
Choose between: (a) Comprehensive exam [0 units] plus 7 units of electives (b) COUN 298 Project [3 units] plus 4 units of electives (c) COUN 299 Thesis [3 units] plus 4 units of electives	
Total	**48**

Note: (1) Practicum must be completed with a grade of ***B*** or better. (2) During the semester that students are enrolled in COUN 208, the Clinical Review Committee of program faculty convenes to evaluate students. The criteria for this evaluation are based on skills and qualities considered appropriate for entry-level counselors. Students may be asked to leave the program if committee recommendations are not met. Students will not be allowed to advance to candidacy until they pass the clinical review. (3) Students meet the *Graduate Writing Requirement*.

Option in Student Affairs and College Counseling

The Option in Student Affairs and College Counseling is a 48-unit program designed for individuals seeking advanced preparation for careers in post-secondary and related settings.

The Student Affairs and College Counseling Option is designed to prepare individuals for employment as student service professionals in four-year university and community college. Graduates with this degree option are prepared for employment in the multi-faceted arena of post-secondary education.

Preparation for the Student Affairs and College Counseling option requires knowledge of individual and group dynamics, advising practices in specialized settings, and an understanding of the developmental issues associated with students' maturation process. It requires an appreciation of organizational

dynamics and a firm foundation in counseling theory as well as acquisition of counseling skills appropriate for use with students from diverse populations and backgrounds. In addition, counselors are also required to know, understand, and address the impact of crises, disasters, and trauma-causing events on students in the post-secondary community. The 2009 Council for the Accreditation of Counseling and Related Educational Programs (CACREP) standards includes content in crises management (suicide, disasters, and substance abuse).

Program Requirements

Under the direction of a graduate adviser, each student develops and submits an individually designed program within the following framework:

	Units
Core requirements	**25**
COUN 200, 201, 202, 203, 206, 208, 220; ERA 220	
Student Affairs and College Counseling Option	**18**
COUN 214, 215, 219; ERA 288; EAD 261	
Culminating experience	**5**
Choose between:	
(a) Comprehensive exam [0 units] plus 5 units of electives	
(b) COUN 298 Project [3 units] plus 2 units of electives	
(c) COUN 299 Thesis [3 units] plus 2 units of electives	
Total	**48**

M.S. in Rehabilitation Counseling

Carol Rankin, *Coordinator*
Education Building, Room 445
559.278.0316

Program Mission. The program's mission is to serve people with disabilities by doing an outstanding job of training warm, empathic, trustworthy, and competent qualified rehabilitation professionals who will make a real difference in the lives of persons with disabilities and transform the practice of rehabilitation counseling in California and beyond.

Program Description

The Master of Science in Rehabilitation Counseling is a 60-unit professional degree program designed to cover two to three years of full-time coursework, including a full semester of internship. The program combines classroom and practical field experiences, which integrates theory and practice of rehabilitation counseling. Upon graduation, all students are expected to be competent in individual and group counseling, case management, medical and psychological aspects of disability, ethics, assessment, independent living philosophy, and all other knowledge domain areas of the Commission on the Certification of Rehabilitation Counselors (CRCC).

The program is accredited by the Council on Rehabilitation Education (CORE). Students are eligible to take the national exam to become a Certified Rehabilitation Counselor (CRC) during the last semester of study.

It is ranked among the top 13 in the country by the U.S. News and World Report.

Career Opportunities

Persons completing the M.S. in Rehabilitation Counseling may become employed in a variety of work settings including state and federal vocational rehabilitation programs, sheltered workshops, medical rehabilitation centers, private practice, drug and alcohol abuse rehabilitation programs, county and private mental health programs, community colleges and university disabled student programs, industrial accident/employee assistance programs, and insurance company rehabilitation programs. The M.S. in Rehabilitation Counseling qualifies students to take the national exam to become a Certified Rehabilitation Counselor (CRC).

The following courses can be used toward application for the Licensed Professional Clinical Counselor (LPCC) in California. Additional coursework may be required to satisfy licensing requirements and interested students should seek advisement specifically about licensure. Courses that meet some of the educational requirements toward licensure include the following: ERA 220; COUN 174, 200, 201, 202, 203, 206, 220, 232, 234A,B,C,D; REHAB 203, 205, 211, 237, 265.

Admission Requirements. In addition to the admission requirements listed in the *Graduate Education Program* section of this catalog, M. S. in Rehabilitation Counseling program applicants must meet the following requirements:

1. Complete the following prerequisite coursework or their equivalents, earning a letter grade of ***C*** or better: ERA 153, COUN 174 or PSYCH 174, and COUN 176 or PSYCH 166.

Program prerequisites may not be counted toward the Master of Science in Rehabilitation Counseling. The prerequisites may be completed during the first semester of the program, but students may not complete more than 10 units of 200-level coursework before obtaining classified standing (full admission to the program).

Program Requirements

Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

	Units
Core requirements	**44**
REHAB 201, 203, 204A, 204B, 205, 206, 211, 237, 238, 239, 268A or B or C or D	
Courses in supporting curriculum	**9**
Research methods: ERA 220 ..... (3)	
Individual and group counseling skills: COUN 200, 202 ..... (6)	
Elective	**1**
(Approved by adviser.)	
Culminating Experience	**6**
Choose between (a) 6 units of electives plus comprehensive exam, (b) COUN 298 Project [3 units] plus 3 units of electives, or (c) COUN 299 Thesis [6 units].	
Total	**60**

Note: (1) REHAB 201, 204A, 204B, 237, and 238 must be completed with a grade of ***B*** or better. (2) Students meet the Graduate Writing Requirement by passing the writing component of REHAB 237 or 238. Please refer to the program's Student Manual for additional information.

In order to graduate, the student must complete the graduate writing requirement, two clinical reviews, and all other specific degree requirements. In addition, the student must complete one of the following: (1) the comprehensive exam, (2) the Certified Rehabilitation Counselor Exam, (3) Project, or (4) Thesis.

Doctoral Program in Educational Leadership (Ed.D.) at Fresno State

Sharon Brown-Welty, *Director*

Education Building, Room 310

559.278.0427

www.fresnostate.edu/dpelfs/

The Doctoral Program

The purpose of the Doctoral Program in Educational Leadership is to enhance the talents and skills of individuals who plan to devote their lives to the implementation of educational practices informed by research. Offered by California State University, Fresno, the Ed.D. program provides students with a broad view of educational problems and a strong background in social science theory. In addition, the program prepares students to conduct and interpret inquiries on which sound educational policy and practice can be anchored.

Students in the program benefit from the teaching and research expertise of established scholars and practitioners. The faculty hail from a number of academic disciplines: educational administration, education, anthropology, sociology, business, psychology, linguistics, and economics as well as from surrounding school districts.

All courses are taught in Fresno and are held during the late afternoons, evenings, and/or the weekends to accommodate full-time working professionals.

Graduate Group Faculty

Core

David Andrews
Jacques Benninga
Carol Fry Bohlin
Roy Bohlin
Sharon Brown-Welty
Glenn DeVoogd
Elaine Garan
Juan Carols González
Debra M. Harris
Linda Hauser
Jason Immekus
Pamela Lane-Garon
Kenneth R. Magdaleno
James E. Marshall II
James Mullooly
Diane Oliver
Julie Olson-Buchanan
David E. Tanner
Susan Tracz
Ronald Unruh
Donald Wise

Affiliated

Laura Alamillo
Barbara Bartholomew
Paul Beare
Kathryn Biacindo
Virginia Boris
Walter Buster
William Covino
Jeffrey Cummins
Bruce Friedman
Frank Gornick
Curt Guaglianone
Steven Hart
Barbara Hioco
Jacquelyn Kegley
Carl Kloock
Kien Pham
Randy Schultz
John Stark
Mahmoud Suleiman
Penelope Swenson
Colleen Torgerson
Jianjun Wang

Adjunct

Terry Bradley
Jeri Echeverria
Randy Edwards
Donald Goodyear
Corey Greenlaw
Barbara Hioco
Judith Kuipers
Randy Rowe
Gregory Taylor
Paul Terry

Admission Requirements. Applicants must meet the general admission requirements for California State University, Fresno. These include a master's degree from an accredited institution, a grade point average of at least 3.0 in upper-division undergraduate and master's degree coursework, and evidence of receipt of scores from the Graduate Record Examination (GRE) General Test. Applicants must also demonstrate high potential for educational leadership and scholarly achievement through professional experience, academic accomplishment, and professional recommendations. Applicants who plan to pursue a Professional Administrative Services Credential must complete the required 24 Preliminary Administrative Services Credential units prior to admittance.

The deadline for application to the program is in March. Finalists are interviewed by the Doctoral Program Admissions Committee.

Program Requirements

Students in the program move through three phases of study, comprising 60 units. Phase one comprises nine core courses, phase two comprises specialization courses, and phase three comprises the dissertation. All students move through phase one as a cohort. Students may choose to specialize in pre-K-12 or post-secondary education leadership with a focus on organizational studies; supervision, curriculum, and instruction; assessment and evaluation; and sociocultural contexts.

	Units
Phase 1 — Core	**27**
EDL 501, 502, 503, 504, 506, 507, 508, 509, 511	
Phase 2 — Specialization	**21**
EDL 510, 580T, 590	
Phase 3 — Dissertation	**12**
EDL 599	
Total	**60**

COURSES

Note: Students must provide their own transportation to off-campus sites for classes, observation, student teaching, practice and field activities, and defray any resulting personal expense.

UNDERGRADUATE COURSES

CalStateTEACH (CST)

CST 401. Multiple Subject Credential Module 1: Curriculum, Instruction, and Supervised Teaching in the Elementary School (10 units)
Prerequisite: admission to CalStateTEACH program. Major emphasis on the foundations of education, teaching reading and mathematics, and assessment. ($500 course materials fee)

CST 401A. Beginning Curriculum, Instruction, and Supervised Fieldwork in the Elementary School (7)
Major emphasis on instructional planning and reading/language arts. Taken concurrently with CST 444: CSET Preparation. ($500 course materials fee)

CST 401B. Curriculum, Instruction, and Supervised Fieldwork in the Elementary School (3 units)
Continuation of CST 401A. Major emphasis on foundations of education, instructional planning, reading, and mathematics instruction and assessment. (No course materials fee)

CST 401F. Multiple Subject Supervised Field Experience (3 units)
Supervised field experience participation in assigned elementary school classroom. Taken concurrently with CST 401B. *CR/NC* grading only.

CST 402. Multiple Subject Credential Module 2: Curriculum, Instruction, and Supervised Teaching in the Elementary School (10 units)
Prerequisites: successful completion of CST 401 and subject matter competency (passage of CSET). Continued work in the foundations of education, teaching, reading, and mathematics. Major emphasis in teaching science, language arts, technology, and assessment. ($500 course materials fee)

CST 403. Multiple Subject Credential Module 3: Curriculum, Instruction, and Supervised Teaching in the Elementary School (10 units)
Prerequisite: successful completion of CST 402. Continued work in all curricular areas. Major emphasis in teaching social studies and mathematics, learning theory, and models of discipline. ($500 course materials fee)

CST 404. Multiple Subject Credential Module 4: Curriculum, Instruction, and Supervised Teaching in the Elementary School (10 units)
Prerequisite: successful completion of CST 403. Continued work in all curricular areas. Major emphasis in reading diagnosis and remediation, integrated curriculum, technology, visual and performing arts, and physical education. ($500 course materials fee)

CST 421. Multiple Subject Credential Module 1 (12 units) (A-C, F)
Beginning curriculum and instruction in the elementary school. Major emphases on foundations of education, classroom management, instructional planning, english learners, students with special needs, reading and mathematics instruction, educational technology, and assessment.

CST 421A. Multiple Subject Credential Module 1A (6 units) (A-C, F)
Beginning curriculum and instruction in the elementary school. Major emphases on foundations of education, classroom management, instructional planning, English learners, students with special needs, and educational technology.

CST 421B. Multiple Subject Credential Module 1B (6 units) (A-C, F)
Beginning curriculum and instruction in the elementary school. Major emphases on instructional planning, reading and mathematics instruction, educational technology, and assessment.

CST 421S. Multiple Subject Supervised Fieldwork (3 units)
Supervised early fieldwork participation in an assigned elementary school classroom. *CR/NC* grading only.

CST 422. Multiple Subject Credential Module 2 (12 units) (A-C, F)
Beginning curriculum and instruction in the elementary school. Major emphases on health, classroom management, diversity, science, mathematics, language arts, reading diagnosis and remediation, educational technology, universal design for learning, and assessment.

CST 422A. Multiple Subject Credential Module 2A (6 units) (A-C, F)
Beginning curriculum and instruction in the elementary school. Major emphases on health, classroom management, diversity, science, mathematics, educational technology, universal design for learning, and assessment.

CST 422B. Multiple Subject Credential Module 2B (6 units) (A-C, F)
Beginning curriculum and instruction in the elementary school. Major emphases on language arts, reading diagnosis and remediation, educational technology, and assessment.

CST 422S. Multiple Subject Supervised Initial Student Teaching (3 units)
Supervised initial student teaching in an assigned elementary school classroom. *CR/NC* grading only.

CST 423. Multiple Subject Credential Module 3 (9 units) (A-C, F)
Beginning curriculum and instruction in the elementary school. Major emphases on the integrated curriculum, social studies, educational technology, visual and performing arts, physical education and assessment.

CST 423S. Multiple Subject Supervised Student Teaching (6 units)
Supervised full-day student teaching in an assigned elementary school classroom. *CR/NC* grading only.

CST 444. CSET Preparation (3-6 units)
Prerequisite: admission to CalStateTEACH program. To be taken concurrently with 401A: CSET Track. Only for those students who have not passed the CSET. Designed to further basic skills in math, science, language arts, social studies, fine arts, and physical arts. *CR/NC* grading only.

UNDERGRADUATE COURSES

Counselor Education (COUN)

COUN 102. Rehabilitation Professions (3 units)
(See PHTH 102.) FS

COUN 150. Laws Relating to Children (3 units)
Current and proposed legislation in parent-child relationships, adoption, and guardianship, education of the minor, marriage contract, child labor, juvenile delinquency, and child welfare programs. FS

COUN 174. Introduction to Counseling (3 units)
(Same as PSYCH 174.) An overview of basic counseling models, including psychoanalytic, behavioral, cognitive, and humanistic approaches. Includes a personal counseling experience. FS

COUN 176. Counseling and Mental Health (3 units)
Examination of the relationship between counseling and mental health with emphasis on current issues of adjustment in society. FS

COUN 180T. Topics in Counseling (1-3; max total 12 if no area repeated)
Prerequisite: permission of instructor. Seminar covering special topics relating to counseling: new developments in counseling techniques, special populations, and current research. (Successful Career Development, $10)

COUN 190. Independent Study (1-3; max total 6 units)
See *Academic Placement—Independent Study*. Approved for ***RP*** grading.

GRADUATE COURSES

(See *Catalog Numbering System*.)

Counselor Education (COUN)

COUN 200. Seminar in Counseling Techniques (3; max total 6 units)
Prerequisite: COUN 174. Emphasis given to interviewing skills, philosophy, theory, and methodology as applied to counseling. Students must earn a grade of ***B*** or better to move on to COUN 208. (2 seminar, 2 lab hours)

COUN 201. Seminar in Multicultural Aspects of Counseling (3 units)
Prerequisite: COUN 174. Cognitive and experiential study of social and psychological variables which influence the cross-cultural counseling relationship. Culturally relevant models of counseling theory and practice are explored. Current research methods and findings are presented. (2 seminar, 2 lab hours)

COUN 202. Seminar in Group Counseling (3 units)
Prerequisite: COUN 174, 200. Theories and methods of interpersonal communication within groups, transferal of information, group leadership and membership, role perceptions, verbal and nonverbal interaction, and group counseling. One of the two lab hours consists of mandatory participation in an experiential group. (2 seminar, 2 lab hours)

COUN 203. Seminar in Assessment in Counseling (3 units)
Prerequisite: ERA 153. Selection, administration, and evaluation of psychological tests and psychometric data for use in counseling settings. (2 seminar, 2 lab hours) (Course fee for assessment materials, $10)

COUN 206. Counseling Through the Lifespan (3 units)
Prerequisite: COUN 174. Explores developmental issues and life events from infancy through old age and their effect upon individual, couples and family relationships. The impact of gender, race, ethnicity, class and sexual orientation on developmental process is explored.

COUN 208. Practicum in Counseling (4; max total 8 units)
Prerequisites: 12 units in counseling program, including COUN 200. Supervised on-campus counseling experiences with selected clients. Experience in individual counseling, critiquing of tapes and typescripts, observations, and case report writing. Students must carry professional liability insurance. Students must earn a ***B*** or better to take COUN 219, 238, 239, or 249. (2 seminar, 4 lab hours)

COUN 209. Advanced Practicum in Counselor Supervision (3; max total 6 units)
Prerequisites: COUN 200 and permission of instructor. Content provides an introductory experience with the role of counselor supervisor. Focuses on the supervisory processes in terms of theoretical perspectives and practices of supervision. Enrollment is by faculty permission only.

COUN 211. Seminar in Sexuality Counseling (3 units)
Presents an overview of theories and research for the treatment of sexual issues, emphasizing relational and social contexts. Topics covered include sexual disorders, sexual abuse, and gay/lesbian/bisexual issues. (Formerly COUN 280T)

COUN 214. Student Development Theory and Higher Education (3 units)
Offers an examination of the major theories of college student development. Theories are presented with an exploration of the conceptual framework, relevant research and criticism, and counseling applications. Implications for multicultural and ethical practice are presented throughout the course.

COUN 215. Foundations of Student Services in Higher Education (3 units)
Overview of the philosophical and practical foundations of student services in higher education. Covers historical and current trends and issues facing the student services professional in higher education. Visit with representatives from student services. Discusses ethical, legal, and professional identity development.

COUN 219. Field Practice in Student Services (3; max total 9 units)
Prerequisites: COUN 200, 208, and permission of instructor. Supervised practice in a community college or university. Typically requires a one-year commitment with specific clock-hour requirements. Students must carry professional liability insurance. Approved for ***RP*** and ***CR/NC*** grading. *Note*: If taken a third time the units could be used toward electives.

COUN 220. Seminar in Career Development Theory (3 units)
Prerequisite: COUN 174. Examination of career development theories and research for their implications in understanding career development generally and career counseling specifically. (2 seminar, 2 lab hours) (Course fee for assessment materials, $10)

COUN 230. Seminar in Marriage and Family Therapy Theories (3 units)
Prerequisite: COUN 174. Study of theories, techniques, and methodology of marriage and family therapy. Current research and methods are presented. (2 seminar, 2 lab hours)

COUN 231. Seminar in Ethics and Professional Practices of Marriage and Family Therapy (3 units)
Prerequisites: COUN 200 or permission of instructor; COUN 230 taken concurrently or completed prior to enrollment. Addresses professional concerns, including legal/ethical issues, professional identity, and Board of Behavioral Sciences regulations. Introduces family mediation and professional consultation. Includes a minimum of seven training hours in child abuse assessment and reporting in accordance with MFT licensing requirements.

COUN 232. Psychopathology and the Diagnostic and Statistical Manual of Mental Disorders (3 units)
Prerequisite: COUN 174, 176 or equivalent. Analysis of psychopathology within the framework of the current DSM. Emphasis on integrating the etiology of the disorders with diagnosis, theory and treatment.

COUN 233. Seminar in Therapeutic Methods with Children, Adolescents, and Their Families (3 units)
Prerequisites: COUN 206 and 230 recommended. Theories and methods for assessing and treating children, adolescents, and their families. Emphasis is placed on strength-based approaches, play therapy, and current issues in child/adolescent treatment. Covers parent education.

COUN 234A. Contemporary Issues in MFT: Sexuality in Human Relationships (1 unit)
Course provides an overview of the role of sexuality in human relationships, including a review of sexual abuse, gay/lesbian/bisexual issues, sexual dysfunctions, and intimacy issues. Emphasis on treatment and interventions with couples. Course fulfills Board of Behavioral Sciences (BBS) requirement for human sexuality training.

COUN 234B. Contemporary Issues in MFT: Violence in Intimate Relationships (1 unit)
Provides an overview of the sociological, systematic, clinical, and treatment aspects of violence in intimate relationships. Emphasis on assessment and intervention issues for individuals, couples, and families. Course meets BBS requirement for domestic violence training.

COUN 234C. Contemporary Issues in MFT: Substance Abuse Treatment (1 unit)
Course provides overview of substance abuse counseling issues with an emphasis on treatment of the family system. Course meets BBS requirements for substance abuse training.

COUN 234D. Psychopharmacology (2 units)
Prerequisites: COUN 232; REHAB 204A or 204B. Provides a general working knowledge of psychopharmacology for mental health professionals. Covers the biological bases of psychopharmacological treatment, principles of psychopharmacological treatment, and clinical psychopharmacology, which is the effect on client behavior of psychotropic medications in the treatment of mental and emotional disorders.

COUN 234E. Seminar in Consultation (1 unit)
Prerequisites: COUN 174 and permission of instructor. Introduces students to the concepts, processes, and styles of consultation and highlights the role of counselors as consultants. Emphasis placed on comparing and contrasting consultation to other helping roles.

COUN 238. Practicum in Marriage and Family Therapy (4; max total 8 units)
Prerequisites: COUN 208, 230, 232, and permission of instructor; COUN 231 taken concurrently or completed prior to enrollment. Supervised clinical experiences with families, couples, and/or children. Training in family systems assessment and family communication techniques. Students must carry professional liability insurance. Course must be completed with a grade of *B* or better.

COUN 239. Field Placement in Marriage and Family Therapy (3-12; max total 12 units)
Prerequisites: COUN 231; 40 units in counseling program, including COUN 200, 208, 238, and permission of instructor prior to semester of enrollment. Supervised practice of marriage and family therapy. Settings may include community agencies, school therapy programs, and hospitals. Typically requires a one-year commitment with specific clock-hour requirements. Students must carry professional liability insurance. Approved for *RP* and *CR/NC* grading.

COUN 240. Seminar in Counseling of Exceptional Children and Their Parents (3 units)
Theories and techniques in working with parents of exceptional children; emphasis placed on individual and group counseling skills with parents; direct contact with families, case study, and current legislation. (2 seminar, 2 lab hours)

COUN 241. Seminar in Organization of Counseling Services (3 units)
Prerequisite: COUN 200. Organization, administration, and evaluation of counseling programs. (2 seminar, 2 lab hours)

COUN 242. Seminar on Parent Education, Pupil Advocacy, and Consulting (3 units)
Prerequisites: COUN 174 and 200 or equivalent. Emphasis on current theory and methods of parent education, pupil advocacy, and consulting. Examination of current models in each area including ethical standards, legal concepts, and professional responsibilities. (2 seminar, 2 lab hours)

COUN 249. Field Practice in School Counseling (4-8; max total 12 units)
Prerequisites: COUN 200, 208, and permission of instructor. Supervised counseling practice in school settings. Students must carry professional liability insurance. Required for the Pupil Services credential in school counseling. Approved for *RP* and *CR/NC* grading.

COUN 280T. Advanced Topics in Counseling (1-3; max 12 if no topic is repeated)
(See REHAB 280T.)

COUN 290. Independent Study (1-3; max total 6 units)
(See REHAB 290.)

COUN 298. Project (3 units)*
(See REHAB 298.)

COUN 299. Thesis (3 units)*
(See REHAB 299.)

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSES

(See *Catalog Numbering System*.)

Counselor Education (COUN)

COUN 303. Human Interaction in Counseling (1-3; max total 12 if no topic repeated)
An exploration of human interaction skills. The course is designed to improve the ability to interact with others. Not applicable toward degree requirements.

COUN 380T. Topics in Counseling (1-3; max total 12 if no topic repeated)
Selected areas in counseling; placement skills, vocational evaluation, research, medical history, case management, mental health, counseling strategies, and theoretical orientation. Not applicable toward degree requirements.

UNDERGRADUATE COURSES

Curriculum and Instruction (CI)

CI 100. Educational Applications of Technology (3 units)
Use of multiple applications of current and emerging technologies to increase subject matter knowledge and understanding. Evaluation of technologies as effective tools of learning. Exploration of ethical and social issues related to technology. (2 lecture, 2 lab hours) **FS**

CI 101. Educational Applications of Technology for Secondary Teachers (3 units)
Use of multiple applications of current and emerging technologies to increase knowledge and understanding of secondary teachers. Evaluation of technologies as effective tools of learning. Exploration of ethical and social issues related to technology. (2 lecture, 2 lab hours) **FS**

CI 123. Classroom Management (2 units)
Classroom organization, management, and mainstreaming including focus on the culturally, linguistically diverse student. **FS**

CI 124. Principles of Character Education (1 unit)
Prerequisites: senior status or credential student status. An elective one-unit class designed for students of senior status who seek admission to Fresno State credential program or for current credential students. Provides an introduction to and background of character education as required by the California Education Code Section 233.5(a). Normally offered as a one-unit, two-day weekend course. (Formerly CI 180T)

CI 127. Exploring Child Abuse Issues for Teachers (1 unit)
Helps students, teachers, and teaching candidates develop realistic perspectives on child abuse. Focus is on identifying, assessing, and documenting child maltreatment. Covers knowledge, application, and documentation of the California Mandated Reporting Laws. (Formerly CI 180T)

CI 137. Creative Dramatics (3 units)
(See DRAMA 137.) **FS**

CI 149. Curriculum, Instruction, and Technology in Secondary Classrooms (3 units)
Use of research to inform decisions about instructional planning, pedagogical strategies, assessment, and classroom organization to facilitate learning for all students in secondary classrooms. Use of current and emerging technologies to enhance learning. **FS SU**

CI 150ECE. Managing Early Learning Environments (1 unit)
Appropriate for Early Childhood Emphasis, Multiple Subject Credential candidates in their second semester of the teacher education program. Introduces pre-service teachers to a variety of psychological approaches to managing early learning environments. *CR/NC* only. **FS** (Formerly EHD 111)

CI 151. Social Contexts of Teaching and Learning (3 units)
Prerequisite: admission to the Single Subject Credential Program. Foundations of education contemporary issues; legal responsibilities; effective involvement with family and community. **FS SU**

CI 152. Adolescent Learning and Development (3 units)
Prerequisites: admission to Single Subject Credential Program. Psychological theories of teaching and learning, growth and development of adolescents, motivation, classroom management, and student performance and assessment issues. **FS SU**

CI 158. Communication and Learning (3 units)
(See COMM 114.) No credit will be given if the student has taken COMM 114. **FS** (Formerly CTET 158)

CI 159. Curriculum and Instruction in Secondary Schools (3 units)
Prerequisites: admission to the Single Subject Credential Program and concurrent enrollment in EHD 155A. Instructional planning, methodologies of teaching and learning, evaluation techniques, motivation, classroom management, technology integration, and preparation and evaluation of materials. Lesson demonstration and analysis. (2 lecture, 2 lab hours) (Instructional materials fee, $5) **FS**

CI 161. Content Area Methods and Materials in Secondary Teaching (3 units)
Prerequisites: CI 149; admission to the Single Subject Credential Program and concurrent enrollment in EHD 155A or EHD 155B. Planning, delivering, and assessing content-specific instruction; academic and common core standards; identifying specific standards that require literacy strategies. (Instructional materials fee for Single Subject - Art Methods and Materials enrollees, $10)

CI 171. Understanding the Learner, Instructional Design, and Assessment (3 units)
Prerequisites: admission to the Multiple Subject Credential Program. Students not concurrently enrolled in EHD 174 need to make special arrangements with instructor. Course focuses on applied psychology, developmental/learning theory, research, and assessment as it relates to the learner. Students examine the design of integrated curriculum in K-8 classrooms and investigate reforms, curricular theories, and instructional models. **FS SU** (2 lecture, 2 lab hours)

CI 171ECE. Psychological Contexts of Teaching and Learning (3 units)
Prerequisites: admission to Multiple Subject Credential, Early Childhood Education Program. Explores child context (0-8). Examines typical/atypical development, psychological theory, research, practice, and current issues. (2 lecture, 2 lab hours) **FS**

CI 175. Science Instruction and Applied Technology (3 units)
Prerequisites: CI 171, LEE 172, LEE 173, EHD 174. Students not concurrently enrolled in EHD 178 need to make special arrangements with instructor. Course is designed to prepare teacher candidates to effectively and equitably teach elementary school science and to use contemporary instructional technologies in culturally and linguistically diverse classrooms. (2 lecture, 2 lab hours) (Instructional materials fee, $5) **FS**

CI 176. Mathematics Instruction and Applied Assessment (3 units)
Prerequisites: CI 171, LEE 172, LEE 173, EHD 174. Students not concurrently enrolled in EHD 178 need to make special arrangements with instructor. Course is designed to prepare teacher candidates to plan instruction based on the assessment of students' mathematical understanding and to teach mathematics using multiple strategies and methods in culturally and linguistically diverse elementary classrooms. (2 lecture, 2 lab hours) **FS**

CI 180T. Topics in Curriculum, Teaching, and/or Educational Technology (1-3; max total 9 units)
Issues and topics in curriculum and instruction; elementary, middle school, and secondary education; technology, and computer literacy. **FS**

CI 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

GRADUATE COURSES

(See *Catalog Numbering System.*)

Curriculum and Instruction (CI)

CI 210. Current Issues and Trends in Mathematics Education (3 units)
Examination and analysis of state, national and international issues related to K-12 mathematics curriculum, instruction, and assessment with implications for teachers, educational leaders, and policy makers. Provides professional development resources for mathematics teachers at all instructional levels.

CI 212. Mathematics Education in the Primary Grades (3 units)
Mathematics content and methods for primary grades. Focus is on using research about children's mathematical understanding and mathematics classrooms to inform instructional decisions.

CI 225. Integration of Technology across the Curriculum (3 units)
Prerequisite: CTC Level 1 technology requirements and completion of final stu-

dent teaching, or admission to a graduate program, or permission of department chair. Appropriate use of advanced technologies to enhance teaching and learning: accessing and evaluating information, analyzing and solving problems, and communicating ideas. Meets CTC Level 2 technology requirements. (2 lecture, 2 lab hours)

CI 227. Current Issues and Trends in Educational Technology (3 units)
Focuses on the social, economic, and psychological impacts of technology on schools, teaching, and learning. Students examine issues from a historical perspective and formulate a vision of the future of educational technology through readings, discussions, and research.

CI 229. Designing Virtual Realities for Education (3 units)
Provides students with the skills and knowledge to design virtual reality representations of partner institutes in the region. Working in groups, students create educational products that will be posted on the Web.

CI 230. Planning and Implementing Innovative Technology Programs (3 units)
Strategies for implementing change in educational settings; planning for equitable technology use; planning and instituting effective staff development programs; managing resources, including networking equipment; locating, developing, and coordinating funding sources; and gaining parent and community support.

CI 240. Social Justice and the Multicultural Classroom (3 units)
Cultural and political contexts of schooling; foundations of education. Students learn how to enhance educational equity by providing multicultural curriculum, culturally responsive pedagogy, and culturally appropriate assessment. They conduct Web-supported classroom research and use Web-based collaborative tools with teachers, families of pupils, and community members.

CI 241. Teaching for Equity and Justice in the Multicultural Classroom: Practice into Theory (3 units)
Theory and practical application of multicultural curriculum design. Continued attention to learning theory, instructional theory, and the role of technology in education. Focus is on what knowledge is most worth teaching, given curriculum standards and the explosion of knowledge in a diverse society.

CI 245. Investigating Practice in the Diverse Classroom: Practitioner Research (4 units)
Overview of the epistemological, political, and methodological issues associated with teacher/practitioner research, its progress historically, and the specific questions and issues investigated through teacher/practitioner research. Investigation of multicultural teaching as reflected in curriculum, teacher practice, and assessment of student learning.

CI 246. Action Research in the Multicultural Classroom: Capstone Project and Dissemination (4 units)
Corequisite: CI 260, 298B, or 299B. Culminating learning experience for the Master of Arts in Teaching (MAT) program. Students then disseminate their Action Research Project through digital display and a multimedia presentation. Enrollment limited to students admitted to the MAT program.

CI 250. Advanced Curriculum Theory and Analysis (3 units)
Theory and practice of curriculum development, evaluation, and revision. Study of contemporary problems and curriculum approaches to meet societal needs. (2 lecture, 2 lab hours)

CI 260. Critical Pedagogy (4 units)
Students develop knowledge and skills to critically examine and improve planning, instructional decisions, assessment, and student learning. Students engage in systematic reflection of teaching practices consistent with multicultural social justice education.

CI 274. Social Interaction in Teaching (3 units)
In-depth study of the dynamics of effective interpersonal relations in the classroom with students and beyond — with administrators, parents, and colleagues. Strategic interaction for creative, low-stress teaching and learning based upon related theory and research. (2 seminar, 2 lab hours)

CI 275. Advanced Instructional Theories and Strategies (3 units)
Study and application of contemporary research and theory in teaching and instruction.

CI 280T. Advanced Topic (1-3; max total 9 if no topic repeated)
Prerequisite: permission of instructor. Advanced, in-depth analysis of issues and problems in curriculum and instruction; elementary, middle school, and secondary education; technology and computers in education. Emphasis placed on advanced research.

CI 282. Philosophy of Education (3 units)
Seminar on philosophical issues in educational theory and practice and their historical backgrounds. Educational implications of current and historical systematic philosophical outlooks and ideological trends.

CI 284. Seminar in International Education (3 units)
Analysis of historical, social, and political forces which shape national education endeavors. Emerging international education efforts and organizations.

CI 285. Seminar in Advanced Educational Psychology (3 units)
Prerequisite: minimum 3 units from the following — CI 152, CI 171, COUN 174, or PSYCH 101 or permission of instructor. Seminar on the psychological foundations of education; nature and characteristics of development, learning processes, and forces which affect educational growth.

CI 286. Social Issues in Education (3 units)
Prerequisites: minimum 3 units from the following — CI 151, CI 171, or a course in anthropology — or permission of instructor. Seminar for analysis of effect on institutional and ideological trends and prob-lems on the role and operation of the school in American society.

CI 287. Seminar in History of Educational Thought (3 units)
Prerequisites: CI 282 or philosophy course or permission of instructor. Seminar on historical foundations of educational theory; growth of thought regarding teaching and learning; relationship of educational theory and practice in the United States.

CI 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

CI 298A. Project - Curriculum and Instruction (3 units)*
Prerequisites: advancement to candidacy for the M.A. in Education (Curriculum and Instruction Option); ***B*** average in all MAE coursework, including ERA 220. The project is a significant, original product in the area of curriculum and/or instruction. See MAE - C&I Thesis and Project Guidelines for details. Approved for ***RP*** grading. (Formerly CI 298)

CI 298B. MAT Project (4 units)*
Prerequisites: advancement to candidacy for the M.A. in Teaching; ***B*** average on initial 13 units of the MAT, including ERA 243. See *Criteria for Thesis and Project*. The action research project consists of a significant undertaking appropriate to multicultural social justice education such as the development and refinement of curricula and instructional materials, educational policy, educational theory, and educational technology. An approved proposal is required for enrollment. Approved for ***RP*** grading. (Formerly CI 298)

CI 299A. Thesis - Curriculum and Instruction (3 units)*
Prerequisites: advancement to candidacy for the M.A. in Education (Curriculum and Instruction Option); ***B*** average in all MAE coursework, including ERA 220. The thesis involves a systematic study of a significant problem and demonstrates original, critical, and independent thinking. See MAE - C&I Thesis and Project Guidelines for details. Approved for ***RP*** grading. (Formerly CI 299)

CI 299B. MAT Thesis (4 units)*
Prerequisites: advancement to candidacy for the M.A. in Teaching; ***B*** average on initial 13 units of the MAT, including ERA 243; completion of an acceptable action research thesis proposal. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the M.A. in Teaching. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for ***RP*** grading. (Formerly CI 299)

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Curriculum and Instruction (CI)

CI 380T. Topics in Education (1-6; max total 12 units)
Studies in theory, procedures, and application in such areas as social forces, professional activities, technology, and instructional innovations.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Education Administration (EAD)

EAD 259. Conflict Resolution in Organizations (1 unit)
Highlights issues related to conflict resolution in organizations. Topics include defining and diagnosing conflict, communication, power as a variable of conflict, steps in resolving conflict, defining positions, interests and needs, negotiation, mediation, and arbitration.

EAD 261. Introduction to Education Administration (3 units)
Initial course in education administration sequence. Development of knowledge and skills central to managing educational organizations.

EAD 262. Educational Leadership (3 units)
Prerequisites: EAD 261. Initial course in education leadership. Development of knowledge and skills essential to organizational leadership.

EAD 263. Seminar in Instructional Supervision (4 units)
Prerequisites: EAD 261, 262. Seminar for clarification and application of modern concepts and techniques of supervision; practice in leadership roles, promoting productive human relationships, developing communication skills, and evaluation of teaching; ways of helping teachers in their credential fields.

EAD 264. Seminar in the Legal Aspects of Education (2 units)
Prerequisite: EAD 261. A case study approach in reviewing important court decisions, both state and federal, that have directly affected the public schools. Legal relationships in public education applied to federal, state, and local levels.

EAD 265. Seminar in School-Community Relations (2 units)
Prerequisite: EAD 261. Seminar on interaction with community forces, news media, political agencies, and minority groups in policy analysis and development; data-based decision-making and analysis.

EAD 266. Seminar in School Finance and Business Administration (2 units)
Prerequisite: EAD 261. Economic perspectives and practices of school finance and business administration; local, state, and federal responsibility for financial support of education. (2 seminar hours)

EAD 269. Site-Based Leadership (4 units)
Prerequisites: EAD 261, 262, 263, 272. Includes essentials of site leadership: school law, finance, community relations, personnel, and support services. In-depth research into restructuring, teacher empowerment, and student achievement in culturally diverse schools.

EAD 272. Advanced Curriculum Design and Development (4 units)
Prerequisites: EAD 261. Nature and scope of curriculum development; administrative determiners of curriculum; influence of governmental agencies and organizations, foundations, business and industry, and power structures as curriculum determiners; international influence on curriculum development and curriculum evaluation at various levels of governmental operation.

EAD 273. Ethical and Professional Issues in Education Administration (3 units)
Prerequisite: Preliminary Administrative Services Credential or permission of instructor. Seminar on the ethical and professional issues of administrative professionalism, examined in the context of the various roles the administrator is expected to perform as a practitioner.

EAD 274. Instructional Systems and Leadership for Equity (3 units)
Equips students with the knowledge and skill to create systemic and systematic responses to address the diverse levels of student need. Addresses using evidence of student learning to create and deeply embed a culture of equity and continuous improvement.

EAD 275. Seminar in Advanced Techniques of Personnel Administration in Education (2 units)
Prerequisite: EAD 261. Advanced techniques of staff improvement in-service, staff participation in policy making, improvement of communication channels and methods of communication, economic and contractual relationships, and improvement of working conditions; work and responsibility of nonteaching staff members.

EAD 278T. Topics in Advanced Education Administration (1-3; max total 8 units)
Prerequisite: preliminary credential or permission of instructor. Seminar covering special topics relating to education administration: new developments in education administration, special populations, and current research.

EAD 279. Advanced Administration Fieldwork and Mentoring (1-8; max total 8 units)
Prerequisites: employment in a position requiring an Administrative Services Credential and permission of instructor. Supervision of Professional Administrative Services Credential candidates in their place of employment. The type of assignment will depend on requirements of the university and will be individually developed in cooperation with candidate's employer. Includes seminar discussions of field experience and required research *CR/NC* only. (40 hours required for 1 unit)

EAD 280T. Topics in Professional Development (1-3; max total 4 units)
Prerequisite: preliminary credential or adviser permission. Advanced-level studies in theory, procedures, and application of education administration principles. Includes such topics as: community advisory committees, marshalling resources, interventions for school improvement, technology utilization, and restructuring. *CR/NC* grading only.

EAD 281. Transformational Leadership (2 units)
Prerequisite: EAD 283 and permission of instructor. A course for experienced practitioners in organizational development. Interventions for restructuring, including site-based management, staff development, strategic planning, and team building, as well as individual and community interventions aimed at transforming schools and other organizations into world-class operations.

EAD 283. Professional Development Induction (2 units)
Prerequisites: preliminary administrative services credential, full-time employment in an administrative position, and permission of instructor. A professional development course is required for the professional administrative services credential. First course among the advanced credential requirements. *RP* or *CR/NC* grading only.

EAD 284. Professional Development Assessment (2 units)
Prerequisites: completion of professional administrative services credential coursework and permission of instructor. A professional development course is required for the professional administrative services credential to verify satisfactory completion of the induction plan and individualized course of study to meet the advanced credential requirements. Final course among the advanced credential requirements. *CR/NC* grading only.

EAD 287. Internship I (3 units)
Prerequisites: employment in a position requiring an administrative services credential, concurrent enrollment in EAD 261, and permission of adviser. Supervised administrative practice with emphasis on leadership, school management, classroom supervision, and community relations, while employed in a full-time position requiring an administrative services credential. Includes seminar discussions of internship experiences, professional development plan, and required research. *CR/NC* grading only.

EAD 288. Internship II (3 units)
Prerequisites: employment in a position requiring an administrative services credential, completion of EAD 261, 262, 272, and CI 285, taken concurrently with EAD 263 and 269, and permission of adviser. Supervised administrative practice with emphasis on continuation of professional development plan, leadership, school management, classroom supervision, and community relations. Student must be employed in a full-time position requiring an administrative credential. Includes seminar discussions of internship experiences and required research. *CR/NC* grading only.

EAD 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for *RP* grading.

EAD 298. Project (4 units)*
Prerequisites: advancement to candidacy for the master's degree; *B* average on 24 units of the master's program including ERA 220. See *Criteria for Thesis and Project.* A project consists of a significant undertaking appropriate to graduate study in education. An approved proposal is required for enrollment. Approved for *RP* grading.

EAD 299. Thesis (4 units)*
Prerequisites: advancement to candidacy for the master's degree; *B* average on 24 units of the master's program including, ERA 220 and completion of an acceptable thesis proposal. See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for *RP* grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Education Administration (EAD)

EAD 380T. Topics in Educational Administration (1-6; max total 12 units)
Studies in theory, procedures, and application in such areas as social forces, professional activities, technology, and instructional innovations.

DOCTORAL GRADUATE COURSES

Educational Leadership (EDL)

EDL 501. Organizational Theory in Complex Organizations (3 units)
Prerequisite: admission to the program. Seminar. Combines alternative views of organizational theory with applications to the structure of the school; to critical roles played by teachers, principals and other school personnel; and to examine the relationships among structural elements of schools. (Formerly EDL 201)

EDL 502. Educational Reform (3 units)
Prerequisite: admission to the program. Seminar. Examines change in education settings in the context of organizational theory, structure, and culture; change processes; and change leadership strategies and styles. K-12 educational settings and higher education settings are used to test theories and change strategies. (Formerly EDL 202)

EDL 503. Educational Policy Environments (3 units)
Prerequisite: admission to the program. Seminar. Determinants of policy in educational organizations and leadership. Analysis of structures used for legal, fiscal and political decisions and conflict management. Role of the educational leader in relation to intergovernmental activities aimed at educational reform. (Formerly EDL 203)

EDL 504. Advanced Applied Quantitative Methods (3 units)
Prerequisites: admission to the program or permission of instructor. Seminar. Examines advanced research methodologies and data analysis techniques applicable to education and social science settings. Topics include experimental and quasi-experimental design, advanced statistical techniques, sampling distributions, nonparametric statistics, inference

and hypothesis testing. Specific applications to the work of the education leader. (Formerly EDL 204)

EDL 506. Conceptual Curriculum Perspectives for Educational Leadership (3 units)
Prerequisites: admission to the program and EDL 501. Seminar. Students will develop the philosophical and analytical skills to examine curriculum theory and practice, including the conceptualization of purposes of the organization of subject matters, and of the instructional methods. (Formerly EDL 206)

EDL 507. Applied Qualitative Research Methods (3 units)
Prerequisite: admission to the program. Seminar. Examines the purpose and nature of qualitative research including current applications in educational settings. Emphasis is directed toward critical analysis of current qualitative studies and will include field-based application. (Formerly EDL 207)

EDL 508. Theories of Cross-Cultural Education (3 units)
Prerequisite: admission to the program. Seminar. Designed to explain and discuss the most relevant theoretical approaches dealing with cross-cultural, multicultural education. As diverse and conflicting perspectives are examined, students will experience the complexity of views and perceptions dealing as leaders with multicultural populations coexisting in a pluralistic society. (Formerly EDL 208)

EDL 509. Advanced Applied Educational Research and Measurement (3 units)
Prerequisite: admission to the program. Review of approaches to designing and conducting educational research, including ethical issues. Emphasis on reading and evaluating research literature and designing research projects. Includes psychometric theory, validity and reliability of tests, professional testing standards, and hands-on experience with test evaluation. (Formerly EDL 209)

EDL 510. Field-based Research Practicum in Organizational Settings (1-3; max total 3 units)
Prerequisites: admission to the program, EDL 501-508 and 511, and permission of the director. Engages students in studies relevant to field settings. Includes collecting and analyzing both qualitative and quantitative data related to improving educational practice and/or solving school problems. Expected to relate to prospective dissertation topic and proposal possibilities. (Formerly EDL 210)

EDL 511. Educational Evaluation, Assessment, and Planning (3 units)
Prerequisite: admission to the program. Examines assessment practices, planning strategies, and evaluation processes in K-12 and higher education settings. Addresses current issues and trends in the field of education related to school accountability. (Formerly EDL 211)

EDL 520. School Leadership for Reading Instruction (3 units)
Students analyze forces driving reading/language arts mandates and their impact on the implementation of reading curricula. Using philosophical and corporate underpinnings of the "Reading Wars," students discover the praxis between theory, research, and practice. (Formerly EDL 280T, EDL 220)

EDL 521. Human Resource Leadership in Schools (3 units)
Application of human resource management theory, empirical findings, and best practices to school leadership. Examines HR theories and practices, including recruitment, staffing, motivation, performance, management, and development, emphasizing the strategic role of HR in enhancing organizational effectiveness. (Formerly EDL 280T, EDL 221)

EDL 523. School Resource Management and Fiscal Planning (3 units)
Develops advanced skills to effectively manage internal and external resources within the school setting. Provides an overview for leveraging external resources, obtaining grants, developing external partners, and examining issues and studies related to financing public education. (Formerly EDL 280T, EDL 223)

EDL 524. School Law (3 units)
Examination of federal law, California Educational Code, California Code of Regulation, and program implementation. Covers freedom of expression, separation of church and state, personnel law, liability, governance requirements, and special education. (Formerly EDL 280T, EDL 224)

EDL 540. Resources and Fiscal Planning in Higher Education (3 units)
Covers how resource allocation is determined in a higher education system structure. Examines approaches to budget development using knowledge of traditional and nontraditional financial resources available to colleges, which are a major strategic aspect of higher educational financial planning. (Formerly EDL 280T, EDL 240)

EDL 580T. Topics in Educational Leadership (1-3; max total 15)
Prerequisites: admission to the program, EDL 501-508 and 511, and permission of the director. Topics and issues in educational leadership in the areas of organizational studies, curriculum, instruction and supervision, assessment and evaluation, and sociocultural studies. Analysis of research findings and an emphasis on the relationship of theory to practice. (Formerly EDL 280T)

EDL 590. Individual Study (1-18; max total 18)
Prerequisites: admission to the program, EDL 501-508 and 511, and permission of the director. Research for individual doctoral graduate students. *CR/NC* grading. Approved for *RP* grading. (Formerly EDL 290)

EDL 599. Dissertation (0-12; max total 12 units)
Prerequisites: advancement to candidacy for the Doctorate in Education and a minimum GPA of 3.0. Submission of approved dissertation. See *Criteria for Dissertation*. *CR/NC* grading. Approved for *RP* grading. (Formerly EDL 299)

EDL 599C. Dissertation Continuation (0)*
For continuous enrollment while completing the dissertation. Approved for *RP* grading. (Formerly EDL 299C)

* For 299C courses, see *Graduate Studies*.

UNDERGRADUATE COURSES
Education and Human Development (EHD)

EHD 50. Introduction to Teaching (3 units)
Orientation to role of teacher in public schools; 45 observation hours of teacher-pupil interaction, instructional approaches, classroom management in elementary, secondary, and/or middle schools; two-hour lecture weekly, plus two-hour school site observation weekly, not including travel. **FS SU**

EHD 107. Child Abuse (3 units)
Develops perspectives on child abuse and child victimization. Assessment, treatment, and prevention of child abuse/neglect are covered. Other areas include: effects of divorce, media, and war on the lives of children and children's rights. Course meets licensure and licensure renewal requirements for many professional groups. **FS**

EHD 110D. Initial Student Teaching: Dual (4 units)
Prerequisites: admission to Multiple Subject Program; SPED 120. Supervised activities and teaching in public school classrooms including general and special education settings. *CR/NC* grading only. (Instructional materials fee, $7) **FS SU**

EHD 154A. Initial Student Teaching Seminar (1 unit)
Seminar to accompany initial student teaching that provides opportunities for candidates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching experience. *CR/NC* grading only.

EHD 154B. Final Student Teaching Seminar (1 unit)
Prerequisites: concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching experience. *CR/NC* grading only.

EHD 155A. Student Teaching in Secondary School (4 units)
Prerequisites: admission to the Single Subject Credential Program; admission to initial student teaching; CI 149; subject matter competency. Concurrent enrollment in CI 154A. Student teaching under clinical supervision; assignment requires 3 hours per day, Monday through Friday. *CR/NC* grading only. (Instructional materials fee, $15) **FS**

EHD 155B. Student Teaching in Secondary School (5 or 10; max total 10 units)
Prerequisites: admission to final student teaching; EHD 155A. Concurrent enrollment in CI 154B. Supervised teaching in a single subject classroom; assignment is for the full day; five days per week. *CR/NC* grading only. **FS**

EHD 160A. Part-Time Multiple Subject Student Teaching I (5)
Prerequisites: completion of Phase 2 Multiple Subject, CI 175, CI 176, LEE 177, EHD 178. Clearance for Final Student Teaching. Supervised teaching in public school classrooms; teaching experience requires a minimum of one-half day, five days per week. *CR/NC* grading only. (Instructional materials fee, $5) **FS**

EHD 160B. Part-Time Multiple Subject Student Teaching II (5)
Prerequisites: completion of EHD 160A. Supervised teaching in public school classrooms; requires a minimum of one-half day, five days per week. Teaching experience culminates in assuming all full-day classroom responsibilities for at least two weeks. *CR/NC* grading only. (Instructional materials fee, $5) **FS**

EHD 170. Field Study C (9 units)
Prerequisites: completion of Phase 2 Multiple Subject, CI 175, CI 176, LEE 177, EHD 178. Clearance for Final Student Teaching. Concurrent enrollment in SPED 179. Supervised full-day, semester-long student teaching experience that culminates in assuming all classroom responsibilities for at least two weeks. Minimum required hours are Monday through Friday from 1/2 hour before school starts until at least 1/2 hour after the school day ends. *CR/NC* grading only. (Instructional materials fee, $10) **FS**

EHD 170A. Field Study C Seminar (2 units)
Prerequisite: concurrent enrollment in EHD 170. This seminar accompanies Field Study C to provide opportunities for candidates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching. *CR/NC* grading only.

EHD 170ECE. Field Study C (9 units)
Prerequisites: completion of Phase 2 Multiple Subject Credential, Early Childhood Education Program (CI 175, LEE 177ECE, LEE 148, CI 150ECE, EHD 178ECE); concurrent enrollment in SPED 120 recommended. Supervised full-day, semester-long student teaching experience that culminates in assuming all classroom responsibilities for at least two weeks. Minimum required hours are Monday through Friday from 1/2 hour before school starts until at least 1/2 hour after the school day ends. *CR/NC* grading only. (Instructional materials fee, $10.) **FS**

EHD 174. Field Study A/Grades 4-8 (2 units)
Prerequisites: admission to the Multiple Subject Credential program. CI 171 and LEE 172 or concurrent enrollment. Concurrent enrollment in LEE 173. Supervised field experience in a 4-8 grade classroom. First in a sequence of three field placements preparing teacher candidates to teach in culturally and linguistically diverse classrooms. Requires a minimum of 6 hours a week over two afternoons, plus seminars. *CR/NC* grading only. **FS SU**

EHD 174A. Field Study A Seminar (1 unit)
Prerequisite: concurrent enrollment in EHD 174. This seminar accompanies Field Study A to provide opportunities for candidates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching experience. *CR/NC* grading only.

EHD 174ECE. Field Study A (2 units)
Prerequisites: admission to Multiple Subject Credential, Early Childhood Education Program; concurrent enrollment in LEE 173ECE; completion or concurrent enrollment in CI 171ECE and LEE 172ECE. Supervised field experience in a 4-8 classroom; includes lesson planning as well as teaching reading and mathematics. *CR/NC* grading only. **FS**

EHD 178. Field Study B/ Grades K-3 (2 units)
Prerequisites: CI 171, LEE 172, LEE 173, EHD 174. CI 175 and CI 176 must be taken prior to or concurrently with this course. Concurrent enrollment in LEE 177. Supervised field experience in a K-3 classroom. Second of three field placements preparing teacher candidates to teach in culturally and linguistically diverse classrooms. Requires a minimum of 12 hours a week (weekday mornings), plus seminars. *CR/NC* grading only. (Instructional materials fee, $7) **FS**

EHD 178A. Field Study B Seminar (1 unit)
Prerequisite: concurrent enrollment in EHD 178. This seminar accompanies Field Study B to provide opportunities for candidates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching experience. *CR/NC* grading only.

EHD 178ECE. Field Study B (2 units)
Prerequisites: completion of Phase 1 Multiple Subject Credential, Early Childhood Education Program (CI 171ECE, LEE 172ECE, LEE 173ECE, EHD 174ECE, CI 176); concurrent enrollment in LEE 177ECE and LEE 148. Phase 2 supervised field experience in culturally and linguistically diverse preschool and K-3 classrooms. *CR/NC* grading only. (Instructional material fee, $7.) **FS**

EHD 180T. Topics in Education and Human Development (1; max total 9 units)
Issues and topics in education and human development. **FS**

Educational Research and Administration (ERA)

ERA 153. Educational Statistics (3 units)
Methods of describing, analyzing, and interpreting data; statistical methods, including correlation, regression, t-tests, one- and two-way ANOVA designs, and chi-square. Computer applications during lab activities. (2 seminar, 1 lab hours) **FS SU**

ERA 180T. Topics in Education (1-3; max total 9 units)
Issues and topics in educational foundations; curriculum and instruction; early childhood, elementary, middle school, and secondary education; pupil personnel services; supervision and administration; child abuse, and computer literacy.

ERA 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Educational Research and Administration (ERA)

ERA 220. Research in Education (3 units)
Prerequisite: ERA 153. Seminar in educational research methodology; library resources; critiquing data collection, analysis, interpretation in research articles; writing research papers; for elementary and secondary teaching, early childhood, reading administration, counseling, special education, related fields. (2 seminar, 1 lab hour)

ERA 243. Research on Teaching in the Multicultural Classroom: Quantitative and Qualitative Methods (3 units)
Corequisite: CI 245. Provides students with a series of modules on quantitative and qualitative research techniques used in action research. Students conduct mini-research studies by collecting and analyzing data in the classroom context to improve teaching and learning.

ERA 244. Mixed Methods Research in Diverse Classrooms (4 units)
Provides students with a series of modules on quantitative and qualitative research techniques used in action research. Students conduct mini-research studies by collection and analyzing data in the classroom context to improve teaching and learning and to synthesize the results.

ERA 260. Assessment as Learning (3 units)
Analyze interaction among assessment models, effective instruction, and learning in educational settings. Use educational theory to identify criteria for choosing and integrating alternative assessments including performance, observation/interview, portfolio, curriculum-embedded and self-assessment. Develop assessment items and protocols.

ERA 272. Instructional Planning and Evaluation (3 units)
Principles and practices of instructional planning, assessment and testing of learning outcomes, performance appraisal and evaluation of teaching; test construction analysis and grading.

ERA 280T. Advanced Topics in Education (1-3; max total 6 units)
Prerequisite: permission of instructor. Advanced, in-depth analysis of issues and problems in educational foundations; curriculum and instruction; reading; early childhood, elementary, middle school, and secondary education; and computers in education. Emphasis placed on advanced research. (

ERA 288. Educational Measurement and Program Evaluation (3 units)
Prerequisite: ERA 153. Procedures and issues involved in the measurement and evaluation of educational programs; planning, etc. Applications in educational settings are emphasized. (2 seminar, 2 lab hours)

ERA 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

ERA 298. Project (4 units)*
Prerequisites: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220. See *Criteria for Thesis and Project*. A project consists of a significant undertaking appropriate to graduate study in education. An approved proposal is required for enrollment. Approved for ***RP*** grading.

ERA 299. Thesis (4 units)*
Prerequisites: advancement to candidacy for the master's degree; ***B*** average on at least 24 units of the master's program, including ERA 220 and completion of an acceptable thesis proposal. See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. See the Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Educational Research and Administration (ERA)

ERA 380T. Topics in Education (1-6; max total 12 units)
Studies in theory, procedures, and application in such areas as social forces, professional activities, technology, and instructional innovations.

UNDERGRADUATE COURSES

Note: Students must provide their own transportation to off-campus sites for classes, student teaching, practica, and field activities — and defray any resulting expense.

Literacy and Early Education (LEE)

LEE 120. Problems in Education (2-3; repeatable with different topics; maximum of 3 units per code, e.g., CL, ST)
In-depth study of various areas in education including children's literature (CL) and storytelling (ST). Selected topics may require activities.

LEE 129. Hmong in Bilingual Schools: BCLAD (3 units)
Prerequisite: HMONG 101 or equivalent. Emphasis on Hmong language development for bilingual teachers. Includes basic content area instruction in Hmong, evaluation of teaching materials, and conferencing with parents. **FS**

LEE 135. Teaching Content in Hmong (3 units)
Prerequisites: Hmong language fluency or permission of instructor. L1 methods and materials used to teach content in bilingual classrooms. Designed for BCLAD candidates. Students will deliver lessons in the Hmong language in bilingual classrooms in local schools under university supervisor. **FS**

LEE 136. Teaching Content in Spanish (3 units)
Prerequisites: Spanish language fluency or permission of instructor. L1 methods and materials used to teach content in bilingual classrooms. Designed for BCLAD candidates. Students will deliver lessons in the Spanish language in bilingual classrooms in local schools under university supervisor. **FS**

LEE 144S. Service-Learning Pedagogy and Practice (3 units)
Prepares students to design and implement service-learning in K-12 schools and community settings. Examines theoretical roots, methods of effective teaching practice, and academic, social, emotional outcomes for student learning. Practical experience involves implementing project with local school districts. (Formerly LEE 180T)

LEE 148. Integrated Curriculum (3 units)
Concurrent enrollment with EHD 114. Integrated curriculum design, facilitation, and assessment in early childhood programs, including preschool, kindergarten, and grades 1-6. Lecture supported by curriculum development activities. (2 lecture, 2 activity hours) **FS**

LEE 154. Content Area Language and Literacy Instruction (5 units)
Prerequisites: admission to the Single Subject Credential Program and prior or concurrent enrollment in EHD 155A or 155B. Educational issues, methodologies, and materials to improve students' listening, speaking, reading, and writing in content areas at the secondary level (7-12). Special emphasis on skills necessary to deliver comprehensive instruction to English learners. **FS SU**

LEE 156. Content Area Literacy and Communication in Secondary Classrooms (3 units)
Research-based literacy strategies; vocabulary development; academic language; reading comprehension; writing using discipline-specific formats. Teaching content-based reading and writing skills to a full range of students.

LEE 171. Trends and Issues in Early Childhood Education (3 units)
A comprehensive study of the field of early childhood education, including principles of early childhood education, parent relations, use of community resources, and organization of programs in early childhood education. **FS**

LEE 172. Cultural and Language Context of the Classroom (3 units)
Prerequisite: admission to the Multiple Subject Credential Program. CI 171 or concurrent enrollment. Students not concurrently enrolled in EHD 174 need to make special arrangements with instructor. Covers the impact of culture on teaching and learning in the elementary school. Looks at language acquisition theory and instructional strategies for English learners. Covers promoting student success, including achievement of state-adopted content and language-development standards. (2 lecture, 2 lab hours) **FS SU**

LEE 172ECES. Cultural Contexts of Teaching and Learning (3 units)
Prerequisites: admission to Multiple Subject Credential, Early Childhood Education Program; completion or concurrent enrollment in CI 171ECE. Broadly interprets culture, including student family, ethnicity, language, the culture of the profession, and classroom culture. (2 lecture, 2 lab hours) **FS** (Formerly LEE 172ECE)

LEE 173. Teaching Reading and Social Studies in Grades 4-8 (3 units)
Prerequisite: admission to the Multiple Subject Credential Program. CI 171, LEE 172 (or concurrent enrollment). Concurrent enrollment in EHD 174. Teaching state-adopted English-Language Arts (4-8) and history-social science (K-8) content standards using research-based methods. Use of a variety of assessments to determine students' progress. Organizing, managing, and planning instruction for reading and social studies. Developmentally appropriate practices to make content accessible to all students. (2 lecture, 2 lab hours) **FS SU**

LEE 173ECE. Teaching Literacy and English Language in Grades 4-8 (3 units)
Prerequisites: admission to Multiple Subject Credential, Early Childhood Education Program; concurrent enrollment in EHD 174ECE; completion or concurrent enrollment in CI 171ECE and LEE 172ECE. Teaching reading, writing, language arts, and English language development in grades 4-8. Making content area reading (e.g. in history/social studies) accessible. (2 lecture, 2 lab hours) **FS**

LEE 177. Teaching Reading and the Arts in K-3 (3 units)
Prerequisites: CI 171, LEE 172, LEE 173, EHD 174, CI 175, CI 176 (or concurrent enrollment). Concurrent enrollment in EHD 178. Assessment and instructional approaches for the balanced teaching of reading/language arts in the primary grades: using developmentally appropriate practices, studying state standards for literacy development and component strands for visual and performing arts, and selecting techniques for culturally/linguistically diverse learners. (2 lecture, 2 lab hours) **FS**

LEE 177ECE. Language and Literacy Development and Instruction (3 units)
Prerequisites: completion of Phase 1 Multiple Subject Credential, Early Childhood Education Program (CI 171ECE, LEE 172ECE, LEE 173ECE, EHD 174ECE, CI 176); concurrent enrollment in EHD 178ECE. Early literacy instruction from birth, including a comprehensive literacy program for pre-kindergarten through grade 3, first and second language acquisition, family literacy, and early intervention. (2 lecture, 2 lab hours) **FS**

LEE 180T. Topics in Literacy and Early Education (1-3; max total 9 units)
Issues and topics in reading, bilingual/cross-cultural education, reading, and language development. **FS**

LEE 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

GRADUATE COURSES

(See *Catalog Numbering System.*)

Literacy and Early Education (LEE)

LEE 213. Teaching the Language Arts K-12 (3 units)
Seminar on integrated language arts, reading-writing connections, and using language arts in literature-based reading programs and theme cycles.

LEE 214. Literature for Children and Adolescents (3 units)
Prerequisite: admission to program or permission of instructor. Survey of genre, authors, and illustrators; critical interpretation and classroom application of books; the impact of social and cultural patterns in literature.

LEE 215. Language Issues in Reading (3 units)
Prerequisite: admission to program or permission of instructor. Seminar exploring issues related to language acquisition and literacy development with special emphasis on culturally and linguistically diverse learners.

LEE 216. Strategic Writing K-12 (3 units)
Focuses on strategies for effective writing for students in grades K-12. Topics include planning writing experiences based on audience, purpose, and form; writing across the curriculum; and scaffolding students through processes of prewriting, drafting, revising, editing, and publishing.

LEE 224. Assessment and Development of Reading Abilities (3 units)
Analysis of reading performance utilizing portfolio and performance based assessments and diagnostic instruments. Consideration of methods and materials for instruction.

LEE 230. Supervised Teaching in Reading/Language Arts (3 units)
The first of two supervised fieldwork courses required for the Reading Specialist Credential. Provides supervised practice in research-based methodologies and intervention approaches for beginning readers, English learners, and students with reading difficulties. A combination of practica and seminars required.

LEE 232. Literacy in Early Childhood Education (3 units)
Prerequisite: admission to program or permission of instructor. Examines development of oral and written language in young children. Explores theories, curricula, and strategies for teaching literacy.

LEE 233. Curriculum and Assessment in Early Childhood Education (3 units)
Prerequisites: admission to program or permission of instructor. Design of appropriate curriculum and assessment for young children. Includes standards, planning, project approach, integration of play, and materials. Use of observation, rubrics, and portfolios to document development and learning. Organizing environments in early childhood settings, infants through grade three. (2 lecture, 2 lab hours)

LEE 234. Clinical Experiences in Reading Assessment and Instruction (3 units)
Prerequisite: LEE 224. Clinical experiences in the supervised application of principles learned in LEE 224. Emphasis on individual and small group evaluation and instructional procedures. (2 lecture, 2 lab hours) (Instructional materials fee, $10)

LEE 235. Concept Development in Early Childhood Education (3 units)
Prerequisite: admission to program or permission of instructor. Study of how young children develop concepts. Analysis of existing curriculum and design of relevant curriculum. (2 lecture, 2 lab hours)

LEE 241. Fieldwork in Early Childhood Education (3 units)
Prerequisite: admission to program or permission of instructor. Supervised experiences in work with young children and their families in pre-K-3 classrooms and other early childhood education settings.

LEE 244. Research for Reading Professionals (3 units)
Prerequisites: LEE 213, 215, 278, and permission of instructor. Study of past and current research in reading related to instructional issues; planning and analysis of curricula in light of current research; application of research skills.

LEE 254. Supervised Field Experiences in Reading (3 units)
Prerequisite: LEE 224, 244, and permission of instructor. Intensive varied supervised field experiences in settings with reading specialists, consultants, or staff development personnel involving diagnosis and treatment of reading difficulties; development or refinement of reading programs; evaluation of reading instruction; application of interpersonal communications and group process skills.

LEE 271. Diversity and Inclusion in Early Childhood Education (3 units)
Understanding and responding to cultural, ethnic, and linguistic diversity and the ways they affect personality, language, cognitive development, and socialization. Creating inclusive learning environments and curriculum in early childhood education. (2 lecture, 2 lab hours)

LEE 278. Literacy Processes and Practices (3 units)
Prerequisite: LEE 154 for Single Subject Credential holders; or permission of instructor. Understanding literacy processes through the investigation of current theories, issues, and practices.

LEE 280T. Advanced Topics in Literacy and Early Education (1-3; max total 6 units)
Prerequisite: permission of instructor. Advanced, in-depth analysis of issues and problems related to literacy, bilingualism, and early childhood education. Emphasis placed on advanced research. (Subject to program coordinator's approval.)

LEE 290. Independent Study (1-3; max total 6 units)
See Academic Placement — Independent Study. Approved for ***RP*** grading.

LEE 298A. Project — Literacy (3 units)*
Prerequisite: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220. See *Criteria for Thesis and Project*. A project consists of a significant undertaking appropriate to education. An approved proposal is required for enrollment. Approved for ***RP*** grading.

LEE 298B. Project — Early Childhood Education (1-3; max total 3 units)*
Prerequisite: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220. See *Criteria for Thesis and Project*. A project consists of a significant undertaking appropriate to education. An approved proposal is required for enrollment. Approved for ***RP*** grading.

LEE 299. Thesis (1-3; max total 3 units)*
Prerequisite: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220 and completion of an acceptable thesis proposal. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Literacy and Early Education (LEE)

LEE 380T. Topics in Literacy and Early Education (1-6; max total 12 units)
Studies in theory, procedures, and application in such areas as pertain to departmental focus.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Rehabilitation (REHAB)

REHAB 201. Seminar in Rehabilitation Counseling (3 units)
Seminar in the fundamental concepts of rehabilitation counseling and vocational rehabilitation including examination and analysis of historical, philosophical, organizational, and functional principles. Community rehabilitation agency or orientation visits. (Formerly COUN 250)

REHAB 203. Work Evaluation Procedures (3 units)
Study of systems and procedures of work evaluation and assessment by public and private rehabilitation agencies to assess culturally diverse persons with disabilities.

Includes principles of testing; test selection (situational assessments and work samples), administration, interpretation, and report generation. (Formerly COUN 263)

REHAB 204A. Medical Aspects of Psychiatric Disability and Basic Psychopharmacology (3 units)
Seminar on treatment etiology, functional limitations, and vocational implications of psychiatric and neurological disabilities, including review of the DSM. Student presentation of case studies. (Formerly COUN 261, COUN 251B, COUN 251A)

REHAB 204B. Medical Aspects of Physical and Neurological Disabilities (3 units)
Seminar on treatment etiology, functional limitations, and vocational implications of physical and neurological disabilities. Student presentation of case studies. (Formerly COUN 251A, COUN 251B)

REHAB 205. Career Placement in the Rehabilitation Process (3 units)
A seminar concerning the attitudes, skills, and abilities necessary to provide effective vocational and career placement services to people with disabilities, including vocational diagnosis, career development, placement techniques, job analysis, affirmative action, and appropriate legislation. (Formerly COUN 252)

REHAB 206. Psychological and Social Aspects of Disability (3 units)
Seminar in psychological and sociological effects of physical and mental disability and the dynamics of adjusting to disabling conditions. Student presentation of case studies. (Formerly COUN 253)

REHAB 209. Advanced Practicum in Counselor Supervision (3 units)
(Same as COUN 209.) Prerequisites: COUN 200 and permission of instructor. Content provides an introductory experience with the role of counselor supervisor. Focuses on the supervisory processes in terms of theoretical perspectives and practices of supervision. Enrollment is by faculty permission only. (Formerly COUN 280T)

REHAB 211. Current Professional Issues in Rehabilitation Counseling (3 units)
Seminar on current professional issues in the field of rehabilitation counseling and vocational rehabilitation programs in the public and private sectors with emphasis on ethical standards, legal concepts, and professional development responsibilities. (Formerly COUN 260)

REHAB 237. Case Practices in Rehabilitation Counseling (4 units)
Prerequisites: REHAB 201, 204A or 204B, COUN 200. Seminar in methods for facilitating client rehabilitation including interviewing, case recording, plan development, ethical practices; field placement in a community rehabilitation agency. (2 seminar, 6 lab hours) (Formerly COUN 257)

REHAB 238. Rehabilitation Counseling Practicum (4; max total 8 units)
Prerequisites: COUN 200; REHAB 201, 204A or 204B, 205, 237. Laboratory rehabilitation counseling experiences with clients who are disabled, supervised individual counseling sessions, analysis of the effects of disability on personal and vocational development, methods of facilitating vocational rehabilitation, observations, critiques, report writing. Students must carry professional liability insurance. (2 seminar, 4 lab hours) (Formerly COUN 258)

REHAB 239. Internship in Rehabilitation Counseling (12 units)
Prerequisites: COUN 200, 202; REHAB 201, 203, 204A, 204B, 205, 206, 211, 237, 238, 268A-B-C, or permission of instructor. Full-time, supervised field placement in one of a variety of settings including case responsibilities. *CR/NC* grading only. (Formerly COUN 269)

REHAB 262. Assistive Technology (3 units)
Seminar on systems and procedures for the rehabilitation counselor in providing technology solutions for persons with disabilities. Includes assessment to determine need and fit, adjustment counseling, training in use and maintenance, funding procurement, and high and low technology resource development. (Formerly COUN 262)

REHAB 264. Rehabilitation of the Industrially Injured Worker (3 units)
Seminar on multiple aspects of worker's compensation system, including policy, law, practice, case services, and strategies that affect industrially injured workers. Includes differences between public and private rehabilitation and related insurance programs. (Formerly COUN 264)

REHAB 265. Introduction to Substance Abuse Rehabilitation (3 units)
Introductory seminar in substance abuse covering patterns and extent of substance abuse, models of addiction, assessment and diagnosis, legal ramifications, physiological effects, drug characteristics, treatment approaches, prevention, and ethical issues. Includes readings, lectures, guest presentations, class discussions, and student activities. (Formerly COUN 280T, COUN 265)

REHAB 268A. Advanced Career Placement: Job Retention (3 units)
Prerequisites: REHAB 205, 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work holistically with welfare department referrals to develop and implement individualized service plans with primary emphasis on vocational goals. Liability insurance required. (1 seminar, 2 lab hours) (Formerly COUN 280T, COUN 268, COUN 268A)

REHAB 268B. Advanced Career Placement: Workability IV (3 units)
Prerequisites: REHAB 205, 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work holistically with Department of Rehabilitation referrals to develop and implement individualized service plans with primary emphasis on vocational goals. Liability insurance required. (1 seminar, 2 lab hours) (Formerly COUN 280T, COUN 268, COUN 268B)

REHAB 268C. Advanced Career Placement: Ticket to Work (3 units)
Prerequisites: REHAB 205, 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work holistically with Social Security Administration referrals to develop and implement individualized service plans with primary emphasis on vocational goals. Liability insurance required. (1 seminar, 2 lab hours) (Formerly COUN 280T, COUN 268, COUN 268C)

REHAB 268D. Advanced Career Placement: Transition (3 units)
Prerequisites: REHAB 205, 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work with young adult transition students with developmental, learning, and/or physical disabilities to help them transition successfully toward independent living, employment, and educational opportunities. (1 seminar, 2 lab hours) (Formerly REHAB 280T)

REHAB 280T. Advanced Topics in Rehabilitation Counseling (1-3; max 12 units if no topic is repeated)
(Same as COUN 280T,) Prerequisites: postbaccalaureate standing and permis-

sion of instructor. Topics may include new developments in counseling techniques, rehabilitation counseling practices, special populations, and current research.**REHAB 290. Independent Study**

REHAB 290. Independent Study (1-3; max total 6 units)
(Same as COUN 290.) See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly COUN 290)

REHAB 298. Project (3 units)*
(Same as COUN 298.) Prerequisites: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220. See *Criteria for Thesis and Project*. A project consists of a significant undertaking appropriate to counseling such as the development of a program for counseling service delivery, development of audio-visual materials or computer software for counselor education or service delivery. An approved proposal is required for enrollment. Approved for ***RP*** grading.

REHAB 299. Thesis (3 units)*
(Same as COUN 299.) Prerequisites: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220 and completion of an acceptable thesis proposal. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

UNDERGRADUATE COURSES

Special Education (SPED)

SPED 120. Introduction to Special Education (3 units)
Prerequisites: EHD 50. Introduction to identification, characteristics, theories, curriculum, and instruction for students with mild to severe disabilities, legislative guidelines, nondiscriminatory assessment, parental involvement, and foundations in special education. Includes 15 hours of observation/participation. **FS**

SPED 121. Teaching Students with Special Needs in the Secondary General Education Setting (2 units)
Prerequisites: concurrent enrollment in EHD 155A. Provides basic knowledge, skills, and strategies in secondary education settings for teaching special populations, including students with disabilities, students on behavior plans, and students who are gifted and talented. **FS**

SPED 125. Positive Behavioral and Social Supports (3 units)
Addresses effective behavior and social supports, emphasizing philosophical approach, prevention, intervention, and corrective strategies for teaching new behaviors. Completion of implementation with special education students required. **FS**

SPED 126. Applied Behavior Analysis (3 units)
Prerequisites: completion of semesters 1 and 2 coursework. Designed to introduce the philosophy and research of applied behavior analysis in delivering systemic instruction to students with disabilities. Focuses on behavior management and academic content area instruction by using the principles of behavior analysis.

SPED 130. Assessing Students with Special Needs (3 units)
Prerequisites: EHD 50 and SPED 120. Designed to provide teacher candidates with knowledge and skills of formal and informal assessment that address special education students' strengths and needs; cultural, ethnic, and language characteristics; and the environments used by the students and their families. **FS**

SPED 135. Assessment and Instruction in the Special Education Academic Curriculum (3 units)
Addresses non-biased assessment for placement, curriculum development, instruction, and implementation across placement options. Completion of assessment and instruction of special education students in field sited required. (2 seminar, 2 lab hours) **FS**

SPED 136. Assessment, Curriculum Design, and Instruction for Students with Mild/Moderate Disabilities (3 units)
Prerequisites: completion of semesters 1 and 2 coursework. Concurrent enrollment in SPED 126 and 171 or EHD 170. Provides a knowledge base of strategies and interventions for students who are not responding to the current instructional environment. Focuses on evidence-based curricula and instructional methods that are effective with students with mild/moderate disibilities.

SPED 145. Designing Effective Environments for Students with Mild/Moderate Disabilities (3 units)
Concurrent enrollment in SPED 146 and 172. Satisfactory completion of semesters 1 and 2 coursework. Examines the characteristics of high-quality integrated and inclusive education programs and key practices for effective instruction of diverse classrooms, including students with significant/complex support needs. (2 seminar, 2 lab hours) **FS**

SPED 146. Assessment and Instruction for Students with Mild/Moderate Disabilities (3 units)
Prerequisites: completion of semesters 1 and 2 coursework. Concurrent enrollment in SPED 145 and 172. Reviews the ecological assessment process; student, family-centered, and culturally responsive assessment; and curriculum-based assessment. Addresses provision of both academic and activity-based systematic instruction and systems for monitoring student progress data.

SPED 155. The Professional in Special Education (3 units)
Prerequisites: admission to special education program or permission of instructor. Focuses on advanced application of models for collaboration, application of foundations, and theory in special education; advanced professional, legal, and ethical standards; and advocacy and self-advocacy. **FS**

SPED 156. Effective Communication and Collaborative Partnerships (3 units)
Concurrent enrollment in SPED 137 and 175 (MM), or SPED 147 and 176 (MS), and SPED 177. Examines the educational, psychological, and political issues that arise when developing collaborative relationships with families, interdisciplinary team members, general educators, agency professionals, and students themselves.

SPED 158. Differentiated Instruction in Inclusive Secondary Settings (3 units)
For the purpose of establishing an inclusive community of teachers and learners, teacher candidates will appreciate their responsibilities related to IDEA/ADA, and design instruction and learning environments that provide differentiation and choice to meet the needs of all learners, with focus on special populations.

SPED 160F. Fieldwork in Special Education (1-3; max total 12 units)
Prerequisite: admission to special education internship program. Supervised observation and support of teacher interns in the areas

of behavior, IEPs, instruction, assessment, and collaboration. **FS**

SPED 171. Initial Practicum in Mild/Moderate Disabilities (3 units)
Prerequisites: completion of semesters 1 and 2 coursework. The third of four required supervised field experiences in the program. Teacher candidates will take part in a 16-hour week, full-semester experience in a K-12 classroom, RSP or SDC, serving students identified with mild/moderate disabilities.

SPED 172. Initial Practicum in Mild/Moderate Disabilities (3 units)
Prerequisites: completion of semesters 1 and 2 coursework. The third of four required supervised field experiences in the program. Teacher candidates will take part in a 16-hour week, full-semester experience in a K-12 classroom or SDC, serving students identified with mild/moderate disabilities.

SPED 175. Final Practicum in Mild/Moderate Disabilities (6)
Prerequisites: successful completion of semesters 1, 2, and 3 coursework. Must be taken concurrently with SPED 137, 156, and 177. The final of four required supervised field experiences in the program. Teacher candidates will take part in an eight-hour day, full-semester experience in a K-12 classroom, RSP, or SDC, serving students identified with mild/moderate disabilities. **FS**

SPED 176. Final Practicum in Moderate/Severe Disabilities (6)
Prerequisites: successful completion of all coursework in semesters 1, 2, and 3. SPED 176 is taken concurrently with SPED 147, 156, and 177. Final of four required supervised field experiences in the program. Teacher candidates take part in full semester experience in a K-12 classroom or special day classes, serving students identified with moderate/severe disabilities. **FS**

SPED 177. Practicum Seminar in Mild/Moderate Disabilities (2 units)
Prerequisites: completion of semesters 1, 2, and 3 coursework; concurrent enrollment in SPED 175/176. Designed to help candidates become reflective practitioners through structured activities. Encourages examination of classroom practices and behaviors, goals, outcomes, beliefs, and values. Provides a forum for collaborative, critical inquiry based on students' teaching experience.

SPED 179. Differentiated Instruction and Classroom Management (3 units)
Prerequisites: CI 175, CI 176, LEE 177, EHD 178. If not concurrently enrolled in EHD 170, must make arrangements with the instructor. Through collaboration with others, for the purpose of establishing an inclusive community of learners, teacher candidates will adapt instruction and manage the learning environment to meet the needs of all learners, with focus on students with special needs. (2 lecture, 2 lab hours) **FS**

SPED 180T. Topics in Special Education (1-3; max total 12 units)
Prerequisite: permission of instructor. Topics may include special education legislation, parenting, transitional programming, parents as teachers, adolescents and adults with disabilities, current research, child abuse, and gifted and talented students.

SPED 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

GRADUATE COURSES

(See *Catalog Numbering System.*)

Special Education (SPED)

SPED 205. Nature and Needs of Individuals with Serious Emotional Disturbance/Behavior Disorders (3 units)
Addresses the characteristics and needs of the child with emotional and behavioral disorders, and service delivery systems and agencies which exist to meet those needs. (2 seminar, 2 lab hours)

SPED 209A. Application of Theory into Practice in Special Education Settings (3 units)
Supervised field experience with special education students and their families with integration of applied research and theory into practice in special education. Development of induction plan will include the candidate, university supervisor, and employer school district representative/support provider. (Minimum of 45 hours per unit)

SPED 209B. Application of Theory into Practice in Special Education Settings (3 units)
Coordination of ongoing support for professional self-assessment, goal-setting, and other induction plan components of SPED 209A. Support is provided by collaboration between university and school district/agency personnel. (Minimum of 45 hours per unit)

SPED 219. Effective Communication and Collaborative Partnerships (3 units)
Concurrent enrollment in SPED 246 and 175 (MM) or SPED 247 and 176 (MS). Examines educational, psychological, and political issues that arise when developing collaborative relationships with families, general educators, and other professionals. Primary focus is on the development of materials, strategies, and skills to work with families, including the culturally and linguistically diverse. (2 seminar, 2 lab hours)

SPED 233. Seminar in the Special Educator as Researcher (3 units)
Prerequisites: ERA 153. Examines the special educator as researcher from several perspectives through reading and analysis of contemporary and emerging research in special education; attending colloquia with special educators who are conducting research; and developing and beginning implementation of pilot research and project designs. (2 seminar, 2 lab hours)

SPED 235. Seminar in Program Development and Induction: Mild/Moderate and Moderate/Severe Disabilities (3 units)
Development and remediation of social skills and affective abilities. Model programs for normal children and prescriptive interventions for those with social and personal behavior disorders. (2 seminar, 2 lab hours)

SPED 236. Seminar in Advanced and Applied Pedagogy Mild/Moderate and Moderate/Severe Disabilities (3 units)
Research and practice in assessment and instruction of communication and social interaction curriculum; advanced behavioral, emotional, and environmental supports for students with moderate to severe disabilities. Includes analysis of behavior, communication systems, adapted technology, and team participation with other specialists.

SPED 240. Seminar in Program Management for Students with Moderate/Severe Disabilities (3 units)
Current and emerging research in quality program characteristics; assessment and instruction of vocational, functional, academic, personal management (including self-help, domestic, and community); collaboration and leadership in programs for students with moderate to severe disabilities.

SPED 243. Applications of Research Methods in Special Education (3 units)
Prepares master's students to develop and apply skills and methods for educational research. Students learn principles and methods of educational research; to plan and conduct a research study; and to interpret, critique, and study published research.

SPED 246. Specialized Academic Instruction for Students with Disabilities (3 units)
Prepares Education Specialist Credential candidates to design specialized academic instruction for students with a variety of mild-moderate disabilities. (Formerly SPED 137)

SPED 247. Advanced Environmental Design and Instruction for Students with Disabilities (3 units)
Prepares Education Specialist Credential candidates to assess and implement instructional strategies used to develop individualized communication systems and related goals. Addresses the development of peer relationships and other social supports; revisits understanding challenging behavior. (Formerly SPED 147)

SPED 250. Foundation Knowledge and Practical Skills for Educating Diverse Learners on the Autism Spectrum (3 units)
Introduces definitions and characteristics of ASD. Emphasis on incidence and prevalence trends, characteristics associated with language/communication, cognition/neurology. Addresses social skills and behavior. Fieldwork is required to complete assignments.

SPED 251. Systematic Approach to Social Skills Programming for Individuals with ASD (3 units)
Candidates will demonstrate how to think about research-based interventions addressing the need for social programming for children and adolescents with ASD. Fieldwork is required to complete assignments.

SPED 252. Designing Comprehensive Individualized Autism Planning Systems (3 units)
Candidates will work in teams to design comprehensive intervention plans that are responsive to the strengths and needs of individuals of all ages with ASD. Supervised fieldwork is required to complete assignments.

SPED 280T. Advanced Topics in Special Education (1-3; 12 if no area is repeated)
Prerequisites: postbaccalaureate standing and permission of instructor. Topics may include special education legislation, parenting, transitional programming, parents as teachers, adolescents and adults with disabilities, current research, child abuse, gifted and talented.

SPED 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

SPED 298. Project (4 units)*
Prerequisites: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220. See *Criteria for Thesis and Project*. A project consists of a significant undertaking appropriate to special education such as the development of courses of study, instructional manuals, teachers' guides, intervention programs, and computer software. An approved proposal is required for enrollment. Approved for ***RP*** grading.

SPED 299. Thesis (4 units)*
Prerequisites: advancement to candidacy for the master's degree; ***B*** average on 24 units of the master's program including ERA 220 and completion of an acceptable thesis proposal. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Special Education (SPED)

SPED 380T. Topics in Special Education (1-3; max total 12 if no topic repeated)
Selected areas in special education; identification of exceptional students, assessment of learning disabilities, focus on specific disabling conditions, instructional methods, parent involvement with handicapped students, federal and state legislation. Not applicable toward degree requirements.

The Lyles College of Engineering

Engineering East, Room 124, 559.278.2500
Ram Nunna, *Interim Dean*

The Mission of the College

The Lyles College of Engineering provides high-quality academic programs in engineering and construction management to support the infrastructure and growth of the Central California region. With regional industry partners, these programs are linked through cooperative education opportunities, internships, projects, and course assignments.

Academic programs within the college provide support and assistive programs that enhance student comprehension and learning. Through our Pathways: Lyles College of Engineering Student Services, students can access professional development activities, tutorial services, student clubs and professional societies, and campus referrals for assistance and more.

Civil, Computer, Electrical, Geomatics, and Mechanical Engineering are nationally accredited through the Accreditation Board for Engineering and Technology (ABET) at the same standards applied to all other engineering schools and colleges nationwide. Construction Management is accredited by the American Council for Construction Education (ACCE).

The Lyles College of Engineering offers bachelor's degree programs in Civil, Computer, Electrical, Geomatics, and Mechanical Engineering, as well as in Construction Management. The college offers master's degree programs in Civil Engineering and Engineering with options in Computer Engineering, Electrical Engineering, and Mechanical Engineering. The college also offers an accelerated master's program that allows qualified undergraduate students to begin graduate studies at the start of the first semester of their senior year. For more information on graduate programs, refer to the section on *Engineering Graduate programs*.

Engineering (ENGR)

ENGR 1T. Topics in Engineering (1-4; max total 12 units if no topic repeated)
Selected topics in engineering that serve as an introduction to the field of engineering and technology.

ENGR 11. Engineering Applications (3 units)
Open to qualified high school juniors and seniors only. Selected topics in engineering that serve as an introduction to the field of engineering and technology. (Formerly ENGR 1T)

ENGR 101. Applied Engineering Analysis I (3 units)
Covers selected topics in mathematical analysis, with emphasis on applications to engineering problems. Ordinary differential equations, the LaPlace transformation, matrices and determinants, Fourier series and integrals, partial differential equations.

ENGR 102. Applied Engineering Analysis II (3 units)
Covers selected topics in mathematical analysis with emphasis on applications to engineering problems. Vector Analysis, line and surface integrals, complex variables and integrals, conformal mapping, series, residues, potential theory, and special functions.

ENGR 105W. Engineering and Entrepreneurship (3 units)
Prerequisites: satisfactory completion of ENGL 5B or 10, junior standing. Preparation of resumes, letters of transmittal, technical reports, research proposals, progress reports, business plans, and oral presentations. Covers using effective writing techniques in the process of commercializing a technology/process. Meets upper-division writing skills requirement for graduation. (Formerly ME 191T)

The Lyles College of Engineering includes the departments of Civil and Geomatics Engineering, Electrical and Computer Engineering, and Mechanical and Industrial Engineering, as well as the Construction Management program.

ENGR 190. Independent Study (1-3 units)
See Academic Placement — Independent Study. Approved for *RP* grading.

ENGR 191T. Topics in Engineering (1-3 units)
Prerequisite: permission of instructor. Investigation of selected engineering subjects not in current courses.

Civil and Geomatics Engineering

Faculty

Civil Engineering
Ching C. Choo
Lubo Liu
Jesus S. Larralde-Muro
Fariborz M. Tehrani
William F. Wright
Ming Xiao

Geomatics Engineering
James Crossfield
Clement Ogaja
Riadh Munjy

The Department Description

The Department of Civil and Geomatics Engineering offers programs of study leading to the Bachelor of Science degrees in Civil Engineering and Geomatics Engineering and the Master of Science in Civil Engineering. Civil and Geomatics Engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET) which represents the major professional engineering groups in the United States.

Faculty and Facilities

The teaching and research specialties of the department's faculty cover every area of civil engineering and geomatics engineering. Most faculty members are licensed as civil engineers or land surveyors and have a wide range of professional experience in engineering design, analysis, research and development.

Excellent laboratory facilities exist for structures, testing of soils and construction materials, hydraulics testing, water quality analysis, aerial mapping, GIS and land surveying.

Mandatory Advising

It is the policy of the department that every student see his/her assigned adviser at least once during the academic year.

Accelerated B.S./M.S.

An accelerated B.S./M.S. program is offered in civil engineering as a streamlined curriculum that may be used by qualified students to attain the bachelor of science and master of science degrees simultaneously. Undergraduate CE and GME students in their senior year are eligible to be admitted into this program if they have a GPA of at least 3.0 in the CE or GME core courses, complete the G.E. requirements the semester they start the accelerated program or before, and take the GRE examination. An application and letter of intent should be filed with the MSCE program. A plan of study should be developed in consultation with the coordinator and graduate faculty of the MSCE program. Complete all G.E. requirements prior to taking any 200-level coursework. See programs listings for more detailed information.

Lyles College of Engineering

Department of Civil and Geomatics Engineering
Jesus S. Larralde-Muro, *Chair*
Engineering East Building, Room 178A
559.278.2889
FAX: 559.278.7002
www.fresnostate.edu/engineering

B.S. in Civil Engineering

B.S. in Geomatics Engineering

M.S. in Civil Engineering

(See engineering graduate programs)

Construction Management Program

Lyles College of Engineering

Construction Management Program
Manoochehr Zoghi, *Coordinator*
Engineering East Building, Room 192
559.278.6056
FAX: 559.278.4475
www.fresnostate.edu/engineering

B.S. in Construction Management

Minor in Construction Management

Faculty

Construction Management
Manoochehr Zoghi, *Coordinator*
Lloyd Crask
Brad Hyatt
Yupeng Luo

The Program Description

The Management Specialty Program of the Bachelor of Science degree in Construction Management is accredited by the American Council for Construction Education, the professional accreditation organization of the construction industry.

The minor provides an opportunity for students from interrelated disciplines such as civil surveying and mechanical engineering, city and regional planning, interior design, industrial technology, and business management to gain a level of expertise in the working atmosphere and environment of related professions and fields. Students in the minor acquire an interdisciplinary core of information for participation in their chosen professional fields.

Mandatory Advising

It is the policy of the department that every student see his/her assigned adviser at least once during the academic year.

Electrical and Computer Engineering

Faculty

Electrical and Computer Engineering
Nagy N. Bengiamin
Daniel C. Bukofzer
Albert A. Heaney
Robert W. Hecht
Young Kim
Gregory R. Kriehn
Zoulikha Mouffak
Ramakrishna Nunna
Reza Raeisi
Chulho Won

Department Description

The Department of Electrical and Computer Engineering offers ABET accredited Bachelor of Science degrees in Electrical Engineering and in Computer Engineering. Although many courses are common to both programs, there are significant differences between the graduation requirements for electrical engineering and for computer engineering. Students are advised to decide early in their program of study which major they intend to pursue.

Electrical and Computer Engineering Faculty and Facilities

The faculty members have a wide range of teaching and industrial experience and are academically well-qualified engineers. Their backgrounds include research accomplishments, practice in industry, consulting work, and extensive teaching experience.

Excellent facilities are housed in the Engineering East Building. A 52,000 square-foot engineering building addition provides additional classroom space, faculty offices, and laboratories for microprocessors and digital systems, electronics, control systems and robotics. computer hardware and software design development, optical communications, communications, digital control/robotics, electromagnetics and microwaves, special projects, and power systems.

Mandatory Advising

It is the policy of the Electrical and Computer Engineering Department that every student see his/her assigned adviser at least once during the academic year. Therefore, students must complete mandatory advising with a faculty member at least once during each academic year by the established deadline (usually around the end of April). Students who fail to do so will be prevented from participating in the registration process prior to the start of classes the following academic year.

Accelerated B.S./M.S.

An accelerated B.S./M.S. program, with options in computer, electrical, and mechanical engineering, is offered to CompE, EE, and ME students as a streamlined curriculum that may be used by qualified students to attain the bachelor of science and master of science degrees simultaneously. Undergraduate CompE, EE, and ME students in their senior year are eligible to be admitted into this program if they have a GPA of at least 3.0 in the CompE, EE, and ME core courses, complete the G.E. requirements the semester they start the accelerated program or before, and take the GRE examination. An application and letter of intent should be filed with the CompE and EE options graduate program coordinator. A plan of study should be developed in consultation with the graduate program coordinator. The student must complete all G.E. requirements prior to taking any 200-level coursework. See degree listing for more detailed information.

Lyles College of Engineering

Department of Electrical and Computer Engineering

Nagy Bengiamin, *Chair*
Zaida Reyna, *Department Administrative Support Coordinator*
East Engineering Building, Room 254A
559.278.2726
www.fresnostate.edu/engineering/elec_computer/

B.S. in Computer Engineering

B.S. in Electrical Engineering

Minor in Computer Engineering

Minor in Electrical Engineering

M.S. in Engineering,
Computer Engineering Option
Electrical Engineering Option
See engineering graduate programs

Mechanical Engineering

Lyles College of Engineering

Department of Mechanical Engineering
To be announced, *Chair*
Engineering East Building, Room 154
559.278.2368
FAX: 559.278.6521
www.fresnostate.edu/engineering

B.S. in Mechanical Engineering

M.S. in Engineering,
Mechanical Engineering Option

Faculty

Mechanical Engineering
To be announced, *Chair*
Gemunu S. Happawana
Michael G. Jenkins
Walter K. Mizuno
Maria C. Sanchez
Ira J. Sorensen

The Department Description

The Department of Mechanical Engineering offers the Bachelor of Science degree in Mechanical Engineering. The program is accredited by the Engineering Accreditation Commission (ABET), *www.abet.org*. The department also offers a Master of Science in Engineering with an option in Mechanical Engineering. For more information see Master of Science in Engineering program.

Faculty and Facilities

Department faculty members have outstanding academic credentials which cover most major areas in mechanical engineering. In addition, faculty members have had distinguished careers in academic, governmental, and industrial sectors and are able, through their experiences, to help students develop the professional skills needed to solve engineering problems.

Laboratory facilities emphasize computer interaction, the operation and use of instruments, and the experimental approach. The mechanical engineering laboratories are equipped with laser measurement systems, digital data acquisition systems and test apparatus which enable engineering students to study the effects of different parameters on the operation and performance of energy, fluid, and mechanical systems. The laboratory program also includes strong emphasis on computer-aided design and engineering.

Mandatory Advising

It is the policy of the department that every student see his/her assigned adviser at least once during the academic year.

Administrative Academic Probation

A minimum GPA of 2.0 must be maintained in all courses taken in the Lyles College of Engineering. Students who fail to maintain a 2.0 GPA in courses within their major may be placed on administrative academic probation. Failure to eliminate the grade point deficiency could result in disqualification from the Lyles College of Engineering.

Accelerated B.S./M.S.

An accelerated B.S./M.S. program, with options in electrical and mechanical engineering, is offered to ME and EE students as a streamlined curriculum that may be used by qualified students to attain the bachelor of science and master of science degrees simultaneously. Undergraduate EE and ME students in their senior year are eligible to be admitted into this program if they have a GPA of at least 3.0 in the EE or ME core courses, complete the G.E. requirements the semester they start the accelerated program or before, and take the GRE examination. An application and letter of intent should be filed with the ME option graduate program coordinator. A plan of study should be developed in consultation with the graduate program coordinator. The student must complete all G.E. requirements prior to taking any 200-level coursework. See degree listings for more detailed information.

Civil Engineering
Jesus S. Larralde-Muro, *Coordinator*
Engineering East Building, Room 178
559.278.2566

Program Description

Civil engineering includes the research, development, planning, design, construction, and maintenance associated with urban development, water supply, structures, energy generation and transmission, water treatment and disposal, and transportation systems. The civil engineer deals with the function and safety of such public facilities as buildings, bridges, dams, pipelines, powerplants, highways, and harbors, and is concerned with the protection of the public against natural hazards of earthquakes, floods, landslides, and fires.

The graduate curriculum leading to an M.S. in Civil Engineering provides specialized training in the fields of structural engineering and applied mechanics, soil mechanics and foundation engineering, environmental engineering, water resources engineering, highway engineering, and geomatics engineering.

Career Opportunities

Employment opportunities for civil engineers in industry, state, and federal government agencies remain at a high level as a result of increasing urban growth and land development, and the recent emphasis on the maintenance and repair of the nationwide infrastructure system. Civil engineers are also in demand to meet the growing challenge of mitigating environmental hazards.

Civil engineers frequently occupy positions in specialty areas such as environmental engineering, geotechnical engineering, structural engineering, transportation engineering, and water-resources engineering. Position titles for civil engineers, such as senior engineer or project engineer in specialty areas, typically reflect their rank within their organization.

Most civil engineering graduates have earned professional licenses as civil engineers within a few years of receiving their degrees.

Mission of Civil Engineering

The mission of the Civil Engineering Program is to provide the educational environment necessary for civil engineering students to develop their personal potential to the greatest extent possible and to enrich the students' lives in a culturally diverse environment. Civil engineering also provides the high quality education required for the students to fully develop their professional qualities and skills to serve society.

The Civil Engineering Program's Educational Objectives

- The graduates of the civil engineering program should be well-rounded to function effectively both as professional civil engineers and as responsible and informed citizens.
- The graduates of the civil engineering program should practice the profession of civil engineering proficiently with a well-balanced preparation in engineering fundamentals and practical applications in any of the following four areas of civil engineering: environmental, geotechnical, structural, or transportation.
- The graduates of the civil engineering program should use the technical tools and skills required for effective professional practice and should continue learning in their professional lives to remain abreast of new developments and advances.
- The graduates of the civil engineering program should function effectively in multicultural and multidisciplinary groups in their practice of the civil engineering profession. They should be able to communicate effectively with engineering peers, other professionals, and with the public in general.
- The graduates of the civil engineering program should practice their profession with an understanding of the social and political implications of their professional engineering work and do so guided by the ASCE Code of Ethics.

Bachelor of Science Degree Requirements

Civil Engineering Major — *Units*

Major requirements 67

CE 20, 85, 121L, 123, 123L, 128, 129, 130, 132, 133, 142, 150, 180A, 180B, 185 ..... (36)
CE 124 and 142L..... (2)
GME 15, 15L..... (3)
GME 66 or ME 26 ..... (3)
ECE 91 and CE 110 ..... (6)
CE 161 ..... (2)
ME 112 ..... (3)
Technical Area Courses..... (12)
Select mandatory technical area courses in one or more of the following groups subject to the *Design Courses* statement below.
Environmental and Water Resources: CE 140, 141, 144, 146
General Professional: CE 161, 190, 191T
Geotechnical: CE 125, 134
Structures: CE 131, 136, 137
Geomatics: GME 151, 173
Transportation: CE 151, 152, 153
Design Courses: at least 9 units of technical area courses must be selected from the following design courses: CE 125, 134, 136, 141, 144, 146, 151

Other requirements..... 63

General Education
Select one course from each of the G.E. areas: Area A1, A2, B2, C1, D1, D2, D3. (See G.E. pages.)
The following courses are required to satisfy both G.E. and major requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], CE 121 [IB], PHIL 120 [IC], PLSI 120 [M/I]
Additional requirements
EES 1; MATH 76, 77,81; PHYS 4A, 4AL, 4B

Total 130

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken ***CR/NC*** are not counted toward fulfillment of degree requirements in civil engineering.
2. The Upper-Division Writing Skills requirement can be met by passing the university examination or by completing a "W" course with a letter grade of ***C*** or better no sooner than the term in which 60 units of coursework are completed.
3. All civil engineering students must consult with their academic adviser at least once each year.
4. The 12 units of Technical Area Courses should be completed with an average grade of at least a ***C***.

Civil Engineering Recommended Program

First Semester

CE 85 Introduction to Civil Engineering (3 units)
MATH 75 Mathematical Analysis I (4 units)
COMM 3, 7, 8 Area A1 (see note 2) (3 units)
ENGL 5B or 10 Area A2 (see note 2) (3 units)
G.E. Area C1 (see note 2) (3 units)

Second Semester
MATH 76 Mathematical Analysis II (4 units)
PHYS 4A, L Mechanics and\ Wave Motion/Lab (4 units)
GME 15 Engineering Surveying (3 units)
HIST 11 or 12 Area D1 (see note 2) (3 units)

Third Semester
CE 20 ENGR Mechanics: Statics (3 units)
MATH 77 Mathematical Analysis III (4 units)
BIOL 10 Area B2 (see note 3) (3 units)
CHEM 3A Introductory General Chemistry (4 units)
PHYS 4B Electricity and Magnetism (3 units)

Fourth Semester
EES 1 Physical Geology (4 units)
PHIL 1 or 10 Area C2 (see note 2) (3 units)
MATH 81 Applied Analysis (3 units)
PI SC 2 Area D2 (see note 2) (3 units)
ME 26 Engineering Graphics (3 units)

Fifth Semester
CE 121 (see note 1), 121L Mechanics of Materials (4 units)
CE 128 Civil Engineering Hydraulics (3 units)
CE 129 Engineering Hydraulics Lab (1 unit)
ME 112 Engineering Mechanics Dynamics (3 units)
G.E. Area D3 (see note 2) (3 units)

Sixth Semester
CE 123, L Soil Engineering (4 units)
CE 130 Theory of Structures (3 units)
CE 142 Environmental Engineering (3 units)
CE 150 Transportation Planning and Design (3 units)
PHIL 120 (Contemporary Conflicts of Morals) (3 units)

Seventh Semester
CE 124 or 142L (1 unit)
CE 132 Reinforced Concrete Design (3 units)
CE 180A Project Design (2 units)
ECE 91 Principles of Electrical Circuits (3 units)
Technical Area Courses (See Major Requirements) (6 units)
Total (15 units)

Eighth Semester
CE 180B Senior Project (2 units)
PLSI 120 (International Politics) (3 units)
Technical Area Courses (See Major Requirements) (6 units)

Notes
1. Also counts as G.E. Area IB.
2. See G.E. listings.
3. Also counts as G.E. Area B2 and B3

Master of Science in Civil Engineering (MS-CE)

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements*, and *Criteria for Thesis and Project.*)

Mission. Located in California's Central Valley, the M.S. in Civil Engineering (MSCE) Program offers a graduate program of excellence that provides opportunities for advanced education and research in civil and geomatics engineering. The program's mission is to offer a curriculum that combines preparation for professional practice as well as preparation for research and further advanced studies.

Admission. The requirements for graduate admission to California State University, Fresno must be met. Also, applicants should possess a bachelor's degree in civil engineering, geomatics engineering, or a related field from an institution accredited by the Accreditation Board for Engineering and Technology and must have a 3.0 grade point average in the last 60 semester-units of engineering courses attempted, on the basis of 4.0 being *A*, or the approval of the Graduate Committee of the Department of Civil and Geomatics Engineering. If an applicant's preparation is deemed insufficient by the Graduate Committee of the Department of Civil and Geomatics Engineering, the applicant is required to take additional courses which are specified in writing to remove the deficiency. Such courses, taken as an unclassified student, are in addition to the minimum of 30 semester hours credit for the master's degree in engineering. The department graduate program coordinator shall appoint an interim graduate adviser for each student when that student is accepted into the graduate program. The coordinator will take into account student interests and correlated faculty interests when making this appointment.

A student must satisfactorily complete a written examination administered by the department before being eligible for Advancement to Candidacy; this satisfies both the university's graduate writing requirement and demonstrates the student has sufficient technical proficiency to continue in the program.

Continuation in the Program. Prior to being admitted to classified standing, a student is required to take the Graduate Record Examination. The minimum grade considered passing is quantitative 550.

The student then should select a graduate adviser before completing 12 units of graduate study and advancing to candidacy. Other members of his or her graduate committee shall be selected in consultation with the graduate adviser if the student has selected Plan A. This committee shall consist of a total of three members, two of whom must be tenure/tenure track faculty. The graduate student shall notify the department's Graduate Committee with a letter signed by both the student and the graduate adviser of the membership of the students' Graduate Committee. This letter shall be placed in the student's academic folder.

A graduate student may change graduate advisers but such change must be approved by the department's Graduate Committee. The student, together with his or her graduate adviser, completes a contract program within his or her first semester of coursework taken for graduate credit. This program must be approved by the department's Graduate Committee. A minimum of 12 semester hours must be earned before the average is determined.

Campus graduate disqualification procedures shall be enforced by the department graduate program coordinator if the GPA drops below 3.0 (4.0 scale) each semester and cumulatively throughout all graduate program coursework. Any semester for which the grade point average falls below 3.0 shall result in placing the affected graduate student on probation. Normally, a second consecutive offense shall lead to disqualification. Such probation shall be for at least one semester or shall continue until the cumulative grade point average has again been raised above 3.0.

Program. Each master's degree student selects, as early as possible during the first semester of attendance, and upon consulting with and securing the approval of the graduate adviser, a program best suited to the student's interests and objectives.

The M.S. in Civil Engineering requires the completion of 30 units following one of three programs of study.

See the catalog website for civil engineering and geomatics engineering technical area courses that may be applied to the program at *www.fresnostate.edu/catoffice/current/engcivprog.html.*

Plan A (Thesis)	*Units*
a. 200-series CE courses[1]	**12-24**
b. 100-series CE or GME technical area courses[2]	**0-6**
c. Courses outside the department[3]	**0-6**
d. Thesis	**6**
Total	**30**

Plan B (Project)	*Units*
a. 200-series CE courses[1]	**15-27**
b. 100-series CE or GME technical area courses[2]	**0-6**
c. Courses outside the department[3]	**0-6**
d. Project	**3**
Total	**30**

Plan C (Comprehensive Exam)	*Units*
a. 200-series CE courses[1]	**18-30**
b. 100-series CE or GME technical area courses[2]	**0-6**
c. Courses outside the department[3]	**0-6**
Total	**30**

Advising Notes

1. Graduate courses in civil engineering — select from CE 205, 206, 210, 220, 223, 225, 230, 232, 233, 235, 236, 237, 239, 240, 245, 246A, 246B, 247, 251, 261, 271, 276, 280, 283, 285, 286, 290, and 291T.
2. 100-series technical area courses in civil and geomatics engineering — select from CE 125, 131, 134, 136, 137, 141, 144, 151, 153, 191T; GME 125, 126, 135, 145, 152, 153, 161, 174, 175, 191T; and ME 144.
3. 100-series and 200-series courses outside civil and geomatics engineering are in disciplines best suited to the students graduate program as approved by the program adviser. This includes mathematics, statistics, management, business, geology, physics, chemistry, health science, and biology.

COURSES

Civil Engineering (CE)

CE 20. Engineering Mechanics: Statics (3 units)
Prerequisites: MATH 77 or concurrently; PHYS 4A. Analysis of force systems, equilibrium problems, section properties; graphic, algebraic, and vector methods of problem solution. **FS**

CE 29. Engineering Mechanics (3 units)
(See ME 29.) **FS**

CE 85. Introduction to Civil Engineering (3 units)
The civil engineering profession and its role in society; creative thinking and critical thinking as integral parts of the engineering decision process; engineering methods of analysis; problem solving; computer drafting; career opportunities. (Field trips required) **FS**

CE 110. Computer Applications in Civil Engineering (3 units)
Prerequisites: MATH 76 or concurrently. Use and modification of existing programs. Creation of new programs. Use of structured language, spreadsheets, and numerical solutions CAD. Term projects. **FS**

CE 121. Mechanics of Materials (3 units)
Prerequisite: CE 20. Applications of principles of mechanics to find stresses and deformations in machine and structural members. **FS**

CE 121L. Mechanics of Materials Laboratory (1 unit)
Prerequisite: CE 121 or concurrently. Application of principles and methods of testing to verify theory and determine limitations of principles of mechanics of materials. (3 lab hours) **SF**

CE 123. Soil Engineering (3 units)
Prerequisites: CE 121, CE 123L concurrently. Physical and mechanical properties of soil, lab and field testing, flow of water in soils including permeability and seepage, stress in soils, soil consolidation and settlement, earth pressure, slope stability, and introduction to foundation design. **FS**

CE 123L. Soil Engineering Laboratory (1 unit)
Prerequisites: CE 121L, CE 123 concurrently. Soil properties and testing, grain size distribution and soil classification, water content, specific gravity, permeability, compression, consolidation, and stress-strain relationships. **FS**

CE 124. Concrete Laboratory (1 unit)
Prerequisite: CE 121L. Proportioning of concrete mixes; admixtures; workability tests; compressive, flexural, and tensile strength tests; reinforced concrete. (3 lab hours; field trips required)

CE 125. Geotechnical Engineering Design (3 units)
Prerequisites: CE 123, CE 123L. Theory and design of earth retaining walls, filtration and draining systems, excavation and supporting systems, soil improvement and ground modification, geosynthetics design and applications, introduction to geoenvironmental engineering.

CE 128. Civil Engineering Hydraulics (3 units)
Prerequisite: CE 20 or concurrently. Fundamentals of civil engineering hydraulics with application to hydraulic structures.

CE 129. Engineering Hydraulics Lab (1 unit)
Prerequisite: CE 128 or concurrently. Experiments and demonstrations in fluid properties, flow management, pipe flow, open channel flow, pumps, and hydraulic scour. (3 lab hours)

CE 130. Theory of Structures (3 units)
Prerequisite: grade of *C* or better in CE 121. Trusses and frames analyzed by algebraic and graphic procedures; influence lines and live loading analysis; rigid frames analyzed by slope deflection and moment distribution. Introduction to matrix methods. **FS**

CE 131. Intermediate Theory of Structures (3 units)
Prerequisite: CE 130. Analysis of statically indeterminate beams, trusses, and frames; advanced topics in slope deflection and moment distribution; matrix methods.

CE 132. Reinforced Concrete Design (3 units)
Prerequisite: CE 130. Design of reinforced concrete structural elements and simple structures using the Ultimate Strength Design Method. Introduction to prestressed concrete. (2 lecture, 3 lab hours; field trips required)

CE 133. Design of Steel Structures (3 units)
Prerequisite: CE 130. Design of steel members and systems for buildings. Design areas include: tension members, compression members, beams, beam-columns, connections and plate girders. (2 lecture, 3 lab hours)

CE 134. Foundation Design (3 units)
Prerequisites: CE 123, 123L, 132 or concurrently. Design and theory of spread and continuous wall, rectangular, cantilever and trapezoidal footings; earth pressures and cantilever as well as gravity retaining walls; pile foundations; pile driving; construction considerations; load tests; subsurface investigations; case histories; and computer-aided design of foundations. (2 lecture, 3 lab hours)

CE 136. Design of Timber Structures (3 units)
Prerequisite: CE 130. Design of timber members and systems for buildings. Design areas include: loads, properties of wood, tension members, beams, columns, beam-columns, connections, diaphragms, shear walls, and glued laminated arches.

CE 137. Seismic Analysis of Building Structures (3 units)
Prerequisites: CE 130, ME 112. Effects of earthquakes on structures. Introduction to structural dynamics. Response of structures. Seismic provisions of building codes. Basic concepts in seismic-resistant design. Detailing for seismic-resistant construction. Term project. (Field trips required)

CE 140. Hydrology (3 units)
Prerequisites: CE 128 or concurrently. The hydrologic cycle, atmospheric conditions, precipitation, infiltration, ground water, soil moisture, evaporation, runoff, streamflow, hydrographs, flood routing, hydrologic statistical analysis; applications to water resources planning and management. (Field trips required)

CE 141. Water Resources Engineering (3 units)
Prerequisites: CE 128, 142 (or concurrently). Hydraulic design of water distribution, and sewerage. Computer-assisted pipe network analysis. Pump applications. (2 lecture, 3 lab hours; field trips required)

CE 142. Environmental Engineering (3 units)
Prerequisites: CHEM 1A or 3A concurrently; CE 128 or concurrently. Introduction to the principles and practices of environmental quality management, including water and air quality, waste management, and the environmental effects of engineered systems.

CE 142L. Environmental Quality Laboratory (1 unit)
Prerequisite: CE 142 or concurrently. Study and analysis of physical, chemical, and biological characteristics of air, water, and solid wastes. (Field trips required)

CE 144. Design of Water Quality Control Processes (3 units)
Prerequisite: CE 142 or permission of instructor. Analysis and design of selected physical, chemical, and biological facilities for water purification and wastewater treatment. (2 lecture, 2 lab hours) (Field trips required)

CE 146. Urban Stormwater Management (3 units)
Prerequisites: CE 128, CE 140 (or concurrently). Overview of stormwater management; introduction to urban stormwater drainage system design. Covers stormwater management history and regulations, urban hydrology and hydraulic design, stormwater quality, receiving-water impacts, and best management practices. Computer-assisted analysis and design. (Field trips may be required.) (2 lecture, 3 lab hours)

CE 150. Transportation Planning and Design (3 units)
Prerequisite: GME 15, upper-division standing. Geometric design of land transportation facilities, primarily road/street systems. Traffic theory and analysis, including statistical analysis of traffic parameters. Freeway and intersection capacity. Simple transportation demand forecast. (2 lecture, 3 lab hours) **FS**

CE 151. Pavement Design (3 units)
Prerequisite: CE 123 or concurrently. Analysis of pavement structures. Factors affecting pavement performance. Structural design of flexible and rigid highway and airfield pavements. Pavement rehabilitation and repair.

CE 152. Transportation Engineering Materials (3 units)
Prerequisite: CE 123. Properties and durability of Portland cement concrete. Properties and testing of aggregates for asphalts concrete. Asphalt cements and asphalt concrete performance. Traditional and SUPERPAVE mix design and specification of asphalt concrete.

CE 153. Traffic Operations and Control (3 units)
Prerequisite: CE 150. Transportation studies. Highway traffic characteristics. Highway system traffic analysis. Highway system capacity design. Traffic regulations and control.

CE 161. Construction Engineering I (2 units)
Prerequisite: CE 130, permission of the instructor. Basics of civil engineering contracting, project funding, cash flow, equipment costs, engineering economics. **FS**

CE 180A. Project Design (2 units)
Prerequisites: completion of Upper-Division Writing Requirements; senior standing in civil engineering; permission of instructor. Civil engineering practice, ethical issues, project analysis, and design. Student teams complete and orally defend proposal for a design project that includes several civil engineering specialties. Information gathering, time/resource management, and communication skills. **FS**

CE 180B. Senior Project (2 units)
Prerequisites: CE 180A; approved project proposal. Synthesis of previous coursework into a civil engineering design project under the supervision of a faculty member. Group projects except by special permission. **FS**

CE 185. Civil Engineering Practice (2 units)
Prerequisites: senior standing in civil engineering or permission of instructor. Practice of civil engineering; transition from student to professional engineer; engineering ethics; business and public policy; administration fundamentals; leadership.

CE 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

CE 191T. Topics in Civil Engineering (1-3; max total 6 units)
Prerequisite: permission of instructor. Investigation of selected civil engineering subjects not in current courses.

CE 193. Internship in Civil Engineering (2-4)
Prerequisite: permission of adviser. Engineering practice in a consulting, industrial, or government work setting. Each cooperative internship period usually spans a summer-fall or spring-summer interval. This course cannot be used to meet graduation requirements. ***CR/NC*** grading only. **FS**

GRADUATE COURSES

(See *Catalog Numbering System*.)

Civil Engineering (CE)

CE 205. Computing in Engineering Analysis (3 units)
Prerequisite: graduate status in engineering. Solution of engineering problems using digital computation. Modeling of engineering systems for numerical analysis. **F**

CE 206. Engineering Environmental Impact (3 units)
Evaluation of environmental impacts due to engineering projects. The incorporation of environmental considerations into

engineering design. Alternative solutions to engineering problems. Case histories of selected engineering projects. S

CE 210. Research Methods (3 units)
Development of research skills, understanding and application of the scientific method in engineering research, and development of individual research topic and proposal. Discussion of new developments in civil engineering science, oral presentations, and submittal of research papers. (Formerly CE 291T)

CE 220. Advanced Foundation Engineering (3 units)
Prerequisite: graduate standing. Design of cantilevered and anchored sheet-pile walls; axial- and lateral-loaded pile groups; drilled piers; pile driving stresses and wave equation analysis; beams on elastic foundations; footings on expansive and non-uniform soils and on rock; and case histories.

CE 223. Advanced Soil Mechanics (3 units)
Prerequisites: CE 123, 123L, 125, 134, or with instructor's approval. Covers in-depth discussion of soil aggregates and structures, pore water pressure, unsaturated soil mechanics, permeability and seepage, consolidation, and shear strength. Advanced soil testing (triaxial tests of shear strength and flexible-wall permeability tests) is conducted in class. (Formerly CE 291T)

CE 225. Numerical Methods in Geotechnical Engineering (3 units)
Prerequisites: CE 123 and 123L, 125, and 134, or with instructor's approval. Covers introduction to programming, principles of finite element method, and principles of probabilistic methods in geotechnical engineering. Students apply various numerical methods in geotechnical applications, (e.g., slope stability, seepage, consolidation) by developing numerical programs and using existing FEM software. (Formerly CE 291T)

CE 230. Advanced Theory of Structures (3 units)
Prerequisite: graduate standing in engineering or permission of instructor. Analysis of indeterminate structures by force (flexibility) methods and by displacement (stiffness) methods; Matrix methods suitable for digital computer solutions. Virtual work, real and complementary energy. Classical structural theorems. Introduction to the finite element method.

CE 232. Prestressed Concrete Design (3 units)
Prerequisite: graduate standing in engineering or permission of instructor. Structural behavior and design of prestressed concrete elements and systems — continuous beams, frames, slabs. Partial prestress. (Field trip[s] required)

CE 233. Advanced Behavior and Design of Steel Structures (3 units)
Prerequisite: graduate standing in engineering or permission of instructor. Material behavior and design of basic structural units; plate girders; connections; inelastic buckling; composite design; plastic design; PΔ effect. Analysis and design of continuous structures, braced and unbraced frames; stability of steel structures. Critical study of the AISC specifications.

CE 235. Finite Element Analysis (3 units)
Prerequisite: graduate standing in engineering or permission of instructor. Theoretical and conceptual bases for formulation of finite element representations in solid mechanics. Development of element stiffness matrices for plane stress and plane strain problems, bending of plates and deformation of shells.

CE 236. Reinforced Masonry Theory and Design (3 units)
Un-reinforced and reinforced masonry. Current and historic design and analysis methods of buildings and their components using clay, brick, and concrete masonry. Masonry beams, columns, walls, shear wall, and retaining structures. (Formerly CE 291T)

CE 237. Dynamics of Structures (3 units)
Analysis of structural members and systems subject to dynamic loads. Basic theory for single-degree-of-freedom and multi-degree-of-freedom analytical models; free vibration, harmonic and transient excitation, response spectrum, LaGrange's equations, earthquake analysis.

CE 239. Advanced Reinforced Concrete Theory (3 units)
Background and origin of modern reinforced concrete theory and procedures. In-depth and critical review of current design specifications and code. Projection to anticipated future changes in design and construction practices. Application and extension of theory to include new and future construction materials such as high performance concrete and fiber reinforced polymers. (Formerly CE 291T)

CE 240. Engineering Hydrology (3 units)
Prerequisites: CE 128, 140. Analysis of the physical and stochastic processes governing the occurrence and movement of water in its natural environment. Applications to hydraulic engineering practice.

CE 245. Geoenvironmental Engineering (3 units)
Prerequisite: BIOL 10, CHEM 3A, CE 123, CE 128, CE 129, CE142, or with approval of the instructor. Topics covered include basic soil physics, principles of groundwater flow, mass transport and transfer in soils, non-aqueous phase liquid in soils, geosynthetics, basic soil microbiology and biochemistry, environmental regulations, solid waste landfills, site contamination and treatment techniques. (Formerly CE 291T)

CE 246A. Advanced Water Quality (3 units)
Prerequisite: CE 142 or permission of instructor. Theory and practice of physical/chemical processes for controlling water quality, including chemical equilibrium and kinetics; mass transfer mechanisms; physical separation processes; adsorption, exchange, and membrane-based processes; disinfection.

CE 246B. Advanced Water Quality (3 units)
Prerequisites: CE 142 or permission of instructor; CE 246A recommended. Theory and practice of biological processes for controlling water quality, including suspended growth systems; attached growth systems; ponds; land treatment. Also sludge treatment processes, including biological stabilization, thickening, and dewatering; sludge disposal.

CE 247. Solid Wastes Engineering (3 units)
Planning and design of waste collection and disposal systems. Waste segregation and energy impact related to recovery and recycling practices. Environmental impact and institutional issues related to solid and hazardous waste systems.

CE 251. Advanced Boundary Law (3 units)
Prerequisite: GME 151 or equivalent. Land and water boundary legal issues, both historical and new. Case investigations.

CE 261. Geoprocessing (3 units)
Prerequisite: GME 173 or equivalent. Integration of computer technologies for gathering, analyzing, and displaying data associated with the earth's spatial features. Engineering design problems dependent on competing factors.

CE 271. Geodetic Systems Optimization (3 units)
Prerequisite: GME 108 or equivalent. National geodetic networks; planimetric and

vertical control systems; geodetic control densification; network optimization criteria and methodology.

CE 276. GPS Theory and Application (3 units)
Operational theory of Global Positioning Systems (GPS) and Global Navigation Satellite Systems (GNSS). Applications to engineering practice.

CE 280. Geomatics Engineering Seminar (1; max total 3 units)
Prerequisite: graduate standing. Current California State University, Fresno surveying engineering research presented and discussed by faculty and graduate students. Oral presentation and written report documenting ongoing research activities required.

CE 283. Digital Remote Sensing (3 units)
Prerequisite: GME 140 or equivalent. Quantitative approach in remote sensing; digital image characteristics, error correction, registration; geometric and radiometric image enhancement; image classification; system design; remote sensing and GIS.

CE 285. Advanced Analytical Photogrammetry (3 units)
Prerequisite: GME 125 or equivalent. Mathematical models in photogrammetry; bundle block adjustment, self-calibration; close-range photogrammetry; real time photogrammetry and data snooping. System design; hardware and software considerations in photogrammetry.

CE 286. Geographic Information Systems Design (3 units)
Prerequisite: GME 173 or equivalent. Data structures and algorithms, databases for GIS, error modeling and data uncertainty, visualization, data exchange and standards, the multipurpose cadaster, advanced analysis techniques.

CE 290. Independent Study (1-3; max total 6 units)
Prerequisite: graduate status in engineering. See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

CE 291T. Topics in Engineering (1-3; max total 6 units)
Prerequisite: permission of instructor. Investigation of selected engineering topics. May be offered with a lab.

CE 298. Project (3; max total 3 units)*
Prerequisite: graduate status in engineering. See *Criteria For Thesis and Project.* Independent investigation of advanced character such as analysis and/or design of special engineering systems or projects; critical review of state of the art of special topics, as the culminating requirement for the master's degree. Abstract required. Approved for ***RP*** grading. **FS**

CE 299. Thesis (2-6; max total 6 units)*
Prerequisite: See *Criteria For Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for master's degree. Approved for ***RP*** grading. **FS**

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSES

(See *Catalog Numbering System.*)

Civil Engineering (CE)

CE 311. Professional Examination Review (2; may be repeated in different fields)
Prerequisite: bachelor's degree in engineering or eligibility to take state registration examinations. Review of engineering fundamentals for those qualified to take the state examination for certification as engineer-in-training; or review in a specific field (civil, electrical, mechanical, or other) for those preparing to take the examination for registration as professional engineer.

CE 321. Professional Engineering Seminar (1-3; may be repeated in different fields)
Prerequisite: bachelor's degree in engineering or related field, or experience as a professional engineer. Latest developments in various specialized areas of professional engineering practice; new materials, design and construction methods, equipment, devices, and procedures.

Construction Management
Manoochehr Zoghi, *Coordinator*
Engineering East Building, Room 192
559.278.6056

Program Description

The Bachelor of Science in Construction Management is accredited by the American Council for Construction Education, the professional accreditation organization of the construction industry.

Students in construction management (CM) are exposed to a wide variety of topics, ranging from courses in management and administration of construction companies, projects, people, and equipment to courses focusing on specific techniques for project planning and control work improvement and estimating. The Construction Management program also provides opportunities to develop a strong background in computer applications in construction. Computer skills combined with a solid management and technical background are major assets of the construction management graduate.

Opportunities for construction management graduates are excellent. Examples of positions held by construction management graduates are project manager, construction manager, project administrator, estimator, scheduler, architectural representative, project superintendent, and construction administrator. Students should consider this challenging, satisfying, and high-paying profession.

Mission of Construction Management

The mission of the Construction Management Program is to develop character, build leaders, and sustain learning.

Educational Objectives of the Instructional Program

- Provide students with the ability to recognize and independently diagnose construction related problems accurately, develop creative alternatives, and implement practical and effective solutions.
- Provide students with the ability to plan, schedule, and control work activities; motivate and provide accurate and timely constructive alternatives; and implement practical and effective solutions.
- Provide students with the ability to apply construction related techniques, skills, and tools to construction materials as necessary for a managed construction project.
- Provide students with the ability to understand technical issues related to the fields of architecture, engineering, business and construction accounting, and finance. Work effectively and efficiently with personnel from these disciplines to properly apply related fundamentals, techniques, and procedures.
- Provide students with the ability to apply basic construction related design theory within the areas of structural, mechanical, electrical, thermodynamics, civil, and soil mechanics.

Bachelor of Science Degree Requirements

Construction Management Major

Units

Pre-construction management requirements 16
CM 1S, 4, 7S, 20; CE 20; GME 15 and 15L

Upper-division core requirements 28
CM 110, 116, 122, 140, 170, 180A(S), 180B, 181, 193; CE 121, 121L, and 127

Construction Management Electives 9

Sector Electives.....(3)
Select one course from the following: CM 134, 150, 151, or 166

Construction Technology Electives .....(3)
Select one course from the following: CM 131 or 191T

Construction Methods Electives.....(3)
Select one course from the following: CM 132, CM 144, or CE 130

Other requirements..... 67

General Education ..... (41)
Select one course from each of the G.E. areas: Area A1, A2, A3, B2, C1, C2, D1, D2, and IC. (See G.E. listings). The following courses are required to satisfy both G.E. and major requirements: PHYS 4A and 4AL [BI], MATH 75 [B4], ECON 40 or 50 [D3], BA 104 [M/I]

Additional requirements ..... (26)
MATH 76; EES 1 or CHEM 3A; DS 73; ACCT 4A; MGT 104; two business electives (see Business Electives below); BA 105W or ENGR 105W (see Upper-Division Writing Skills requirement below). CONST 180B satisfies the G.E. IB requirement.

- Business Electives (6 units)
  Select two courses from the following: upper-division business administration courses, CM 124, or courses approved by the academic adviser.
- Upper-division writing skills requirement (3 units)
  Construction management majors must select either BA 105W or ENGR 105W. The Upper-Division Writing Exam is not an option for construction management majors.

Total 120*

**Note*: Construction management majors are exempt from G.E. third course Area C, Area E, and Area ID.

Pre-Construction Management Requirements

All construction management students entering California State University, Fresno are considered pre-construction management majors and are coded as such. In order to enroll in 100-level construction management courses, pre-construction management students must do the following:

(a) Complete all of the following courses: MATH 75, MATH 76, PHYS 4A, PHYS 4AL, CM 1S, CM 4, CM 7S, CM 20, CE 20, GME 15, and GME 15L; (b) attain a *C* in six of the 11 courses listed above, with no course to be repeated more than twice; and (c) have a cumulative and campus grade point average of at least 2.00.

Advising Notes

1. Courses in mathematics and the physical sciences taken *CR/NC* are not counted toward fulfillment of degree requirements in construction.
2. The Upper-Division Writing Skills requirement must be met by completing a "W" course with a letter grade of *C* or better no sooner than the term in which 60 units of coursework are completed.
3. All construction management students must consult with their academic advisers at least once per academic year.

Construction Management Minor

Students from interrelated disciplines will acquire professional and specialized construction knowledge and skills. Preparation for participation in the construction -related professions leads to careers in solving the infrastructure needs of society and the environment.

Units

Required Core courses 16
CM 1S, 4, 7S, 20, 110, 116

Additional elective courses..... 6
The student will select two additional construction courses in consultation with a faculty adviser. Emphasis may be placed upon a variety of specialization areas.

Total 22

Note: The Construction Management Minor also requires a 2.0 GPA and 6 upper-division units in residence.

COURSES

Construction Management (CM)

CM 1S. Construction Management Orientation (1 unit)
An overview of construction management education and profession. Introduction to the construction industry, career opportunities, leadership/personality assessment, sustainability, ethics, safety, community service, and university experience. Coursework requires 20 hours of service-learning in construction. (1 lecture hour) (Formerly CONST 1) **FS**

CM 4. Construction Graphics (3 units)
Corequisite: CM 1S. Introduction to fundamentals and techniques to communicate graphically in the construction industry. Covers plan reading, architectural drawing, sketching, drafting methods, computer-aided design, and building information modeling. Survey of architectural form and function. Study includes application of building codes and regulations. (2 lecture, 3 lab hours)

CM 5. Construction Materials (3 units)
Introduction to basic construction materials: concrete, masonry, metals, woods, thermal materials, finishes, equipment, and specialties. (2 lecture, 2 lab hours; field trips) (Formerly CONST 5) **FS**

CM 7S. Construction Materials and Basic Building Systems (3 units)
Prerequisite: CM 4. Introduction to basic construction materials and exploration of theoretic principles relating to the various building systems. Coursework requires 20 hours of service-learning in construction. Lectures, lab, field trips, and guest speakers. (2 lecture, 3 lab hours)

CM 15. Construction Management Software (3 units)
Introduction to construction industry software and project documentation. Basic instruction in estimating, scheduling, design, and project control software. Designed to provide an overview of those particular software packages used in subsequent construction management coursework. (2 lecture, 2 lab hours) (Formerly CONST 15) **FS**

CM 20. Construction Contracts and Specifications (3 units)
Corequisites: CM 7S. Principles of business law and methods for developing and applying construction contracts and specifications, including bidding requirements, bonds and insurance, certificates, agenda, change orders, general and supplemental

conditions, and CSI specifications. (2 lecture, 2 lab hours) (Formerly CONST 120, CONST 20)

CM 31. Architectural Graphics (3 units)
Prerequisite: CM 5. Introduction to basic techniques and media used in architectural graphic communication including: perspective techniques, sciagraphy, models, and photography; emphasis on various ways of making drawn representations of architectural design proposals. (6 lab hours) (Formerly CONST 31) **F**

CM 32. Architectural Design (3 units)
Introduction to architectural design theory; analysis of architectural design problems, assessment of human needs, establishment of architectural design criteria and development of architectural design concept. (6 lab hours) (Formerly CONST 32) **F**

CM 42. Architectural Drawing (3 units)
Architectural drafting techniques and standards progressing from fundamentals to details in the area of light construction design through the use of sketching, drafting methods, and computer aided design. Study includes the application of building codes and regulations. (6 lab hours) (Formerly CONST 42)

CM 43. Computer-Aided Construction Detailing (3 units)
Prerequisite: CM 42. Application of computers to planning and details for wood, concrete, masonry, and steel structures. (6 lab hours) (Formerly CONST 43) **FS**

CM 50. Basic Building Systems (3 units)
Prerequisite: CM 5, 42. Exploration of theoretic principles relating to the various building systems. (2 lecture, 2 lab hours; field trips) (Formerly CONST 50) **FS**

CM 105. Construction Structures (3 units)
Prerequisites: CM 5, 50; PHYS 2A; MATH 75. Properties, strength, and functional applications of basic construction materials: woods, metals, and concrete. Recent developments in new materials and applications. (2 lecture, 2 lab hours; field trips) (Formerly CONST 105) **FS**

CM 107. Advanced Construction Structures (3 units)
Prerequisite: CM 105. Analysis of construction materials in its application to different structural systems. (2 lecture, 2 lab hours) (Formerly CONST 107) **FS**

CM 110. Estimating and Bidding (3 units)
Prerequisites: CM 20. Basic methods used to evaluate, fix cost, calculate worth, make accurate quantity take-offs and labor time estimates; preparing bids for prospective buyers. (2 lecture, 2 lab hours) (Formerly CONST 10, CONST 110) **FS**

CM 114. Construction Management (3 units)
Prerequisite: senior standing in construction. The construction manager's relation to internal organization, owner, architect, engineer, public, press, legal aid, unions, trades, equipment, utilities, insurance, finances, government, and others. (Formerly CONST 114)

CM 116. Scheduling and Control (3 units)
Prerequisites: CM 110. Critical path method; planning, scheduling, and control of construction projects including logic, time assignment and computation, analysis, replanning, diagramming practices, monitoring and updating, computer utilization; role of management. (2 lecture, 2 lab hours) (Formerly CONST 116)

CM 122. Construction Laws (3 units)
Prerequisite: CM 20. Orientation to the rules and regulations governing construction industry practices and activities including contractors license law, state lien laws, health and safety regulations, personnel relations and supervision, workers compensation, employment insurance, and taxes. (Formerly CONST 122)

CM 124. Construction Labor Law (3 units)
Prerequisites: CM 122. Study of federal and state labor-oriented regulations as applied to construction industry practices. Interaction between technical and legal aspects of collective bargaining, pre-hire agreements, hiring hall referrals, open shop construction, work force management, labor standards, employment discrimination, strikes, and picketing. (Formerly CONST 124)

CM 127. Construction Soils and Foundations (3 units)
Not open to civil engineering majors. Prerequisite: upper-level standing. Physical and mechanical properties of soil, construction applications of soil engineering design, field control during construction, field problems and remedial measures, and case histories. (Formerly CE 127)

CM 131. Advanced Architectural Graphics (3 units)
Prerequisite: CM 7S and upper-division standing. Architectural graphic techniques as tools of three dimensional analysis and representation in the design process. (6 lab hours) (Formerly CONST 131) \

CM 132. Advanced Architectural Design (3 units)
Prerequisite: CM 131 and upper-division standing. Development of understanding of the forces affecting the man-made environment through function identification, systems analysis, and development of architectural design solutions to problems at an intermediate level of complexity. (6 lab hours) (Formerly CONST 132)

CM 134. Architectural Design Problems (3 units)
Prerequisites: CM 116, 132. Conceptual planning and design of a large scale architectural project responding to the built environment. Employing team research and analysis leading to the design and presentation on individual solutions with graphic and three-dimensional techniques. (6 lab hours) (Formerly CONST 134)

CM 140. Building Mechanical, Electrical, and Plumbing Systems (3 units)
Prerequisite: CM 7S and 20. Survey of building mechanical, electrical, and plumbing systems. Orientation to the design fundamentals and construction of various sustainable and environmentally friendly systems and equipment. Lectures, field trips, and guest speakers. (2 lecture, 3 lab hours)

CM 144. Construction Site Planning and Development (3 units)
Prerequisite: CM 116; senior standing. Analysis of land development; site investigation, grading, street piping systems, and landscaping. (2 lecture, 2 lab hours; field trips) (Formerly CONST 144)

CM 150. Building Construction (3 units)
Prerequisites: permission of instructor; CM 116; CE 121. Problems and methods of solutions in the construction of buildings; site, excavations, foundations, framework, timber, reinforced concrete, structural steel, masonry construction and related elements. Satisfies the senior major requirement for the B.S. in Construction Management. (2 lecture, 2 lab hours; field trips) (Formerly CONST 150)

CM 151. Heavy Civil Construction (3 units)
Prerequisites: senior standing or permission of instructor; CM 116; CE 121, 127. Problems and methods of solution in heavy construction from earth moving, paving, compacting to tunneling; administrative procedures, quantity surveying, estimating, scheduling, and bidding. (2 lecture, 2 lab hours; field trips) (Formerly CONST 151)

CM 162. Mechanical Systems I (3 units)
Prerequisite: CM 50. Mechanical systems for heating, ventilating, air conditioning, plumbing, storm drainage, and sewage disposal systems in commercial, industrial, residential construction; heat loss and gain, solar systems, mechanical system sizing, and life cycle cost analysis. Lectures, field trips, and guest speakers. (Formerly CONST 162)

CM 164. Building Electrical Systems (3 units)
Prerequisite: CM 50. Electrical systems for power, light, heat, signals, and communications in commercial, industrial, and residential buildings. (2 lecture, 2 lab hours; field trips) (Formerly CONST 164)

CM 166. Mechanical Systems II (3 units)
Prerequisite: CM 162. Construction application of water systems, plumbing and storm drainage, and sewage disposal systems. (Formerly CONST 166)

CM 170. Construction Project Controls (3 units)
Prerequisite: CM 116. Development and application of construction project control systems; principles of construction project and business management; methods of cost, schedule, quality, safety, and change management; survey of construction accounting and finance. (2 lecture, 2 lab hours)

CM 177. Sustainable Construction (3 units)
Prerequisite: CM 7S. Provides an overview of emerging delivery systems for high performance green buildings and the basis on which their sustainability can be evaluated. Discusses green building rating systems. Lectures, lab, field trips, and guest speakers. (2 lecture, 2 lab hours) **F**

CM 180AS. Construction Management Capstone 1 (1 unit)
Prerequisite: CM 116, senior standing. Students prepare conceptual design, implement sustainable materials, assess structural components, and utilize passive building for alternative housing design. Coursework involves 20 hours of service-learning in construction. Lab, field trips, and guest speakers. (3 lab hours) (Formerly CONST 191T) **FS**

CM 180B. Construction Management Capstone 2 (3 units)
Prerequisite: CM 180AS. Covers the construction manager's relation to internal organization, owner, architect, engineer, public, press, legal aid, unions, trades, equipment, utilities, insurance, finances, government, and others. Lectures, lab, field trips, and guest speakers. (2 lecture, 3 lab hours) (Formerly CONST 114)

CM 181. Construction Management Senior Seminar (1 unit)
Prerequisite: senior standing. Presentation and discussion of current construction management practices. Standards of professionalism, leadership, and ethics. Professional practice issues and professional licensure.

CM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly CONST 190) **FS**

CM 191T. Technical Topics in Construction (1-3; max total 6 units)
Prerequisite: permission of instructor. Investigation and analysis of selected subjects in construction. (2-6 lab hours) (Formerly CONST 191T)

CM 193. Internship/Work Experience (3 units)
Open only to construction majors. Prerequisites: junior standing and permission of instructor. Supervised work experience in construction related industries. Periodic consultations with instructor. (Formerly CONST 193) **FS**

Department of Electrical and Computer Engineering

Nagy Bengiamin, *Chair*
Engineering East Building, Room 254A
559.278.2726

Program Description

Electrical Engineering. The Electrical Engineering Program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Electrical engineers design and develop electronic circuits, equipment and systems in the areas of electromagnetics (antennas; radar, radio, and television systems), communications (telephone systems, satellite communications; laser and optical fiber communications; aircraft and missile guidance systems), computers and digital systems (computers, microprocessors, and microcomputers; artificial intelligence), physical electronics and optics (transistors; integrated circuits; optical display devices; lasers; optical fibers), power systems and energy conversion (electric power generation; analysis and synthesis of power transmission and distribution protection systems design; on-line power control protection systems design), and control systems (computer control, robotics, automated manufacturing, intelligent sensors). Hands-on experiences are emphasized and gained through laboratory work and design projects.

Computer Engineering. The Computer Engineering Program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Computer engineering is a discipline which allows the student to obtain expertise in the design, programming, and applications of computers. It prepares the graduate for professional practice or graduate studies. The program combines the following:

a. A strong emphasis on electrical engineering (primarily electronic circuits and systems)
b. A broad basis in mathematics, physical science, and general engineering
c. Fundamentals of computer science including programming methodology, software engineering, and operating systems
d. Introductory and advanced concepts in the design of computers and computer systems

A rich set of technical area courses is available to allow students to broaden their knowledge within any of several computer engineering areas.

Career Opportunities

According to a report by the American Electronics Association, a shortage of electrical and computer engineers is projected for the next several years; it is anticipated that the demand for electrical and computer engineering positions will increase. The demand for electrical and computer engineering positions will continue to increase. New developments are evolving in optical communications, microelectronics, intelligent controls, computers, radar, microwave communications, and innovative alternative energy sources at an explosive pace which should assure a solid growth pattern for electrical and computer engineers into the foreseeable future.

Mission and Educational Objectives

The mission of the Department of Electrical and Computer Engineering is to fulfill the needs of the region and state by providing an undergraduate and graduate technical education in electrical engineering and computer engineering to a diverse group of students. Additionally, the department

strives to continually update its rigorous programs of study in order to qualify its graduates for positions in industry located in the region and beyond while providing sufficient programmatic breadth and depth to assure a successful practice in the profession. Furthermore, students are grounded in the rigorous scientific and theoretical foundations of the discipline, in order not only to enable graduates to enter and be successful in any advanced level educational program of their choosing, but also to be able to build upon this strong foundation and extend it to new depths.

The Electrical and Computer Engineering programs award degrees to students who within three to five years of graduation, through work experience and/or graduate education in the engineering field, will be expected to have gown technically and be productive in their respective workplaces, to be capable of addressing technical problems of increasing complexity, to communicate and function effectively in an interdisciplinary team environment at a level commensurate with their career development, and to demonstrate ability for independent learning and continued professional as well as ethical development.

The mission of the department complements and is enhanced by a graduate program leading to the M.S. in Engineering. For more information, see the *Master of Science in Engineering Program*.

The faculty members possess depth and breadth in their specialty areas and are active in bringing these experiences and skills to the classroom. The identifiable strengths of the academic program are the laboratory and hands-on experience for students, the proper attention given to the scientific and mathematical foundation of electrical engineering and computer engineering, and the rigor of upper-division courses coupled with design and culminating senior projects. The technical and liberal arts components of the curriculum provide the students with the opportunity for gaining self-development, technical competence, and awareness of economic and ethical responsibilities. The technical curriculum includes (l) basic engineering science, (2) core electrical and computer engineering subjects, and (3) a junior-/senior-level choice for more depth in communications and analog systems, power systems and controls, or digital systems and computers.

The department requires mandatory advising to help students make sound academic decisions.

Organizations

Student chapters of the Institute of Electrical and Electronic Engineers (IEEE) and Eta Kappa Nu (the national honor society for electrical engineers) are active in the department. The Lyles College of Engineering, in addition, has chapters of Tau Beta Pi, the Society of Women Engineers, the Society of Hispanic Engineers, and the National Society of Black Engineers.

Co-op Program

The department participates in the Valley Industry Partnership Program which allows students to integrate planned industrial experiences into their academic programs. Students interested in this program should contact the chair of the Department of Electrical and Computer Engineering and the college's co-op coordinator.

Bachelor of Science Degree Requirements[1]

Electrical Engineering Major — *Units*

Major requirements 65

ECE 1, 71, 72, 85, 85L, 90, 90L, 102, 103, 118, 120L, 121, 124, 125, 126, 128, 128L, 134, 138, 138L, 155, 186A ..... (51)

Select one from CE 20, CE 29, ME 29, or ME 136 ..... (3)

Technical Area Courses ..... (11)

Select from the following: ECE 106, 107, 114, 115, 132,135, 136, 140, 146, 148, 151, 152, 153, 162, 166, 168, 171, 172, 173, 174, 176, 178

Select at least two from the following: ECE 119L, 121L, 134L, 136L, 155L

Other requirements 65

General Education

Select one course from each of the G.E. areas: Area A1, A2, C1, D1, D2. (See G.E. pages.)

The following courses are required to satisfy both G.E. and additional requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], ECE 186B [IB], PHIL 120 [IC], PLSI 120 or BA 104 [M/I], ECON 40 or 50 [D3], BIOL 10 [B2]

Additional requirements

MATH 76, 77, 81

PHYS 4A; PHYS 4B, 4BL; PHYS 4C; choose one from MATH 121, 123, 128, 152, 171, 181, 182

Total 130

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken ***CR/NC*** are not counted toward fulfillment of degree requirements in electrical engineering.
2. Electrical engineering majors might consider a math minor (see faculty adviser for details).
3. All electrical engineering students must consult with their academic adviser at least once each year.
4. The Upper-Division Writing Skills requirements can be met by passing the university examination or completing an upper-division writing course with a letter grade of ***C*** or better no sooner than the term in which 60 units of coursework are completed. The writing course units are not counted toward the required 130 program units.
5. ENGR 101 may be taken instead of MATH 81.
6. The prerequisites for ECE 186A are ECE 85, 85L, 90, 90L, 102, 118, 124, 128, 128L; one lab from ECE 119L, 120L, 121L, 134L, 138L, 155L; and two courses from ECE 121, 134, 138, 155.
7. Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.
8. The following prerequisite courses must be completed with a letter grade of ***C*** or better: ECE 71, 72, 85, 85L, 90, 90L.

Electrical Engineering Minor

The minor requires 21 units total, of which 9 units must be exclusive (not double counted for a major or another minor).

All students pursuing the minor must complete the following courses: ECE 71 or CSCI 40, ECE 72, 85, 90 or 91, 102, 124, 128 or 121.

If short in exclusive units, select from the following with the chair's approval: ECE 85L, 90L, 118, 120L, 121, 126, 128, 128L, 134, 138, 138L, 173.

Minor Advising Note

1. All course prerequisites are enforced.
2. Courses in minor must be taken for a letter grade.
3. The Electrical Engineering Minor requires 2.0 GPA and 9 upper-division units in residence.

Electrical Engineering General Education

Area A1 - COMM 3, 7, or 8
Area A2 - ENGL 10 or ENGL 5A and 5B
Area A3 - Exempt

Area B1 - CHEM 3A
Area B2 - BIOL 10
Area B3 - PHYS 4BL
Area B4 - MATH 75

Area C1 - ARMS 20; ART 1, 20, 40, 50; ARTH 1, 11; CLAS 9; DRAMA 22, 62; ENGL 41, 43; MUSIC 9, 74
Area C2 - PHIL 1 or 10

Area D1 - HIST 11 or 12
Area D2 - PLSI 2
Area D3 - ECON 40, 50

Area E - Exempt

Area IB - ECE 186B
Area IC - PHIL 120

Area ID - Exempt

Electrical Engineering Recommended Program

First Semester

ECE 1- Introduction to EE and CompE (1 unit)
Area A1 - COMM 3, 7, or 8 (3 units)
Area A2 - ENGL 10 or 5A & 5B (3 units)
Area B4 - MATH 75 Mathematical Analysis I (4 units)
Area C1 - Arts (select from G.E. list) (3 units)

Total (14 units)

Second Semester

ECE 71 - Engineering Computations (3 units)
MATH 76 - Mathematical Analysis II (4 units)
PHYS 4A - Mechanics and Wave Motion (3 units)
Area B1 - CHEM 3A (4 units)
Area C2 - PHIL 1 or 10 (3 units)

Total (17 units)

Third Semester

ECE 72 - Introduction to EE and CompE Engr. Tools (2 unit)
ECE 85 - Digital Logic Design (3 units)
ECE 85L - Digital Logic Design Lab (1 unit)
MATH 77 - Mathematical Analysis III (4 units)
PHYS 4B- Electricity, Magnetism and Heat (3 units)
PHYS 4BL - Electricity, Magnetism and Heat Lab (1 unit)
Area B2 - BIOL 10 (Life Science) (3 units)

Total (17 units)

Fourth Semester

ECE 90 - Principles of Electrical Circuits (3 units)
ECE 90L - Principles of Electrical Circuits Lab (1 units)
ECE 118 - Microprocessor Architecture and Programming (3 units)
ECE 120L - Computer Systems Lab (1 unit)
MATH 81 or ENGR 101 (Applied Analysis) (3 units)
PHYS 4C - Light and Modern Physics (3 units)
Area D2 - PLSI 2 (3 units)

Total (17 units)

Fifth Semester

ECE 102 - Advanced Circuit Analysis (3 units)
ECE 103 - Professional Development Skills (2 units)
ECE 124 - Signals and Systems (4 units)
ECE 126 - Electromagnetic Theory and Applications I (3 units)
ECE 128 - Electronics I (3 units)
ECE 128L - Electronics I L (1 unit)

Total (16 units)

Remember to complete the university writing requirement. (Take a W course, or take the university exam.)

Sixth Semester

CE or ME 29 (Engineering Mechanics) or ME 136 (Thermo Dynamics) (3 units)
ECE 121 - Electrometrical Systems and Energy Conversion (3 units)
ECE 138 - Electronics II (3 units)
ECE 138L - Electronics II L (1 unit)
ECE 155 - Control Systems (3 units)
Biol 10 - Life Science [G.E. Area B2] (3 units)

Total (16 units)

Seventh Semester

ECE 134 - Communications (3 units)
ECE 186A - Senior Design I* (1 unit)
Technical Area Course (see note 2) (3 units)
Elective (see note 3) (Materials or Math) (3 units)
Senior Lab (see note 4) (1 unit)
Area D1- HIST 11 or 12 (3 units)
Area D3 - ECON 40 or 50 (3 units)

Total (17units)

Eighth Semester

ECE 186B - Senior Design II** (3 units)
Technical Area Course (see note 2) (3 units)
Technical Area Course (see note 2) (3 units)
Area IC - PHIL 120 (see note 1) (3 units)
Area MI- PLSI 120 or BA 104 (see note 1) (3 units)
Senior Lab (see note 4) (1 unit)

Total (16 units)

* Must pass the University Writing Exam or take ENGR 105W or any other W course concurrently with ECE 186A.

** Must complete prerequisites.

Notes

1. Must complete 60 units, Area A1, Area A2, Area B4 and appropriate B1, B2, C1, C2, D1, D2, and D3 first.
2. Select from the list of Technical Area courses, including labs.
3. Select from ENGR 102, MATH 121, MATH 123, MATH 128, MATH 152, MATH 171, MATH 181, MATH 182.
4. Select from ECE 155L (prerequisite ECE 155 or concurrent), ECE 119L (prerequisite ECE 118), ECE 121L (prerequisite ECE 121 or concurrent), ECE 134L (prerequisite ECE 134 or concurrent),

ECE 136L (prerequisite ECE 136 or concurrent).

Prerequisites: Students violating any course prerequisites may be required to take an additional course (if they earned a ***C***) or repeat a course (if they earned a ***D*** or less.) Repeated violations of prerequisites may trigger disciplinary action.

Bachelor of Science Degree Requirements[1]

Computer Engineering Major *Units*

Major requirements 60

ECE 1, 72, 85, 85L, 90, 90L, 103, 106, 107, 115, 118, 120L, 124, 125, 128, 128L, 174, 176, 178, 186A ..... (48)
CSCI 150 ..... (3)
Technical Area ..... (9)
Select at least 9 units from the following:
ECE 114, 126, 132, 134, 135, 138, 138L, 140, 146, 148, 155, 172, 173; CSCI 144, 156

Other requirements..... 70

General Education
Select one course from each of the G.E. areas: Area A1, A2, C1, D1, D2. (See G.E. pages.)
The following courses are required to satisfy both G.E. and major requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], ECE 186B [IB], PHIL 120 [IC], PLSI 120 or BA 104[M/I], ECON 40 or 50 [D3], BIOL 10 [B2]
Additional requirements
MATH 76, 77, 81; PHYS 4A, PHYS 4B, PHYS 4BL; PHYS 4C; CSCI 40, 41 (see Advising Notes)

Total 130

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken ***CR/NC*** are not counted toward fulfillment of degree requirements in computer engineering.
2. Computer engineering majors might consider a math minor. (See faculty adviser for details.)
3. All computer engineering students must consult with their academic adviser at least once each year.
4. The Upper-Division Writing Skills requirements can be met by passing the university examination or completing an upper-division writing course with a letter grade of ***C*** or better no sooner than the term in which 60 units of coursework are completed. The writing course units are not counted toward the required 130 program units.
5. ENGR 101 may be taken instead of MATH 81.
6. The prerequisites for ECE 186A are ECE 85, 85L, 90, 106, 118, 120L, 124, 128, 128L; CSCI 41; and one course from ECE 107, 174, 176, or CSCI 150.
7. Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.
8. The following prerequisite courses must be completed with a letter grade of ***C*** or better: ECE 71, 72, 85, 85L, 90, 90L.

Computer Engineering Minor

The minor requires 21 units total, of which 9 units must be exclusive (not double counted for a major or another minor).

All students pursuing the minor must complete the following courses: CSCI 40 or ECE 71, ECE 72, 85, 90 or 91, 118, 106, 174 or 176.

If short in total or exclusive units, select from the following with the chair's approval: ECE 85L, 90L, 115, 120L, 128, 128L, 174, 176, 178, CSCI 41, CSCI 150.

Minor Advising Note

1. All course prerequisites are enforced.
2. Courses in minor must be taken for a letter grade.
3. The Computer Engineering Minor requires 2.0 GPA and 9 upper-division units in residence.

Computer Engineering General Education

Area A1 - COMM 3, 7, or 8
Area A2 - ENGL 10 or ENGL 5A and 5B
Area A3 - Exempt

Area B1 - CHEM 3A
Area B2 - BIOL 10
Area B3 - PHYS 4BL
Area B4 - MATH 75

Area C1 - ARMS 20; ART 1, 20, 40, 50; ARTH 1, 11; CLAS 9; DRAMA 22, 62; ENGL 41, 43; MUSIC 9, 74
Area C2 - PHIL 1 or 10

Area D1 - HIST 11 or 12
Area D2 - PLSI 2
Area D3 - ECON 40, 50

Area E - Exempt

Area IB - ECE 186B
Area IC - PHIL 120
Area ID - Exempt

Computer Engineering Recommended Program

First Semester

ECE 1- Introduction to EE and CompE (1 unit)
Area A1 - COMM 3, 7, or 8. (3 units)
Area A2 - ENGL 10 or 5A & 5B (3 units)
Area B4 - MATH 75 (Mathematical Analysis I) (4 units)
Area C1 - Arts (select from G.E. list)
Total (14 units)

Second Semester

CSCI 40 - Intro to Programming (4 units)
MATH 76 - Mathematical Analysis II (4 units)
PHYS 4A - Mechanics and Wave Motion (3 units)
Area B1 - CHEM 3A (4 units)
Area C2 - PHIL 1 or 10 (3 units)
Total (18 units)

Third Semester

ECE 72 - Introduction to EE and CompE Engr. Tools (2 units)
CSCI 41 - Intro to Data Structure (4 units)
ECE 85 - Digital Logic Design (3 units)
ECE 85 L - Digital Logic Design Lab (1 unit)
MATH 77 - Mathematical Analysis III (4 units)
PHYS 4B - Electricity, Magnetism, and Heat (3 units)
PHYS 4BL - Electricity, Magnetism, and Heat Lab (3 units)
Total (18 units)

Fourth Semester

ECE 90 - Principles of Electrical Circuits (3 units)
ECE 90L - Principles of Electrical Circuits Lab (1 units)
ECE 106 - Advanced Digital Design (4 units)
ECE 115 - Computer Organization (3 units)
MATH 81 or ENGR 101 (Applied Analysis) (3 units)
PHYS 4C - Light and Modern Physics (3 units)
Total (16 units)

Fifth Semester
ECE 103 - Professional Development Skills (2 units)
ECE 118 - Microprocessor Architecture and Programming (3 units)
ECE 124 - Signals and Systems (4 units)
ECE 128 - Electronics I (3 units)
ECE 128L - Electronics I L (1 unit)
ECE 120L - Computer Systems Lab (1 unit)
ECE 176 - CAE in Digital Design (3 units)
Total (17 units)

Remember to complete the university writing requirement. (Take a W course, or take the university exam.)

Sixth Semester
ECE 125 - Random Signals and Stochastic System Analysis (3 units)
ECE 107 - Digital Signal Processing (3 units)
ECE 178 - Embedded Systems (4 units)
Area B2 - BIOL 10 (Life Science) (3 units)
Area D2 - PLSI 2 (3 units)
Total (16 units)

Seventh Semester
ECE 186A - Senior Design I* (1 unit)
ECE 174 - Advanced Computer Architecture (3 units)
CSCI 150 - Intro to Software Engineering (3 units)
Area D3 - ECON 40 or 50 (Micro or Macro Economics) (3 units)
Area D1 - HIST 11 or 12 (3 units)
Total (16 units)

Eighth Semester
ECE 186B - Senior Design II** (3 units)
Technical Area Course (see note 2) (3 units)
Technical Area Course (see note 2) (3 units)
Area IC - PHIL 120 (see note 1) (3 units)
Area MI - PLSI 120 or BA 104 (see note 1) (3 units)
Total (15 units)

* Must pass the University Writing Exam or take ENGR 105W or any other W course concurrently with ECE 186A.

** Must complete prerequisites.

Notes
1. Must complete 60 units, Area A1, Area A2, Area B4 and appropriate B1, B2, C1, C2, D1, D2, and D3 first.
2. Select from CSCI 144, CSCI 156, ECE 114, ECE 132, ECE 134, ECE 135, ECE 138, ECE 140, ECE 146, ECE 148, ECE 155, ECE 155, ECE 172, ECE 173, and the labs.

Prerequisites: Students violating any course prerequisites may be required to take an additional course (if they earned a ***C***) or repeat a course (if they earned a ***D*** or less.) Repeated violations of prerequisites may trigger disciplinary action.

COURSES
Electrical and Computer Engineering (ECE)

Note: Students may be expected to purchase supplementary materials for senior projects and special topic laboratory and activity classes.

ECE 1. Introduction to Electrical and Computer Engineering (1 unit)
Orientation to electrical and computer engineering via hands-on exercises and projects; introduction to circuits, components, instrumentation, and electronic prototyping; computer productivity tools; hardware and software trouble shooting. (3 lab hours)

ECE 71. Engineering Computations (3 units)
Prerequisite: Math 75 or concurrently. Use of C programming language in engineering analysis and design. A systematic development in program structure, specification, documentation, testing, and debugging.

ECE 72. Introduction to Electrical and Computer Engineering Tools (2 units)
Prerequisite: ECE 71 or CSCI 40. Introduction to engineering applications, use of Matlab software in analysis and synthesis, basic commands, data arrays, plotting and data presentation, data transfer, computation with loops, iterative solutions, integration with C programming, and technical problem solving. (Formerly ECE 2)

ECE 85. Digital Logic Design (3 units)
Discrete mathematics, logic, and Boolean algebra. Number systems and binary arithmetic, combinatorial logic, and minimization techniques. Analysis and design of combinatorial circuits using logic gates, multiplexers, decoders, and PLDs. Flipflops, multivibrators, registers, and counters. Introduction to synchronous sequential circuits and state machines.

ECE 85L. Digital Logic Design Laboratory (1 unit)
Prerequisite: ECE 85 or concurrently. Usage, design, and implementation techniques for combinational and sequential circuits. Experiments utilizing logic gates, Karnaugh maps, multiplexers, decoders, programmable logic devices, latches, flipflops, counters and shift registers. Combinational and state machine design projects. Computer Assisted Engineering (CAE). (3 lab hours)

ECE 90. Principles of Electrical Circuits (3 units)
Prerequisites: PHYS 4B; MATH 77 or concurrently. Direct-current circuit analysis; circuit theorems; transient phenomena in RL and RC circuits, introduction to operational amplifiers, phasor concept; AC steady-state circuit analysis, sinusoidal steady-state response; power and RMS calculations in single-phase alternating-current circuits; principles of electrical instruments; computer solutions circuit simulation using Spice or other contemporary software tools.

ECE 90L. Principles of Electrical Circuits Laboratory (1 unit)
Prerequisite: ECE 90 (may be taken concurrently); PHYS 4BL. Experiments on direct, transient, and single phase alternating current circuits. Use of basic electrical instruments, development of laboratory techniques, and verification of basic circuit laws and principles. (3 lab hours)

ECE 91. Introduction to Electrical Engineering (3 units)
Prerequisites: PHYS 4B; MATH 76. (No credit given for ECE 91 if taken after ECE 90). Direct current circuit analysis, transient and AC steady state circuit analysis, basic electronics, diodes, transistors, digital systems, digital logic circuit, simple microprocessors, DC and AC machines.

ECE 91L. Introduction to Electrical Engineering Laboratory (1 unit)
Prerequisites: ECE 91 or concurrently. Experiments on direct and alternating current circuits, basic electronics, digital logic circuits, and electric machines. (3 lab hours)

ECE 102. Advanced Circuit Analysis (3 units)
Prerequisites: MATH 81, ECE 90. Single and polyphase AC circuits, transfer functions, mutual inductance, transformers, two-port circuits, pole-zero analysis, Bode plots, stability concepts, circuit response to periodic inputs, Laplace solution techniques, frequency response, passive and active cir-

cuits, design and circuit simulation tools.

ECE 103. Professional Development Skills (2 units)
Contemporary issues in electrical and computer engineering; ethics in engineering; leadership and professional skills important for a successful career; problem formulation and solving; engineering and the society. (Formerly ECE 191)

ECE 106. Switching Theory and Logic Design (3 units)
Prerequisites: ECE 85 or equivalent. Analysis and design of sequential digital circuits; state machine analysis and design; Mealy and Moore State Machine models; state minimization and assignment techniques; one-hot state assignment; algorithmic state machine; introduction to HDL.

ECE 107. Digital Signal Processing (3 units)
Prerequisites: ECE 71 or CSCI 40; ECE 115 or 118; ECE 124. Time and frequency domain analysis of discrete time signals and systems, digital processing of continuous time signals, FIR, IIR, lattice filter structures, filter design, hardware implementation issues, computer-aided design and evaluation.

ECE 114. Physical Electronics (3 units)
Prerequisites: PHYS 4C, ECE 128 or concurrently. Semiconductor fundamentals, crystal structures and semiconductor materials, elementary quantum mechanics, energy bands and charge carriers, statistics, integrated circuits and modern fabrication technology for discrete and integrated devices. Operation principles of discrete devices, PN junction diode, BJT, MOS FET, JFET, and optoelectronic devices.

ECE 115. Computer Organization (3 units)
Prerequisites: ECE 85 and either CSCI 40 or ECE 71. Structural organization, hardware architecture and design of digital computer systems; binary representation of data; CPU, memory and I/O organization; register transfer, micro-operations and microprogramming; hardware/software design trade-offs. Introduction to RISC architecture and memory organization.

ECE 118. Microprocessor Architecture and Programming (3 units)
Prerequisite: ECE 85 and either CSCI 40 or ECE 71. Introduction to microprocessor software, hardware, and interfacing. Emphasis placed on learning assembly language programming, microprocessor architecture, and its associated peripherals.

ECE 119L. Programmable Logic Controllers (1 unit)
Prerequisite: ECE 71 or CSCI 40, ECE 118, senior standing, and permission of instructor. Hands-on experience in topics in micro-controllers and automation processes. (3 lab hours) (Formerly ECE 119LB)

ECE 120L. Microcontroller Laboratory (1 unit)
Prerequisite: ECE 118 or concurrently and ECE 85L. Lab is intended to solidify and build upon ECE 118 class. Experiments on microcontroller and its associated peripheral I/O subsystems. Hands-on program controlled I/O, timer, parallel and serial I/O communications, and A/D and subsystem interfacing. Design projects. (3 lab hours)

ECE 121. Electromechanical Systems and Energy Conversion (3 units)
Prerequisites: ECE 90 or ECE 91. Principles and applications of direct- and alternating-current machinery and other energy-conversion apparatus; introduction to power electronics and machine drives.

ECE 121L. Electromechanical Systems and Energy Conversion Laboratory (1 unit)
Prerequisite: ECE 121 or concurrently. Experiments and computations on direct- and alternating-current machinery and on other energy-conversion devices and associated apparatus. (3 lab hours)

ECE 124. Signal and Systems (4 units)
Prerequisites: ECE 72, 90, MATH 81 or ENGR 101. Modeling and analysis of discrete and continuous linear systems and signals. Fourier transforms and Fourier series. Time and frequency response; system analysis via Laplace- and Z-transforms; state-equations and linear algebra. Stability analysis. Engineering applications and simulation using Matlab.

ECE 125. Probabilistic Engineering System Analysis (3 units)
Prerequisites: ECE 124. Probability theory, single and multiple discrete and continuous random variables and their characterization, transformations of random variables, principles of random variables, principles of random sampling, estimation theory, engineering decision principles, data analysis, reliability theory, and applications to quality control in manufacturing process systems.

ECE 126. Electromagnetic Theory and Applications I (3 units)
Prerequisite: ECE 90, MATH 81 or ENGR 101 or concurrently. Electrostatics; boundary value problems; magnetostatics; time-varying fields; Maxwell's equations. Transmission of electromagnetic energy.

ECE 128. Electronics I (3 units)
Prerequisite: ECE 90. Characteristics and properties of solid state devices; theory and analysis of electronic circuits; power supply design; device and circuit models; single- and multi-stage amplifier analysis and design; analysis of digital circuits; circuit simulation using Spice or other contemporary software tools.

ECE 128L. Electronics I Laboratory (1 unit)
Prerequisite: ECE 90L and 128 or concurrently. Experiments on static and dynamic characteristics of solid state devices in analog and digital electronic circuits; computer solutions as appropriate. (3 lab hours)

ECE 132. Design of Digital Systems (3 units)
Prerequisites: ECE 118. Design of Digital Systems utilizing microprocessors; application of assembly programming language to input/output programming, interrupts and traps, DMA and memory management.

ECE 134. Analog and Digital Communication Engineering (3 units)
Prerequisite: ECE 124. Mathematical modeling of signals and systems, linear and nonlinear modulation theory, demodulators, link analysis and design, phase-lock loops, sampling theory and signal reconstruction, digitization techniques, basic digital transmission methodologies, computer simulations.

ECE 134L. Communication Engineering Lab (1 unit)
Prerequisite: ECE 134 or concurrently; senior standing in ECE. Experiments on communication signals and systems, including modulation and demodulation, receiver architectures, operation of phase-lock loops, and use of eye diagrams in digital modulation schemes. (3 lab hours) (Formerly ECE 119LA)

ECE 135. Wireless Communications Systems (3 units)
Prerequisite: ECE 125, 134. Principles of digital signal transmission and reception; binary, M-ary, and hybrid digital modulation techniques; channel and receiver front-end noise effects; statistical performance receiver analysis; source coding; block and convolutional channel coding; block decoding; VDA, channel fading, and multipath; equalization; cellular systems; Spread Spectrum and CDMA; computer simulations.

ECE 136. Electromagnetic Theory and Applications II (3 units)
Prerequisite: ECE 126. Plane wave propagation and reflection; waveguides; strip-lines and microstrip impedance matching, microwave circuits and S-parameters; amplifier power gain and stability, amplifier design, antenna analysis and design; methods for computer solution.

ECE 136L. Electromagnetic Theory and Applications Laboratory (1 unit)
Prerequisite: ECE 136 or concurrently. Experiments on the transmission of electromagnetic energy through wires, waveguides, and space; filters and antennas; impedance matching; cross-over networks; location of faults on lines. (3 lab hours)

ECE 138. Electronics II (3 units)
Prerequisites: ECE 102, 128. Analysis and design of high frequency amplifiers; high frequency models of transistors; operational amplifiers and applications; feedback amplifiers; oscillators, modulators, bandpass amplifiers, and demodulators for communications. Emphasis on modern design methods.

ECE 138L. Electronics II Laboratory (1 unit)
Prerequisite: ECE 128L and 138 or concurrently. Design oriented experiments to study the characteristics, limitations, and design trade-offs of circuits from ECE 138. Emphasis on circuit and system design to meet preestablished specifications. Design project included; computer solutions as appropriate. (3 lab hours)

ECE 140. VLSI System Design (3 units)
Prerequisites: ECE 118, 128. Emphasis on the design of a full custom VLSI system using contemporary CAD tools. Digital circuit design, CMOS circuit and layout principles, fabrication principles, physical and electrical design rules, control and data path design techniques, system timing, design verification, simulation and testing.

ECE 146. Computer Networks (3 units)
Prerequisites: ECE 118 or CSCI 113. Analysis, theory, and modeling of modern computer networks; layered architecture of computer network protocols; flow and error control; circuit and packet switching; routing and congestion control; local area networks; Internet protocols; quantitative performance analysis; probability, random process, and queuing theory.

ECE 148. Analysis and Design of Digital Circuits (3 units)
Prerequisites: ECE 85, 128. Analysis and design of solid state digital circuits utilizing various logic families suitable for integration: TTL, ECL, NMOS, CMOS; logic gates; multivibrators; ROM, PROM, EPROM, and EEPROM; SRAM and DRAM.

ECE 151. Electrical Power Systems (3 units)
Prerequisites: ECE 90. Power system networks and equipment, power flow, symmetrical components, short circuit analysis, introduction to economic dispatching and stability analysis, applications and use of software in power system analysis.

ECE 152. Power Systems Protection and Control (3 units)
Prerequisites: ECE 151 and 155 or concurrently. Transmission and distribution systems, protection and coordination, stability analysis, voltage and frequency control, system modeling, and computer simulation.

ECE 153. Power Electronics (3 units)
Prerequisites: ECE 124 and ECE 128. Analysis and design of power conversion devices, AC-DC converters (diode rectification and phase control devices), DC-DC converters (Buck/Boost), DC-AC inverters; continuous and discontinuous modes of operation, performance evaluation, power factor correction, signal distortion, efficiency analysis, applications, and hands-on experiences. (Formerly ECE 191T)

ECE 155. Control Systems (3 units)
Prerequisites: ECE 124. Analysis, design, and synthesis of linear feedback control systems; mathematical modeling and performance evaluation; state variables; frequency domain analysis and design methodologies. Applications and utilization of Matlab in analysis and design.

ECE 155L. Control Systems Lab (1 unit)
Prerequisites: ECE 155 or concurrently. Hands-on experience in topics in instrumentation and control systems. (3 lab hours) (Formerly ECE 119LA)

ECE 162. Analog Integrated Circuits and Applications (3 units)
Prerequisite: ECE 138. Analysis of monolithic operational amplifiers; case studies; Widlar and Wilson current sources; linear and nonlinear applications; multipliers, phase-lock loops, phase detectors; higher order active filters; all-pass equalizers; D/A and A/D converters; oscillators, function generators; mixers, modulators, regulators; system design.

ECE 166. Microwave Devices and Circuits Design (3 units)
Prerequisite: ECE 102, 128, 136. Microwave theory and techniques: slow-wave structures, S parameters, and microwave devices, including solid-state devices such as Gunn, IMPATT, TRAPATT, and BARITT diodes, and vacuum tubes such as klystrons, reflex klystrons, traveling-wave tubes, magnetrons and gyrotrons.

ECE 168. Microwave Amplifier and Oscillator Design (3 units)
Prerequisite: ECE 136. Small-signal and large-signal amplifier designs such as high-gain, high-power, low-noise, narrow-band and broadband amplifiers; microwave oscillator designs such as high-power, broadband, Gunndiode and IMPATT oscillator designs; power combining and dividing techniques; reflection amplifier design and microwave measurements.

ECE 171. Quantum Electronics (3 units)
Prerequisite: ECE 128 and PHYS 4C. Review of wave properties; cavity mode theory; radiation laws; theory and morphology of lasers; laser and fiber-optic communications; designs of optical communication systems and components.

ECE 172. Sequential Machine and Automata Theory (3 units)
Prerequisite: ECE 106. Structure of sequential machines with particular emphasis on asynchronous sequential machines; covers; partitions; decompositions and synthesis of multiple machines race conditions and hazards; state identification and fault detection experiments. Presents design techniques aimed at circuit performance that will function reliably with less than ideal components. Applications include the design of controllers for robots and automated machines.

ECE 173. Robotics Fundamentals (3 units)
Prerequisites: ECE 71 or CSCI 40; ECE 90/90L and ECE 85/85L or 91/91L; MATH 77. Introduction to industrial and mobile robots, forward and inverse kinematics, trajectory planning, sensors, micro controllers, and laboratory experiments.

ECE 174. Advanced Computer Architecture (3 units)
Prerequisites: ECE 115 or 118. Advanced computing architecture concepts; pipelining; multiprocessing and multiprogramming; cache and virtual memory; direct memory access, local and system bus architectures; instruction set design and coding; CPU and system performance analysis.

ECE 176. Computer-Aided Engineering in Digital Design (3 units)
Prerequisites: ECE 106. Use of Computer-Aided Engineering tools in the design and implementation of digital systems utilizing Applications Specific Integrated Circuits.

Design projects from specification through implementation using Field Programmable Gate Arrays (FPGAs) and Complex Programmable Logic Devices (CPLDs); simulation, timing analysis, Hardware Definition Languages. Hands-on exposure to current tools.

ECE 178. Embedded Systems (4 units)
Prerequisites: ECE 120L, ECE 176. Principles of real-time computing embedded systems, hardware/software peripherals interface, design applications using RISC processors, and real-time operating system and project activities.

ECE 186A. Senior Design I (1 unit)
Prerequisites: 30 units of ECE (*see advising notes*) or permission of instructor; university writing requirement or concurrently. Design projects in electrical and computer engineering.

ECE 186B. Senior Design II (3 units)
Prerequisite: ECE 186A and university writing requirement with a letter grade of ***C*** or better, or passing the Upper-Division Writing Exam. Completion of approved design projects in electrical and computer engineering. Project demonstration and documentation requires using problem solving, written communication, and critical thinking skills, as well as engaging in oral presentations.

ECE 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

ECE 191T. Topics in Electrical and Computer Engineering (1-3; max total 6 units)
Prerequisite: permission of instructor. Investigation of selected electrical engineering subjects not in current courses.

ECE 193. Electrical and Computer Engineering Cooperative Internship (1-6; max 12)
Prerequisite: permission of adviser. Engineering practice in an industrial or governmental installation. Each cooperative experience usually spans a summer-fall or spring-summer interval. One-semester or summer internships are also possible. This course cannot be used to meet graduation requirements. ***CR/NC*** grading only.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Electrical and Computer Engineering (ECE)

ECE 224. Advanced Signals and Systems (3 units)
Prerequisites: ECE 124 or equivalent. Theory of continuous time (CT) and discrete time (DT) multidimensional systems; state variable representations; system state equation solution; Lyapunov and input-ouput stability; controllability, observability, and realizability; and feedback systems. System simulations using MATLAB. (Formerly EE 224)

ECE 230. Nonlinear Control Systems (3 units)
Prerequisite: ECE 155 or permission of instructor. Dynamic systems modeling and analysis, stability, sliding mode control, fuzzy logic control, and introduction to relevant topics. (Formerly EE 230)

ECE 231. Digital Control Systems (3 units)
Prerequisite: ECE 155 or permission of instructor. Discrete Time Feedback systems modeling and analysis, stability, digital controller design, digital transformation of analog controllers, implementation techniques, and case studies. (Formerly EE 231)

ECE 232. Optimal Control Systems (3 units)
Prerequisite: ECE 155 or ENGR 210. Two-point boundary value problems, linear quadratic regulators, minimum-time design, output-feedback design, robust design, observers, filters and dynamic regulators, multivariable dynamic compensator design. (Formerly ENGR 212, EE 232)

ECE 240. VLSI Circuits and Systems (3 units)
Review of CMOS logic circuits, CMOS circuit analysis, interconnect modeling, dynamic logic, timing and clocking strategies, datapath component design, test and verification strategies, and ASIC Design Methodologies. (Formerly ECE 291T, EE 240)

ECE 241. Applied Electromagnetics (3 units)
Prerequisite: ECE 136 or permission of coordinator. Electrostatic field boundary conditions, energy relations, and forces; multidimensional potential problems; magnetic field boundary conditions, scalar and vector potentials, and magnetization; Maxwell's equations for stationary and moving media; energy, force, and momentum in an electromagnetic field; plane waves; waves near metallic boundaries; inhomogeneous wave equation. (Formerly EE 241)

ECE 242. Digital Systems Testing and Testable Design (3 units)
Introduction to VLSI testing, VLSI test process and automatic test equipment, test economic, faults and fault modeling, logic and fault simulation, testability measures, delay test, design for testability, built-in self-test, boundary scan, and JTAG. (Formerly EE 242)

ECE 243. Modern Methods in Synchronous Sequential Design (3 units)
Prerequisite: ECE 172 or permission of coordinator. Synchronous machine design with PLDs and FPGAs; algorithmic state machines; incompletely specified machines; maximum compatibility classes; partitioning of sequential machines; state merging and state splitting. (Formerly EE 243)

ECE 245. Communications Engineering (3 units)
Prerequisite: ECE 134 or equivalent; ENGR 206. Modulation theory; statistical properties of information signals and noise; binary and M-ary modulation schemes and receivers for digital and analog messages; performance in the presence of noise; transmission over bandlimited channels and intersymbol interference; vector space representations; and communication design considerations. (Formerly EE 245)

ECE 247. Modern Semiconductor Devices (3 units)
Prerequisite: ECE 114 or permission of coordinator. Crystal structures and elastic constants; lattice energy and vibrations; thermal and dielectric properties of solids; ferroelectric and magnetic properties of crystals; free electron model of metals; quantum statistics distributions; band theory; semiconductor crystals; superconductivity; photoconductivity and luminescence; dislocations. (Formerly EE 247)

ECE 249. Advanced Communications Engineering (3 units)
Prerequisite: ECE 134 or equivalent; ENGR 206. Information theory; source coding; channel coding theorems; models for communication channels; theory of error control coding; block and convolutional codes; decoding algorithms; coding for bandlimited, noisy, and distorting channels; performance improvements of coded communication systems; and design applications to wireless systems. (Formerly EE 249)

ECE 251. Antennas and Propagation (3 units)
Wave equation, plane waves, metallic boundary conditions; wave equation for the potentials Lorentz transformation; covariant formulation of electrodynamics; radiation from a moving charge; scattering and dispersion; Hamiltonian formulation of Maxwell's equations. (Formerly EE 251)

ECE 253. Power Systems Dynamics (3 units)
Prerequisites: ECE 151, 155. Electromechanical dynamics under small and large disturbances; voltage stability; frequency variations; stability analysis and enhancement; advanced power system modeling; model reduction techniques; steady state stability of multi-machine systems; computer simulation; voltage and frequency control; electric power systems quality. (3 lecture hours) (Formerly EE 253)

ECE 255. Digital Signal Processing (3 units)
Prerequisites: ECE 107 and 125, or equivalent. Discrete time signals, Fourier transforms, random discrete-time signals, filtered random signals, correlation functions, power-spectral-density estimation, cross-spectral estimates, detection of signals in noise, estimation of signals in noise, recursive estimation of time-varying signals. (Formerly EE 255)

ECE 257. Optical Communications and Lasers (3 units)
Quantum measure of light, linear, elliptical, and circular polarization; optical waveguide equations, ray and mode theory; source and detector characteristics; attenuation, dispersion, and noise effects; correlation, spectral density, noise equivalent bandwith, coding, modulation, multiplexing techniques; systems and link design. (Formerly EE 257)

ECE 259. Radar System Design (3 units)
The nature and history of radar, the radar equation, PRF and range considerations, CW and FM radars. MTI and pulse-Doppler radars, tracking radars. Radar power generation, antenna types and design considerations, receivers, detection of signals in noise, extraction of information from radar signals, propagation of radar wave, the effects of clutter, weather and interference. Examples of radar system engineering and design. (Formerly EE 259)

ECE 274. High Performance Computer Architecture (3 units)
Advanced hardware design features of modern high performance microprocessors and computer systems. Topics include instruction level parallelism; superscalar and superpipelined data path design and performance; dynamic and static scheduling; VLIW; hardware software interface; memory hierarchies and cache coherence; multi processor structures and interconnection networks. (Formerly ECE 291T, EE 274)

ECE 278. Embedded System Design (3 units)
Prerequisite: graduate standing. Embedded system design and development. High-level design tools, interface and real-time embedded system programming, and interface techniques.

ECE 290. Independent Study (1-3; max total 6 units)
Prerequisite: graduate status in engineering. See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly EE 290)

ECE 291T. Topics in Electrical Engineering (1-3; max total 6 units)
Prerequisite: graduate status in engineering or permission of instructor. Selected electrical engineering subjects not in current courses. (Formerly EE 291T)

ECE 298. Project (3; max total 3 units)*
Prerequisite: graduate status in engineering. See *Criteria for Thesis and Project.* Independent investigation of advanced character such as analysis and/or design of special engineering systems or projects; critical review of state-of-the-art special topics, as the culminating requirement of the master's degree. Abstract required. Approved for ***RP*** grading. (Formerly EE 298)

ECE 299. Thesis (3-6; max total 6 units)*
Prerequisite: see *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for master's degree. Approved for ***RP*** grading. (Formerly EE 299)

* For 298C and 299C courses, see *Graduate Studies*.

Geomatics Engineering
James K. Crossfield, *Coordinator*
Engineering East Building, Room 178
559.278.4827

Program Description

Geomatics engineers manage the global spatial infrastructure. This effort includes real property boundary determination, digital mapping, Geographic Information Systems (GIS), Global Positioning Systems (GPS), remote sensing, photogrammetric mapping, applications programming, project management, and construction layout activities. Students use a wide selection of specialized equipment while acquiring a solid theoretical background. Integration of geomatics engineering design concepts spans a sequence of courses throughout the curriculum. Intensive design coursework during the senior year provides a culminating focus. Coursework containing design components includes the following: Computer-Aided Mapping (GME 66) first year; Route and Construction Surveying (GME 40) second year; Stereophotogrammetry (GME 123) and Digital Mapping (GME 126) third year; Subdivision Design (GME 159) and two upper-level technical design courses — Senior Project (GME 180) and Project Design (GME 181) — senior year.

Career Opportunities

The need for specialists in geomatics engineering continue to grow with rapid advancements in analytical photogrammetry, geographic information systems, and inertial and satellite positioning technologies. Most graduates of this program have been employed by federal and state government agencies, the petroleum industry, and private consulting firms.

Mission of Geomatics Engineering

The mission of the Geomatics Engineering Program is to provide an educational experience that enriches the lives of students. The program teaches necessary discipline related knowledge and skills to prepare students for their profession. Students learn how to protect the health and welfare of the public while expanding their base of knowledge through research and scholarship.

Educational Objectives of the Instructional Program

1. The graduates of the Geomatics Engineering (GME) program should demonstrate competency in one or more of the following GME competency areas: boundary/land surveying, photogrammetry, geodesy, GIS, and digital mapping.
2. The graduates of the GME program should demonstrate continued capacity for employment in one or more GME specialty area.
3. The graduates of the GME program shall demonstrate capacity for graduate education.
4. The graduates of the GME program shall demonstrate continued membership in professional organizations.
5. The graduates of the GME program shall demonstrate a continuing commitment to lifelong learning.
6. The graduates of the GME program shall demonstrate a continuing commitment to serving and protecting the health and welfare of the public.
7. The graduates of the GME program shall demonstrate an ability to pass professional licensing or certification examinations after achieving requisite professional experience.

Bachelor of Science Degree Requirements

Geomatics Engineering Major *Units*

Major requirements 69

GME 1, 15, 15L, 16, 16L, 23L, 34, 40, 50, 61, 66, 102, 108, 123, 125, 126, 135, 143, 159, 173, 180, 181 ..... (55)

CE 150, 161 ..... (5)

Technical Courses ..... (9)

Select mandatory technical courses from the following list subject to the *Design Courses* statement listed below: GME 73, 114, 145, 152, 153, 161, 174, 175, 190, 191T; CSCI 115, 124, 150, 172; CM 114, 122, 124; BA 154; GEOG 181; FIN 180, 181; MATH 101, 121; PHYS 110

Design Courses: At least 6 units of technical courses must be selected from the following design courses: GME 145, 153, 161, 175

Other requirements..... 60

General Education

Select one course from each of the G.E. areas: Area A1, A2, B2, C1, D1, D2, D3. (See G.E. pages.)

The following courses are required to satisfy both G.E. and major requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], GME 151 [IB], PHIL 120 [IC], PLSI 120 [M/I]

Additional requirements

MATH 76, 77; PHYS 4A, 4AL, 4B; EES 1

Total 129

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Geomatics Engineering Recommended Program

First Semester

ENGL1 Area A2 (see note 2) (3 units)
G.E. Area C1 (see note 2) (3 units)
GME 1 Introduction to Geomatics Engineering (1 unit)
GME 15, L Engineering Surveying (4 units)
GME 66 Computer-Aided Mapping (2 units)
MATH 75 Mathematical Analysis I (4 units)

Second Semester

COMM 3, 7, 8 Area A1 (see note 2) (3 units)
G M E16, L Municipal Surveying (2 units)
GME 61 Microcomputers in Engineering (3 units)
MATH 76 Mathematical Analysis II (4 units)
PHYS 4A, L Mechanics and Wave Motion/Lab (4 units)

Third Semester

HIST 11 or 12 Area D1 (see note 2) (3 units)
GME 40 (Route and Construction Surveying) (3 units)
CHEM 3A (Intro General Chemistry) (4 units)
MATH 77 (Mathematical Analysis III) (4 units)
PHYS 4B (Electricity and Magnetism) (3 units)

Fourth Semester

G.E. Area B2 (see note 2) (3 units)
GME 34 (Adjustment Computations) (3 units)
GME 50 (Land Surveying) (3 units)
Engineering Science (3 units)
PHYS 4C (Light and Modern Physics) (3 units)
PHIL 20 Area C2 (see note 2) (3 units)

Fifth Semester

G.E. Area D2 (see note 2) (3 units)
G.E. Area D3 (see note 2) (3 units)
GME 123 (Stereo-Photogrammetry) (3 units)
GME 135 (Advanced Adjustment Computations) (3 units)
GME 151 (Boundary Control and Legal Principles) (3 units)
GME 173 (Introduction to GIS) (3 units)

Sixth Semester

GME 102 Geodetic Surveying (3 units)
GME 108 (see note 1) Geodesy (3 units)
GME 125 Analytical Photogrammetry (3 units)
GME 126 Digital Mapping (3 units)
PLSI 120 International Politics (3 units)

Seventh Semester

GME 143 Satellite Geodesy (3 units)
EES 1 Physical Geology (4 units)
Technical Courses (see Major Requirements) (6 units)

Eighth Semester

GME 159 Subdivision Design (3 units)
GME 180 Senior Project (2 units)
GME 181 Project Design (3 units)
PHIL 120 (Contemporary Conflicts of Morals) (3 units)
Technical Courses (see Major Requirements) (6 units)

---

1. Also counts as G.E. Area IB.
2. See G.E. listings.

Advising Notes

1. Courses in engineering, mathematics, the physical sciences, and mandatory technical courses taken ***CR/NC*** are not counted toward fulfillment of degree requirements in geomatics engineering.
2. All geomatics engineering students must consult with their academic advisers at least once each year.
3. The Upper-Division Writing Skills requirement can be met by passing the university examination or by completing a "W" course with a letter grade of ***C*** or better no sooner than the term in which 60 units of coursework are completed.

COURSES
Geomatics Engineering (GME)

GME 1. Introduction to Geomatics Engineering (1 unit)
An introduction to geomatics engineering philosophical thought; geomatics engineering profession and career opportunities; professional ethics and safety; creative and critical thinking applied to the geomatics engineering decision-making process. **F**

GME 5. Critical Reasoning (3 units)
Fundamentals of analysis and evaluation in the context of technology. Evaluating the viewpoints of experts. Patterns of deductive and inductive arguments. Common fallacies of reasoning. G.E. Foundation A3. **FS**

GME 15. Engineering Surveying (2 units)
Prerequisite: MATH 5. Principles of surveying measurements for distance, direction, and elevation; topographic and planimetric mapping, horizontal curves, vertical curves, earthwork and engineering applications. **FS**

GME 15L. Engineering Surveying Laboratory (1 unit)
Prerequisite: GME 15 or concurrently. Field practice in geomatics measurement, construction stakeout, and curve alignment problems. (3 lab hours; field trips required) **FS**

GME 16. Municipal Surveying (2 units)
Prerequisites: GME 15. Instrumentation; automated electronic survey data collection; land survey; introduction to photogrammetry, GPS, GIS, and control surveys. Astronomy for azimuth applications. **S**

GME 16L. Municipal Surveying Laboratory (1 unit)
Prerequisite: GME 16 or concurrently. Field and office practice in instrumentation; automated electronic survey data collection; land survey; photogrammetry, GPS, GIS, and control surveys. Astronomy for azimuth applications. (3 lab hours; field trips required) **S**

GME 23L. Optics and Waves (1 unit)
Visual optics, prisms, lenses, and collimated light, electromagnetic spectrum and waves, wave properties and atmospheric interactions, optical and electromagnetic imaging systems. GPS, GIS, remote sensing, photogrammetric, and EDM applications. (3 lab hours; field trips required) **F**

GME 34. Adjustment Computations (3 units)
Prerequisites: GME 15, 61, MATH 76. Error theory, adjustment of simple survey networks, and matrix methods; digital computer solutions of geomatics computation and adjustment problems. **S**

GME 40. Route and Construction Surveying (3 units)
Prerequisites: GME 15, 15L or permission of instructor. Computations and theory covering surveys for highway, irrigation, rail, pipeline, and other transportation alignment projects. Includes computer solutions and applications. (2 lecture, 3 lab hours; field trips required) **F**

GME 50. Land Surveying (3 units)
Prerequisite: GME 15. The United States Public Land Survey System with special emphasis on California; introduction to the California Land Surveyors Act, Certified, A.L.T.A. and mortgage surveys; sectionalized land subdivision, corner restoration, resurveys, evidence, and descriptions. (Field trips required) **S**

GME 61. Microcomputers in Engineering (3 units)
Prerequisite: GME 15 or concurrently. Microcomputer operating systems; introduction to high level computer languages, file processing, program documentation, testing, and debugging. **F**

GME 66. Computer-Aided Mapping (3 units)
Preparing transportation alignment, topographic, property boundary, environmental, cross section, structural, and GIS maps and plans. Civil and geomatics engineering and construction applications. Includes comprehensive computer mapping design experience. **FS**

GME 73. Geomatics (3 units)
Introduction to Geographic and Land Information Systems; software and hardware issues; practical exercises.

GME 102. Geodetic Surveying (3 units)
Prerequisites: GME 16, 34 or concurrently. Horizontal and vertical geodetic networks for deformation, industrial tooling and local area applications; theory and application of State Plane Coordinate systems. (2 lecture, 3 lab hours; field trips required) **S**

GME 108. Geodesy (3 units)
Prerequisites: MATH 77, PHYS 4A, 4AL, GME 34 or concurrently. Size and shape of the earth; three-dimensional coordinate systems; computations on the spheroid; reduction to plane coordinates; introduction to differential equations, gravity modeling and gravity measurements. **S**

GME 114. GPS Navigation (3 units)
Prerequisite: permission of instructor. Theory and concepts of navigation systems emphasizing real-time GPS. Design of air, sea, and land navigation applications, including automatic vehicle location and navigation (AVLN). (2 lecture, 3 lab hours; field trips required)

GME 123. Stereo-Photogrammetry (3 units)
Prerequisites: GME 15, 34 or concurrently. Imaging systems; image quality. Theory of stereo-photogrammetry; orientation of stereo-model. Design and operating principles of stereoplotters. Photogrammetric mapping; orthophoto mapping. Project planning. (2 lecture, 3 lab hours; field trips required) **F**

GME 125. Analytical Photogrammetry (3 units)
Prerequisites: GME 123, 135. Introduction to analytical photogrammetry; strip and block aerial triangulation. Design and operating principles of analytical plotters. Introduction to soft-copy photogrammetry. (2 lecture, 3 lab hours; field trips required) **S**

GME 126. Digital Mapping (3 units)
Prerequisites: GME 123, 173 or concurrently. Design of data input, editing, display and processing mechanisms for digital mapping applications; hardware considerations and software design for DTM applications. (2 lecture, 3 lab hours; field trips required) **S**

GME 135. Advanced Adjustment Computations (3 units)
Prerequisites: GME 34, MATH 77. Statistics, propagation of errors, advanced theory of least squares optimization algorithms. Computer programming for complex surveying and photogrammetry adjustment applications. Project design. **F**

GME 143. Satellite Geodesy (3 units)
Prerequisites: GME 102, 108, 135 or concurrently. Motion of a satellite, orbit geometry and perturbations; time measuring systems; global geodesy model; reduction and adjustment of GPS and other satellite observation data; differential equations of orbit relaxation; GPS network optimization; data transformation. (Field trips required)

GME 145. Geopositioning (3 units)
Prerequisites: GME 102, 108, 135. Design of planning, data collection, data processing and network adjustment applications; kinematic and real-time GPS applications; case studies. (Field trips required) **S**

GME 151. Boundary Control and Legal Principles (3 units)
Prerequisite: GME 50 or permission of instructor. Legal principles that control the boundary location of real property. **F**

GME 152. Real Property Descriptions (3 units)
Prerequisite: GME 151 or permission of instructor. Theory and practice of real property descriptions and recording systems; metes and bounds, United States Public Land Survey System, lot and block and other styles investigated; practical exercises and case studies. (Field trips required) **F**

GME 153. Boundary Survey Design (3 units)
Prerequisite: GME 151 or permission of instructor. Design of evidence gathering, resurvey, retracement, and analysis techniques for complex United States Public Land Survey System, metes and bounds, riparian, mineral, land grant and fraudulent surveys; case studies. (Field trips required) **S**

GME 159. Subdivision Design (3 units)
Prerequisites: GME 40, 151. Subdivision map act, local subdivision regulations, title search, zoning study. Tentative and final subdivision layout, map drafting, computerized subdivision design, and drafting; environmental impact study. (Field trips required) **S**

GME 161. Data Interface Design (3 units)
Prerequisites: GME 16, 135. Development and design of data collector software; file system generation, manipulation and transfer; microcomputer interface to data collector, electronic total station, digitizer, stereo/mono comparator and stereo-plotters. (Field trips required)

GME 173. Introduction to GIS (3 units)
Prerequisites: GME 15 and 66, or permission of instructor. Data quality and accuracy, privacy, ethics, institutional, governmental and technological issues associated with GIS; hardware and software considerations for geodetically controlled cadastral, resource and environmental GIS applications; existing system case studies. (Field trips required) **F**

GME 174. GIS Applications (3 units)
Prerequisite: GME 173. Use of available GIS. Applications software; spatial analysis, simulation modeling and system evaluation; practical applications to specific GIS scenarios; creation, manipulations, maintenance and analysis of geodetic, cadastral, administrative, resource and environmental overlays. (Field trips required)

GME 175. GIS Design (3 units)
Prerequisite: GME 173. Application of data quality, accuracy, ethics and liability issues to the design of integrated Geographic Information Systems; integrated data structure, algorithm, and database considerations; major design team GIS development project required. (Field trips required)

GME 180. Senior Project (2 units)
Prerequisites: GME 181 or concurrently. UDWE or a "W" course or concurrently. Study of a problem under supervision of a faculty member; final typewritten report required. Individual project except by special permission. GME 180 and GME 181 satisfy the senior major requirement for the B.S. in Geomatics Engineering. (Field trips required) **FS**

GME 181. Project Design (3 units)
Prerequisite: GME 108, 123, 135, 151, 173. Design of control, boundary location, and photogrammetric systems. Evaluation of design requirements as well as economic and social considerations. Requires case studies and student presentations. GME 180 and 181 satisfy the senior major requirement for the B.S. in Geomatics Engineering. (Field trips required) **F**

GME 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. **FS**

GME 191T. Topics in Geomatics Engineering (1-3; max total 6 units)
Prerequisite: permission of instructor. Investigation of selected geomatics engineering subjects not in current courses.

GME 193. Internship in Geomatics Engineering (2-4)
Prerequisite: permission of adviser. Engineering practice in a consulting, industrial, professional, or government work setting. A report will be required of the student at the termination of each implemented experience. This course cannot be used to meet graduation requirements. ***CR/NC*** grading only. **FS**

Industrial Engineering Admissions Suspended

As of fall 2004, admissions to the Industrial Engineering program have been suspended.

Mechanical Engineering
Walter V. Loscutoff, *Chair*
Engineering East Building, Room 154
559.278.2368

Program Description

Mechanical engineering is the use of basic science in the design and manufacture of components and systems. This requires the application of physical and mechanical principles in the development of machines, energy conversion systems, materials, and equipment for measurement and control. Knowledge of mathematics, physics, and chemistry lies at the core of this field. Application of this knowledge uses engineering technology — a disciplined way of thinking, modeling, and testing that enables development of new systems despite incomplete information and uncertainty.

The program in mechanical engineering provides basics in design and in thermal and fluid mechanics. All areas include statics, dynamics, materials, fluid mechanics, thermodynamics, and experimental methods. Application areas in design include mechanics of materials, applied mechanics, structural and manufacturing aspects of producing equipment, and vibrations. Application areas in thermal and fluid mechanics focus on energy conversion and include combustion, heat engines, refrigeration, and fluid flow.

Students should consult with their advisers to select the proper courses that emphasize their areas of interest.

Engineer-in-Training and Professional Engineering registration are strongly recommended as first licensing steps in professional lifelong learning.

Mission

Our mission is to provide an educational program that allows our students to meet or exceed the necessary level of academic preparedness for successful professional employment and for graduate study through continuous improvement in curricula and instruction.

Educational Objectives

The educational objectives of the Mechanical Engineering program were developed to prepare the graduates to be able to do the following:

1. Apply skills and understanding of engineering sciences with a foundation in mathematics, chemistry, and physics

necessary for engineering practice.
2. Design and develop components, systems and products that meet specific requirements and use resources prudently in solving complex problems encountered in professional practice.
3. Develop, test, evaluate, and execute engineering solutions to problems and projects that are practical and of a complexity encountered in professional practice.
4. Design and conduct experiments; analyze results.
5. Communicate and perform effectively as engineering professionals in both individual and team-based project environments, providing leadership as necessary.
6. Practice professional and ethical responsibilities, including understanding of the societal impact of engineering solutions.
7. Recognize and understand contemporary issues and the role of professionals in global society.
8. Develop intellectually and technically through continued learning.

Co-op Program

The department participates in the Cooperative Education Program which allows the student to gain industrial experience and financial benefits through projects with local companies.

Academic Probation

A minimum GPA of 2.0 must be maintained in all courses taken in the Lyles College of Engineering. Students who fail to maintain a 2.0 GPA in courses within their major may be placed on administrative academic probation. Failure to eliminate the grade point deficiency could result in disqualification from the Lyles College of Engineering.

Career Opportunities

The creation, design, and improvement of products, processes, and systems that are mechanical in nature are the core of many industries. Solutions to such major problems as environmental pollution, lack of mass transportation, and need for new sources of energy will depend heavily on the ability to create new types of machines and mechanical systems. Full use of developments in emerging fields, such as nanotechnology and bioengineering, require mechanical systems. These needs have created a substantial demand for mechanical engineers in a broad range of fields. Excellent career opportunities for mechanical engineers exist in aerospace, biomedical, computer, electronics, energy, environmental, manufacturing and fabrication, machine and tool design, transportation, and a host of other industries.

Bachelor of Science Degree Requirements

Mechanical Engineering Major *Units*

Major requirements 66
ME 1, 2, 26, 31, 32, 95, 112, 115, 116, 118, 125, 135, 136, 140, 145, 154, 156 ..... (40)
CE 20, 121..... (6)
ECE 71, 91, 91L ..... (7)
Design Applications ..... (7)
ME 155, 159, 166
Technical Area Courses.....(6)
Take a minimum of 3 units in *Group A* (ME 137, 142, 144, 146, 162, or 164.)
A maximum of 3 units in *Group B* (ME 180, 190, 191T; ECE 121, 121L, 155) may be substituted for a course in *Group A* with faculty adviser's approval.

Other requirements..... 63
General Education.....42
Select one course from each of the following G.E. areas: A1, A2, B2, C1, D1, and D3. (See G.E. pages.)
The following courses are required to satisfy both G.E. and major requirements: PLSI 2 [G.E. Area D2], PHIL 20 [G.E. Area C2], MATH 75 [G.E. Area B4], CHEM 1A [G.E. Area B1], ME 134 [G.E. Area IB], PHIL 120 [G.E. Area IC], PLSI 120 [G.E. Area M/I]
Additional requirements 21
MATH 76, 77, 81*; PHYS 4A, 4AL, 4B, 4C

Total 129

*ENGR 101 may be taken as an alternative with faculty adviser's approval.

Note: Engineering majors are exempt from G.E. areas A3, E, ID, and the third course in Area C.

Mechanical Engineering Recommended Program

First Semester
ME 1 (Intro to Mechanical Engineering) (1 unit)
ME 26 (Engineering Graphics) (3 units)
MATH 75 (Mathematical Analysis I) (4 units)
COMM 3, 7, or 8. Area A1 (see note 2) (3 units)
ENGL 5B or 10 Area A2 (see note 2) (3 units)
Total (17 units)

Second Semester
MATH 76 (Mathematical Analysis II) (4 units)
PHYS 4A, L (Mechanics and Wave Motion) (4 units)
G.E. Area B2 (see note 2) (3 units)
HIST 11 or 12 Area D1(see note 2) (3 units)
PLSI 2 Area D2 (see note 2) (3 units)
Total (17 units)

Third Semester
ME 31 (Engineering Materials) (3 units)
MATH 77 (Mathematical Analysis III) (4 units)
PHYS 4B (Electricity, Magnetism, and Heat) (3 units)
CHEM 1A (General Chem and Qual Analysis) (5 units)
PHIL 20 Area C2 (3 units)
Total (18 units)

Fourth Semester
CE 20 (Engineering Mechanics: Statics) (3 units)
ME 32 (Engineering Materials Lab) (1 unit)
ECE 90L (Elec Cir Lab) (1 unit)
ECE 91 (Intro Elec Engr) (3 units)
MATH 81 (Applied Analysis) (4 units)
PHYS 4C (Light and Modern Physics) (3 units)
Total (18 units)

Fifth Semester
ME 112 (see note 1) (Engineering Mechanics: Dynamics) (3 units)
ME 136 (Thermodynamics) (3 units)
CE 121 (Mechanics of Materials) (3 units)
G.E. Area C1 (see note 2) (3 units)
Total (18 units)

Sixth Semester
ME 116 (Fluid Mechanics) (3 units)
ME 118 (Fluid Mechanics Lab) (1 unit)
ME 134 (Dynamics in Machine Design) (3 units)
ME 140 (Adv Engineering Analysis) (3 units)

ME 144 (Adv Mech of Materials) (3 units)
Technical Area Course (see *Major Requirements)* (3 units)
Total (18 units)

Seventh Semester
ME 145 (Heat and Mass Transfer) (3 units)
ME 154 (Design of Machine Elements) (3 units)
ME 155 (Elements of Systems Design) (3 units)
ME 156 (Adv Thermodynamics - Fluid Mechanics) (3 units)
Technical Area Course (see *Major Requirements*) (3 units)
Total (15 units)

Eighth Semester
PHIL 120 Area IC (3 units)
PLSI 120 Area M/I (3 units)
Design Applications (3 units)
--- Design Application Area: ME 164 (Machine Design) or ME 166 (Energy Systems Design) [3 units]
G.E. Area D3 (see note 2) (3 units)
Total 12 (units)

Notes
1. Also counts as major GPA.
2. See G.E. listings.

Advising Notes
1. Courses in mathematics, the physical sciences, or engineering taken ***CR/NC*** are not counted toward fulfillment of degree requirements in mechanical engineering.
2. Mechanical engineering majors might consider a math, physics, or business minor.
3. Since the mechanical engineering major curriculum is very demanding, many students, especially those not fully prepared in mathematics, chemistry, and/or physics, take 4½ or more years to graduate rather than the traditional 4 years. If needed, students also may go to the Learning Resource Center and request tutorial assistance.
4. Advising is mandatory in the Lyles College of Engineering. A registration hold will be placed on students who fail to see their adviser at least once per academic year.
5. The Upper-Division Writing Skills requirement has to be completed no sooner than the term in which 60 units of coursework are completed or no later than the term in which 90 units are completed. This requirement can be met by passing the university writing examination or by taking ENGR 105W or a department-approved writing course. Must be taken and passed with a letter grade of ***C*** or better in the junior year if the student fails the writing exam requirement.
6. With faculty adviser approval, ENGR 101 may be taken instead of MATH 81.

COURSES
Mechanical Engineering (ME)

ME 1. Introduction to Mechanical Engineering (1 unit)
Required of all freshmen and transfer students during their first or second semester of study. Introduction to engineering design; case studies in mechanical engineering; problem-solving using the engineering approach; introduction to engineering code of ethics, mechanical engineering profession, and career opportunities.

ME 2. Computer Applications in Mechanical Engineering Lab (1 unit)
Students develop fundamental skills in basic analytical and design tools used in mechanical engineering. Topics covered include spreadsheet applications, graphing data, technical communication, programming concepts, and computer-aided design (CAD). (One 3-hour lab)

ME 26. Engineering Graphics (3 units)
Basic computer literacy required. Principles of orthographic projection, dimensioning, and descriptive geometry. Applications to the solution of engineering problems including the use of interactive computer graphics. (Two 3-hour lecture labs)

ME 29. Engineering Mechanics (3 units)
(Same as CE 29.) Prerequisites: MATH 77 (or concurrently); PHYS 4A. Not open to mechanical or civil engineering majors. Study of fundamental principles of statics and dynamics by scalar and vector methods.

ME 31. Engineering Materials (3 units)
Prerequisites: CHEM 1A. Fundamental nature and properties of engineering materials; structure of matter and its effect on mechanical, electrical, magnetic, and thermal properties.

ME 32. Engineering Materials Laboratory (1 unit)
Prerequisite: ME 31 (or concurrently). Application of experimental methods to engineering materials. Study of stress and strain in metals; fatigue; hardness; toughness. (3 lab hours)

ME 95. Product Development (2 units)
Prerequisites: ME 2 (or concurrently), 26, 31, and 32 (or concurrently). Examines the overall process of product development including preliminary design, drafting, material selection, fabrication, inspection, assembly, and testing. Laboratory component introduces basic machining and fabrication skills. (1 lecture, 3 lab hours)

ME 112. Engineering Mechanics: Dynamics (3 units)
Prerequisites: CE 20; MATH 81 or ENGR 101. Development of principles of kinematics and kinetics in engineering.

ME 115. Instrumentation and Measurement Lab (1 unit)
Prerequisites: ECE 71, 91, 91L. Application of different measuring devices and techniques used in engineering systems. Examines calibration and response characteristics of instruments. Technical reports are required. (3 lab hours)

ME 116. Fluid Mechanics (3 units)
Prerequisites: ME 112 (or concurrently). Fundamentals of fluid mechanics as applied to engineering problems.

ME 118. Fluid Mechanics Laboratory (1 unit)
Prerequisites: ENGR 105W or successful completion of university writing exam, ME 115 (or concurrently); ME 116 (or concurrently). Applications of experimental methods used in engineering practice to ME fluid systems. (One 3-hour lab)

ME 125. Engineering Statistics and Experimentation (3 units)
Prerequisites: MATH 76. Provides fundamentals of statistical and uncertainty analysis applied to engineering measurements, experimental methods, product design, and manufacturing processes. Includes probability distributions, data sampling, confidence intervals, quality control, reliability, life testing, and analysis of uncertainty in experimental measurements.

ME 134. Fundamentals of Machine Design (3 units)
Prerequisites: ME 26, 112; CE 121; MATH 81 or ENGR 101. Analytical, graphical, and computer solutions applied to design problems in machinery and mechanisms. Cam design, different types of followers, cam manufacturing considerations. Gear design, different types of gears, gear trains. Students will be assigned class projects related to the topics covered in class. (2 lecture, 3 lab hours)

ME 135. Engineering Product Design (3 units)
Prerequisites: ME 95. Introduction to product engineering with consideration given to economic, safety, quality, aesthetic, environmental, liability, and patent law issues. Open-ended design project is required.

ME 136. Thermodynamics (3 units)
Prerequisites: CHEM 1A, PHYS 4A, MATH 77, and upper-division standing. Fundamentals of thermodynamics and heat transfer as applied to engineering problems.

ME 137. Turbomachinery (3 units)
Prerequisites: ME 116 and 136. Applications of fluid mechanics and thermodynamics and rotor-fluid energy interchange. Steady flow problems of pumps, compressors, and turbines with incompressible and compressible fluids. Both closed- and open-ended homework problems.

ME 140. Advanced Engineering Analysis (3 units)
Prerequisites: CE 121; ECE 71, ME 112 (or concurrently), ME 116 (or concurrently). Development of finite element method of engineering analysis; applications to heat flow, fluid flow, vibrations, and stresses in mechanical design using appropriate numerical techniques, and closed-form solutions of partial differential equations.

ME 142. Mechanical Vibration (3 units)
Prerequisites: ME 112. Mathematical and physical basis of vibration theory with applications to engineering analysis and design. Includes transient and steady state phenomena, distributed and lumped parameter systems, coupled systems, and computer solutions.

ME 144. Advanced Mechanics of Materials (3 units)
Prerequisites: CE 121, ME 125, MATH 81. Advanced topics in mechanics of materials. Statistical considerations in design, stress, and strain theories; contact stresses, strain energy, Castigliano's theorem; failures resulting from static and dynamic loading; static and fatigue theories of failure; stress concentrations.

ME 145. Heat and Mass Transfer (3 units)
Prerequisites: ME 116, 136, 140. Analytical, numerical, and electrical analogy methods are used to solve a variety of heat transfer and mass transfer problems. Advanced topics in radiation, boundary layer flow, and heat exchanger design.

ME 146. Air Conditioning (3 units)
Prerequisites: ME 116, 136. Theory and practice in air conditioning including psychrometrics, load estimating, heating and cooling systems, fluid design and controls. (2 lecture, 3 lab hours)

ME 154. Design of Machine Elements (3 units)
Prerequisites: ME 95, 134. Design of machine elements and components using theory learned in prerequisite courses. Both individual and team-type open-ended design projects are required. Use of computers for design is required. (2 lecture, 3 lab hours)

ME 155. Elements of Systems Design (3 units)
Prerequisites: ENGR 105W or successful completion of university writing exam, ME 135, 145, 154, 156, senior standing. Design of a commercially feasible mechanical engineering system. Students work in teams to design, build, and test prototype engineering systems using industry-supported projects. Basis of course is formed by meeting realistic constraints, including client-based specification; optimizing designs, working in a team environment, and developing project management skills.

ME 156. Advanced Thermodynamics — Fluid Mechanics (3 units)
Prerequisites: ME 116, 136. Advanced topics in thermodynamics and fluid mechanics including analysis of solar and nuclear systems as applied to engineering problems.

ME 159. Mechanical Engineering Laboratory (1 unit)
Prerequisites: ME 118, 125, 145, 156 (or concurrently), and senior standing. Analysis of mechanical engineering and measurement systems. Students conduct experiments dealing with advanced thermal and mechanical systems. Using knowledge and experience gained from experimentation, students design and conduct their own group experiments. Both written and oral technical reports are required.

ME 162. Computer-Aided Design (3 units)
Prerequisites: ME 2, 26, 140, 145 (or concurrently). Survey of computer applications for design, analysis of mechanical systems, and manufacturing of mechanical components. Typical programming language software packages used in industry (CAD/CAM and FEA) will be introduced.

ME 164. Machine Design (3 units)
Prerequisites: ME 135 (or concurrently), 145, 154; ENGR 105W or successful completion of university writing exam. Open-ended design problems of complete machine systems. Integration of prerequisite course material into final design project. Satisfies the senior major requirement for the B.S. in Mechanical Engineering. (Two 3-hour lecture-labs)

ME 166. Energy Systems Design (3 units)
Prerequisites: ME 135, 145, 156; ENGR 105W or successful completion of university writing exam. Design of conventional and alternative energy conversion systems, i.e. solar; selection and integration of components of the system; use of codes and standards. Group project report required. Satisfies the senior major requirement for the B.S. in Mechanical Engineering.

ME 180. Special Projects (1-3; max total 3 units)
Prerequisites: senior standing in mechanical engineering, department-approved writing course or approved subject; successful completion of writing exam. Study of a problem under supervision of a faculty member; final typewritten report required. Individual project except by special permission.

ME 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

ME 191T. Topics in Mechanical Engineering (1-3; max total 6 units)
Prerequisite: permission of instructor. Investigation of selected mechanical engineering subjects not in current courses.

ME 193. Mechanical Engineering Cooperative Internship (1-6; max total 12 units)
Prerequisite: permission of adviser. Engineering practice in an industrial or government installation. Each cooperative internship period usually spans a summer-fall or spring-summer interval. This course cannot be used to meet graduation requirements. ***CR/NC*** grading only.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Mechanical Engineering (ME)

ME 211. Advanced Dynamics (3 units)
Prerequisite: ME 134 or permission of coordinator. Dynamics of mechanical systems with emphasis on equations of motion. Kinematics of particles, energy and momentum methods, variational methods, LaGrange's method, kinematics and plane motion of rigid bodies, kinetics of rigid bodies in three dimensions, mechanical vibrations.

ME 215. Design Optimization of Engineering Systems (3 units)
Provides students with the ability to conceptualize and formulate design optimization problems and to utilize the best algorithms for a given class of problems. Topics include constraints, monotonicity, and methods to optimally design unconstrained and constrained engineering systems.

ME 220. Compressible Fluids (3 units)
Prerequisite: ME 156 or permission of coordinator. Review of the foundations of fluid mechanics and thermodynamics. The velocity of sound, mach number and angle, differences between incompressible, subsonic, and supersonic flow. Isentropic flow, working charts and tables, choking, operation of nozzles. Normal shock waves, ducts, shock tube analysis. Fanno and Rayleigh analysis, oblique shock waves, the Prandtl-Meyer equation. Lift and drag on bodies in supersonic flow. Method of characteristics.

ME 221. Incompressible Fluids (3 units)
Prerequisite: ME 156 or permission of coordinator. The kinematics of liquids and gases, the LaGrangian and Eulerian methods, streak lines, stream tubes. Geometry of the vector field, stokes, and Gauss's theorems, acceleration of a fluid particle, homogeneous fluids and the equation of continuity. Integration of Eutor's equation, Bernoulli's equation. Potential motion and potential functions, source and sink potentials, the stream function. Vortex theory, surfaces of discontinuity.

ME 223. Gas Turbine Engines (3 units)
First-year graduate course in mechanics and thermodynamics of gas turbines. Thermodynamics of fluid flow and engines, boundary layer theory, subsonic and supersonic inlets, combustors, fans, compressors, turbines, nozzles, inlet distortion, fuel controls, noise reduction, ramjets and scramjets.

ME 225. Heat Transfer (3 units)
Conduction, convection, and radiation. One and two dimensional steady-state conduction, LaPlace's equation, numerical techniques. Transient heat transfer. Heisler charts, multiple-dimensional systems, boundary layers, Reynold's analogy. Forced and natural convection radiation heat transfer, Kirchoff's and Wien's laws, radiation shields.

ME 227. Advanced Thermodynamics (3 units)
Prerequisite: ME 156 or permission of coordinator. Review of classical thermodynamics, Maxwell relations, equations of state, nonideal gases, experimental methods. Entropy and exergy analysis with applications to energy conversion devices and thermodynamic cycles, single- and multiple-phase systems, and irreversibility in thermodynamics.

ME 229. Advanced Gas Dynamics (3 units)
Review of supersonic flow. Vibrational and chemical rate processes, nonequilibrium chemical rate equations, rate equations for dissociation and recombination. Flow with vibrational or chemical nonequilibrium. Nonequilibrium kinetic theory; evaluation of collision cross sections. Flow with translational nonequilibrium. Radiative transfer in gases, and approximate solutions of the equation of radiative transfer.

ME 232. Advanced Aircraft Stability and Control (3 units)
Prerequisite: ME 230. Continuation of ME 230. Validity of small disturbance theory, nonlinear equations of motion, steady state and dynamic stability and control of elastic airplanes. Frequency response methods, response to turbulence. Automatic flight control analysis and design, the human pilot in the control loop, stability augmentation, digital flight control systems, state vector methods.

ME 241. Structural Analysis (3 units)
Prerequisite: ME 134 or permission of coordinator. Graduate-level course in the principles of structural mechanics. Stress, strain and displacements, static and dynamic loads, energy methods, virtual work, discrete and continuous system analysis, finite element analysis, elastic beams, plates, and frames; single and multi degree-of-freedom modal analysis.

ME 243. Structural Dynamics (3 units)
Prerequisite: ME 241 or permission of instructor. Continuation of ME 241. Von Karman theory, shear deformation, geometry and equilibrium of shells, theory of vibrations, vibrations of aircraft structures, coupling with the aerodynamic equations, flutter, ground and flight structural test techniques.

ME 290. Independent Study (1-3; max total 6 units)
Prerequisite: graduate status in engineering. See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

ME 291T. Topics in Mechanical Engineering (1-3; max total 6 units)
Prerequisite: graduate status in engineering or permission of instructor. Selected mechanical engineering subjects not in current courses.

ME 298. Project (3; max total 3 units)*
Prerequisite: graduate status in engineering. See *Criteria for Thesis and Project.* Independent investigation of advanced character such as analysis and/or design of special engineering systems or projects; critical review of state-of-the-art special topics, as the culminating requirement for the master's degree. Abstract required. Approved for ***RP*** grading.

ME 299. Thesis (3; max total 6 units)*
Prerequisite: see *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for master's degree. Approved for ***RP grading.***

* For 298C and 299C courses, see *Graduate Studies.*

Engineering - Graduate Programs

Master of Science Programs

The Lyles College of Engineering offers a Master of Science in Civil Engineering and a Master of Science in Engineering (with options in Computer, Electrical, and Mechanical Engineering).

M.S. in Civil Engineering

See engineering graduate programs

M.S. in Engineering (Options in Computer, Electrical, and Mechanical Engineering)

The Master of Science in Engineering program has the following goals: (1) to develop the students' advanced analytical skills by developing an in-depth understanding of major theoretical and practical engineering concepts; (2) to develop students' written and oral communication skills applied to technical areas; (3) to achieve an appropriate level of competence by the students in solving practical electrical or mechanical engineering problems; (4) to develop students' critical and creative thinking skills in mastering new topics required to understand and solve complex engineering problems; and (5) to allow the students to demonstrate a sufficient depth of knowledge in a substantive area of electrical or mechanical engineering to pursue advanced academic or industrial work.

Program Objectives

The program has the following objectives: (1) to complete a minimum of 30 units of graduate coursework, including appropriate core courses, (2) to successfully demonstrate knowledge base in culminating experience, and (3) to enhance the students' career goals by increasing their theoretical, research, and problem-solving skills in applied engineering.

Program Requirements

The program consists of the following:

A. Main Core
ENGR 200 ..... **1**

B. Option Core **9**
EE Option: ENGR 201, ECE 224; choose one from ECE 230, ECE 241, ENGR 206
CompE Option: ENGR 201, ECE 278; choose one from ECE 240, 243, 274
ME Option (choose 3 courses): ENGR 201, 202, 205, 206

C. Electives **14**
CompE and EE Options: Choose from remaining upper-division and graduate courses. Minimum of 6 units from corresponding program electives. Maximum of 9 upper-division units. See advising notes.
or
ME Option: Choose from remaining upper-division and program courses. Maximum of 9 upper-division units. See Mechanical Engineering courses listings.

D. Culminating Experience **6**
For either option, choose
1. 6 units of electives plus comprehensive exam, minimum of 3 units from corresponding program electives, or
2. ECE 298 or ME 298 Project (3 units) plus 3 units of program electives, or
3. ECE or ME 299 Thesis (6 units)

Total **30**

Advising Notes

1. CompE Program electives: ECE 224, 240, 242, 243, 255, 274, 291T, 290 (3 units max)
2. EE Program electives: ENGR 206, ECE 230, 231, 232, 241, 245, 247, 249, 251, 253, 255, 257, 259, 274, 291T, 290 (3 units max)
3. Approved graduate courses may be taken with the permission of the department of the program of study.

Lyles College of Engineering

Campus advisers:

M.S. in Civil Engineering
W. William Wright
Engineering East Building, Room 170
559.278.5591
wfwright@csufresno.edu

M.S. in Engineering
Computer Engineering Option
Electrical Engineering Option
Reza Raeisi
Engineering East Building, Room 266
559.278.6038
rraeisi@csufresno.edu

Mechanical Engineering Option
Walter V. Loscutoff
Engineering East Building, Room 158
559.278.2368
walterl@csufresno.edu

Up to nine semester hours of satisfactory graduate credit may be transferred into the program from other institutions if not used in completing another graduate degree program. Undergraduate courses may be transferred if the courses were not used in completing another degree program. The total undergraduate upper-division semester hours applied to this degree program cannot exceed nine hours.

The Graduate Record Examination (GRE) Aptitude Test is required of all students prior to advancement to candidacy status.

The program requires extensive use of a computer; therefore, students are expected to have their own computer or access to one 24 hours a day.

Admission to the University. Requirements for admission to California State University, Fresno are in accordance with Title 5, Chapter 1, Subchapter 3 of the *California Code of Regulations.*

Admission to the Program. Students who apply to the program are placed in one of the following categories:

1. **Graduate Standing, Classified.** Students with (a) an undergraduate degree in an appropriate engineering discipline from an ABET accredited program, (b) an

undergraduate grade point average of 3.0, (c) a minimum GRE quantitative score of 550 are eligible for classified (degree status) graduate standing, and (d) a letter of recommendation from an academic or an industrial source.

2. **Graduate Standing, Conditionally Classified.** Students from non-ABET accredited engineering programs, or with a degree in physical science or mathematics or a different engineering discipline, and who have not met the requirements of category 1, will be given conditionally classified graduate standing. These students may be required to take prerequisite courses as determined by the graduate program at the time of admission. Upon satisfactorily meeting any specified requirements, students will then be advanced to classified standing.

Degree Candidacy. The following requirements must be met prior to advancement to candidacy:

1. Classified graduate standing.
2. Completion at California State University, Fresno of at least 9 units of the proposed program with a 3.0 average on all completed work appearing on the program.
3. A minimum grade point average of 3.0 in all required graduate coursework from the date of commencing the first course of the proposed master's degree program.
4. Departmental recommendation for advancement to candidacy.
5. Satisfactory completion of the Graduate Writing Skills Requirement.

Nondegree students. Students with a bachelor's degree may take graduate courses (concurrently with regular students) for credit or audit. Prior approval is required.

Curricula

Core Courses

(common to both programs)

Three courses from the following are required:

ENGR 202 Applied Engineering Analysis (3 units)
ENGR 205 Computing in Engineering Analysis (3 units)
ENGR 206 Probability Theory and Statistical Analysis (3 units)
ENGR 210 Linear Control Systems (3)

Mechanical Engineering

Required Courses (both are required):
ME 211 Advanced Dynamics (3 units)
ME 220 Compressible Fluids (3)

Mechanical Engineering Electives:

ENGR 212 Advanced Control Systems (3 units)
ME 221 Incompressible Fluids (3 units)
ME 223 Jet Engine Propulsion (3 units)
ME 224 Rocket Propulsion (3 units)
ME 225 Heat Transfer (3 units)
ME 227 Advanced Thermodynamics (3 units)
ME 229 Advanced Gas Dynamics (3 units)
ME 230 Aircraft Stability and Control (3 units)
ME 232 Advanced Aircraft Stability and Control (3 units)
ME 241 Structural Analysis (3 units)
ME 243 Structural Dynamics (3 units)
ME 250 Astrodynamics (3 units)
ME 290 Independent Study (1-3)
ME 291T Topics in Mechanical Engineering (1-3)
ME 298 Project (3; max total 3 units)
ME 299 Thesis (3-6; max total 6 units)

Electrical Engineering:

ENGR 212 Advanced Control Systems (3 units)
ECE 241 Applied Electromagnetics (3 units)
ECE 245 Communications Engineering (3 units)
ECE 249 Advanced Communications Engineering (3 units)
ECE 290 Independent Study (1-3)
ECE 291T Topics in Electrical Engineering (1-3)
ECE 298 Project (3; max total 3 units)
ECE 299 Thesis (3-6; max total 6 units)

Accelerated Graduate Programs

The accelerated M.S. program provides a path to students who are talented and want to acquire additional knowledge in specialized areas of interest, as a continuation of their B.S., within a short period of time. The benefits to the students that participate in the program are as follows:

- More efficient use of their fourth academic year leading to a baccalaureate degree
- Ability to focus more rigorously on their areas of professional practice, culminating in a master's degree
- Opportunity to receive both B.S. and M.S. in five years

Eligibility: A student who has completed 75 units of required and elective G.E., math, science, and engineering coursework required for his/her undergraduate program may apply to the accelerated graduate program.

Application Materials: To apply to the accelerated graduate program, a student must submit the following:

- Application form
- A detailed statement of purpose
- Two letters of recommendation, at least one from a faculty member of the program

Timing of Application: Application may be made no sooner than at the beginning of the sixth semester of study of an undergraduate degree program. Students officially enter the program no earlier than the seventh semester of an eight-semester undergraduate program.

Requirements: The applicants must satisfy the following requirements:

- Overall GPA of 3.0 or greater at the time of application
- Satisfactory GRE scores (consult program advisers)
- Complete all the courses specified by the program by the end of the sixth semester with GPA of 3.0 or greater
- Complete no less than 30 units of coursework in residence by the end of the sixth semester
- Complete undergraduate writing requirement by the end of the sixth semester
- Complete all G.E. requirements prior to taking 200-level courses

Progress Toward Awarding of Degree: Students can take up to 10 units of courses that qualify for the M.S. program (but no more than 6 units of 200-level courses per semester) before completion of the B.S. program. Students shall not proceed with further graduate-level coursework until they have obtained the classified standing. The classified standing can be obtained by filing the appropriate form with the Office of Graduate Studies after the completion of the B.S.

Awarding of Degree: Students must meet all programmatic requirements for each degree. This implies that no coursework, project, independent study, etc., may be simultaneously applied toward meeting the requirements of the B.S. and M.S. Students must complete the requirement for the B.S. at least two semesters prior to completing the requirement for the M.S.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Engineering (ENGR)

ENGR 200. Seminar in Engineering (1 unit)
Orientation to the graduate program, exposure to various areas within electrical engineering and mechanical engineering, introduction to research methods, and discussion of project and thesis topics. (Formerly ENGR 291T)

ENGR 201. Systems Modeling and Realization (3 units)
Prerequisites: graduate standing. Advanced software and hardware engineering tools and their applications; instrumentation and experimental measurements; transducers; analog and digital signal conditioning; instrumentation amplifiers; signal reconstruction; actuators; dynamic systems modeling; realization of models; spectrum analysis; real-time computations; data analysis. (2 lecture, 2 lab hours) (Formerly ENGR 291T)

ENGR 202. Applied Engineering Analysis (3 units)
Study of analytical tools used in the analysis and modeling of applied engineering systems, in addition to the use of simulation software such as MATLAB. Emphasis is placed on solving problems tied to direct applications within the engineering disciplines.

ENGR 205. Computing in Engineering Analysis (3 units)
Prerequisite: a first course in numerical analysis at the graduate level. Solution of engineering problems using digital computation. Modeling of engineering systems for numerical analysis.

ENGR 206. Stochastic Theory in Engineering Analysis for Electrical Engineers (3 units)
Prerequisites: ECE 125 or ME 125 or equivalent. Estimation theory and applications, reliability theory, statistical yield models, random processes, autocorrelation, power spectral densities, noise characterization, random processes, matched filters, multivariable regression, analysis of variance, and design of experiments. Applications to communications and communication systems, control systems, and dynamic mechanical systems.

ENGR 210. Linear Control Systems (3 units)
A first-year graduate course covering the analysis, synthesis, and performance of linear control systems. Partial fraction expansion, Routh's criterion, the impulse function. Basic servo characteristics and types, block diagrams, transfer functions. A detailed treatment of the root locus method for analysis and synthesis. Frequency response, logarithmic and polar plots, Nyquist's criterion, stability characteristics, phase margin and gain margin.

For a complete listing and descriptions of all graduate courses, see department pages.

The College of Health and Human Services

McLane Hall, Room 178, 559.278.4004
Jody Hironaka-Juteau, *Interim Dean*
www.fresnostate.edu/chhs

The College of Health and Human Services includes the departments of Communicative Disorders and Deaf Studies, Kinesiology, Nursing, Physical Therapy, Public Health, Recreation Administration, and Social Work Education. Gerontology is an integral program of the college.

The Mission of the College

The primary mission of the College of Health and Human Services is to provide professionally oriented education at the baccalaureate level and to provide graduate programs in specialized disciplines related to health and human services. As a major academic unit in a comprehensive regional university, the college is unique and important in educating health and human services professionals of the San Joaquin Valley. The college co-operated with other units of the university to provide a comprehensive curriculum required to effectively prepare qualified professionals.

The college provides an especially important leadership role in community services through participation of its faculty in organizations, boards, and a variety of agencies and by conducting workshops, symposia, in-service education, and applied research. The college is also committed to the continuing education and the professional development of health and human services providers.

The academic disciplines of communicative disorders and deaf studies, gerontology, kinesiology, nursing, physical therapy, public health, recreation administration, and social work education seek to foster interdisciplinary-holistic education for future health and human services providers.

Communicative Disorders and Deaf Studies

Communicative Disorders and Deaf Studies

Audiology, speech-language pathology, deaf education and interpreting are concerned with many issues related to speech, hearing, and language. Professionals in these fields are devoted to providing diagnostic, rehabilitative, and educational services to children and adults with communicative challenges.

Bachelor of Arts

The Bachelor of Arts degree in Communicative Disorders provides the students with a liberal arts foundation integrated with courses designed to provide a basic understanding of speech, language, and hearing development and communicative problems. Students pursuing deaf studies have two options: deaf education and interpreting. Students majoring in deaf education and speech-language pathology can continue their options in our graduate program.

Master of Arts

Education beyond the bachelor's degree is necessary for completion of the academic, credential, and licensure requirements leading to professional employment. Two professional option areas are available to the student:

Deaf Education. Our deaf education program gives you a broad background in bilingual-bicultural education, total communication, and cued speech philosophies along with speech, language, auditory training, deaf culture, and American Sign Language. This program includes all of the essential elements of a good education for deaf and hard-of-hearing children. The program is nationally accredited by the Council of Education of the Deaf (CED).

Speech-Language Pathology. Our speech and language pathology program provides you with a broad professional background in normal speech and language development, language disorders, swallowing disorders, voice disorders, articulation disorders, and fluency disorders. The program is nationally accredited by the Council for Academic Accreditation in Audiology and Speech-Language Pathology (CAA).

The undergraduate curriculum plus a master's degree in communicative disorders prepares you for one or more of the following: state licensure as a speech-language pathologist, national certification in speech-language pathology by the American Speech-Language-Hearing Association, provisional certification in deaf education by the Council on Education of the Deaf, Levels I and II Education Specialist Credential: Deaf and Hard of Hearing, and the Speech-Language Pathology Services Credential.

Certificate in Conversational American Sign Language

A program of study leading to a Certificate in Conversational American Sign Language has become popular to many students pursuing professional fields and other majors on campus. The demand for health and human services professionals who can communicate effectively with deaf and hard-of-hearing children, youth, and adults has made sign language skills necessary.

Communicative Disorders Minor

A Minor in Communicative Disorders is also available for students in various education and health professions (nursing, health science, physical therapy, counseling, elementary and secondary education, special education, child development, linguistics, criminology, etc.) who are interested in expanding their understanding of children and adults with communicative disorders.

Facilities

As a student, you are given the opportunity to work in a well-equipped speech and hearing clinic. You can also gain practical experience in a variety of school, private practice, and hospital settings. Library facilities contain specialized collections including student access to local medical libraries. In the Anna Michelson Memorial Instructional Media Center, you have access to a wide range of therapy production materials such as films, video, clinical equipment, and professional journals.

University Speech and Hearing Clinic. The department operates an ongoing clinic that provides diagnostic, therapeutic, and counseling services to clients of all ages with a variety of different communication problems or disorders.

The clinic provides supervised clinical practice for students who are preparing to be professional speech-language pathologists and educators of deaf and hard-of-hearing children. As a valuable community resource, the clinic serves thousands of clients each year from the Fresno metropolitan area.

College of Health and Human Services

Department of Communicative Disorders and Deaf Studies

Don B. Freed, *Chair*

Professional Human Services, Room 252

559.278.2423

TTY/TDD: 559.278.2856

www.fresnostate.edu/cdds

B.A. in Communicative Disorders

Options:

- Audiology
- Deaf Education
- Interpreting
- Speech-Language Pathology

M.A. in Communicative Disorders

Options:

- Deaf Education
- Speech-Language Pathology

Minor in Communicative Disorders

Preliminary Level I and Professional Level II Education Specialist Credential: Deaf and Hard of Hearing

Speech-Language Pathology Services Credential

Certificate in Conversational American Sign Language

Career Opportunities

The department prepares you to work in various diagnostic and rehabilitation settings in preschool programs, elementary and secondary schools, colleges, hospitals, rehabilitation centers, private or community clinics, or private practice. Employment opportunities have been and are expected to remain very good.

Faculty

Don B. Freed, *Chair*

Steven L. Skelton, *Graduate Coordinator*
Don B. Freed, *Audiology Adviser*
Deaf Studies/Deaf Education Advisers:
Paul W. Ogden
Interpreting Adviser: Bryan D. Berrett
Speech-Language Pathology Advisers:
Don B. Freed,
Steven L. Skelton

Sharon Inouye, *Clinic Director*

Bryan D. Berrett
Don B. Freed
Christine Maul
Paul W. Ogden
Fran Pomaville
Steven L. Skelton

Bachelor of Arts Degree Requirements

Communicative Disorders Major *Units*

Major requirements 41-47
Options
Select one:
Audiology
CDDS 80, 91, 95, 101, 102, 103, 105, 107, 109, 110, 116, 128, 131, 141, 172..... (41)
Deaf Education
CDDS 80, 93, 94S, 95, 106, 114, 121, 128, 131, 136, 138, 139, 141, 162, 163, 164..... (46)
Interpreting
CDDS 80, 93, 94S, 95, 106, 136, 138, 139, 141, 166, 169, 170, 175, 188T (2 units)..... (41)
Speech-Language Pathology
CDDS 80, 91, 95, 101, 102, 103, 105, 107, 109, 110, 114, 115, 116, 128, 131, 171, 172..... (47)
General Education requirements..... 51
Electives and remaining degree requirements 22-28*
Courses may be used to satisfy credential requirements or a minor in another field. See advising notes 4 and 5 for recommended electives.
Total 120

* CDDS 92 in G.E. Breadth C2 also may be applied to the communicative disorders major for students in the deaf education and interpreting options.

Advising Notes

1. *CR/NC* grading is not permitted for CDDS majors for any coursework required in the major, with the exception of specified clinical courses.
2. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students in CDDS 110, 162, 163, 164, and other clinical, internship, and student teaching courses are required to show health certification that they are free from tuberculosis and rubella, and to purchase student clinic malpractice insurance for the clinical courses (see the University Speech and Hearing Clinic director for details).
4. PSYCH 101 is a required credential course than can also be used as an undergraduate elective.
5. A statistics course is a prerequisite to CDDS 200, which is typically taken the first semester of graduate work. It is recommended that students take statistics as an undergraduate elective prior to applying to graduate school.
6. No General Education Multicultural/International course offered by the Communicative Disorders and Deaf Studies Department may be used to satisfy the General Education requirements for majors in the department.

Certificate in Conversational American Sign Language

The Certificate in Conversational American Sign Language will be awarded to students who first complete the 12-unit program of study consisting of four advanced deaf studies classes and then pass the departmental proficiency interview in American Sign Language. The recipients of the certificate are considered fluent and possess the expressive and receptive communication skills needed to successfully communicate with deaf and hard-of-hearing children, youth, and adults.

The following list includes the required courses. Students must complete all the coursework with a *C* grade or better.

Units

Required 12
CDDS 94S, 106, 136, 139

Note: No course substitutions may be made without the department's approval. CDDS 91, 92, 93, and 94S are prerequisites for CDDS 136.

Communicative Disorders Minor

A Minor in Communicative Disorders is designed to provide students in psychology, education, and the health professions with an appreciation and understanding of the problems and procedures related to people who have speech, language, and hearing disorders.

Units

Select one of the following:
Speech Pathology/Audiology
CDDS 80, 91, 95, 101, 102, 109 ..... **18**
Deaf Studies
CDDS 80, 91, 92, 93, 139, 141..... **18**

Note: With permission of the department chair, substitutions can be made. The Communicative Disorders Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Graduate Program

The master's degree is considered essential for the professional training needed for effective practice in deaf education or speech-language pathology. The master's degree generally involves about two years of full-time study.

Admission Requirements. Students with bachelor's degrees in communicative disorders or a related field may apply for consideration. They must demonstrate the ability to excel at an advanced level. For consideration, submit the following: (1) proof of a minimum GPA of 3.0 in the last 60 units of any coursework and a minimum GPA of 3.0 in CDDS coursework; (2) three letters of recommendation; (3) a letter of intent; and (4) Graduate Record Examination (GRE) scores.

Consideration for admission may include but will not be limited to the following: (1) students with outstanding clinical potential, (2) deaf and hard of hearing students, (3) students with disabilities, and (4) students with multicultural or bilingual experience.

Applicants who have specific deficiencies or need coursework may be accepted with conditionally classified status. Students must apply to the department for fully classified graduate standing as soon as any conditions of acceptance have been met. No more than 10 units of graduate work taken under conditional classification can be used to meet the requirements of the master's degree.

Admission Procedures. Applications for the graduate program in communicative disorders are accepted until October 1 for

the spring semester and February 1 for the fall semester. Applications received after these dates are considered the following semester. Application is a two-step process that involves submitting the following:

1. *To the University*
   - An Application of Admission and the Supplemental Application for Graduate Admission (forms *A* and *B* in the CSU application booklet)
   - Official transcripts from all universities and colleges other than California State University, Fresno
   - Official GRE scores
2. *To the Department*
   - Departmental application
   - Official transcripts from all universities attended (California State University, Fresno students may supply the unofficial transcripts issued by Admissions and Records.)
   - Official GRE scores
   - Three letters of recommendation (These letters should be written by instructors or other persons familiar with communicative disorders.)
   - Letter of intent

The departmental application, including information about the letter of intent, and letter of recommendation forms are available from the department. Students cannot be accepted into the graduate program until all materials are received by the university and the department. Students are encouraged to take their GRE *early* during their senior year to avoid delays in acceptance for graduate work.

Advancement to Candidacy. Each student in a master's degree program must file for advancement to candidacy. See *Admissions and Master's Degree Programs, Division of Graduate Studies*.

Graduate-Level Writing Competence. California State University, Fresno requires that students have graduate-level writing abilities before being advanced to candidacy for the master's degree. Students can demonstrate these abilities by passing the writing component of CDDS 200 and obtaining written clearance from the instructor. If GWR clearance is denied, students may appeal to the course instructor. Please see the CDDS *Graduate Handbook* for more information.

Statistics. Any 3-unit, one semester statistics course (lower division, upper division, or graduate level) is required to complete the Master of Arts in Communicative Disorders. Students are encouraged to take the course during their senior year. Exceptions may be made with the consent of their faculty adviser.

Grade Requirements. To be eligible to receive the master's degree, a student must have maintained a *B* average with no more than two *C* grades on the approved Program of Study. Once a student has received three *C*s at any point in the graduate program, he or she will automatically be disqualified from the graduate program.

Master of Arts Degree Requirements

Communicative Disorders Major *Units*

Deaf Education Option

CDDS 200, 201, 202, 255, 262, 263, 264, either 3 units in electives* and CDDS 268 or 9 units in electives* **30**

Culminating Experience **6**

Thesis or project ..... (6)

Comprehensive Examination ..... (6)

CI 225 and LEE 173 or LEE 177

Total **36**

Speech-Language Pathology Option

CDDS 200, 202, 204, 207, 213, 214, 215, 218, 220, 221 ..... **30**

Culminating Experience **6**

Thesis or project ..... (6)

Comprehensive Examination ..... (6)

CDDS 216, 292

Total **36**

*Approved electives are as follows: CDDS 290; CI 230; LEE 172, 214; LING 244; SPED 179, 219, 233, 235, 236, 237, 240.

Other coursework is developed with the adviser to reflect such factors as students' desires regarding thesis or project, individual needs and desires for training, meeting certain state or national requirements, etc.

Student Teaching and Internship. Students are required to take their final student teaching and internship (e.g. CDDS 257, 258, 267, 268) during the last two semesters of their approved Program of Study and within the last 12 units of graduate coursework. Earlier final student teaching and internships are not permitted in the Communicative Disorders and Deaf Studies Department.

Clinical Training. All students are involved in supervised clinical practicum experience during their graduate training. At least 400 clinical hours are required prior to receiving the M.A. A minimum of 300 of these hours must be at the graduate level. These hours are gained at the University Speech and Hearing Clinic and in at least two other settings (internship, student teaching, residency program, etc.)

Culminating Experience. A culminating experience is required of all California State University, Fresno students earning master's degrees. This requirement is accomplished by completing a thesis, project, or comprehensive written exam. Only a limited number of students may be permitted to undertake a thesis or project, depending on the availability of faculty or committee members. Selection of students for a thesis or project is determined by their consistent demonstration of academic superiority in coursework and evidence of outstanding writing skills and research papers. Up to 6 units of credit can be earned for a thesis or project. These units may be applied toward the unit requirements of the degree. (See *Criteria for Thesis and Project.*)

Students considering a thesis or project need to consult the faculty very early in their graduate program, so as to assure completion of the assignment prior to graduation. Selecting a thesis or project option is recommended for students who may at some point consider working toward a doctoral degree. Students who do not participate in a thesis or project must complete a comprehensive written examination. For this examination, students write detailed responses to questions about specific topics within the field. Further information about these options is available from an adviser.

Certificate of Clinical Competence in Speech-Language Pathology. Completion of the master's degree fulfills all the academic and clinical practicum requirements for the Certificate of Clinical Competence (CCC) in Speech Pathology. A Clinical Fellowship Year (CFY) of paid, professional supervised experience is required along with passing the PRAXIS Exam in Speech-Language Pathology before the certificate is granted by the American Speech-Language-Hearing Association. A Certificate of Clinical Competence is required for employment in nearly all work settings except the public schools. All students are encouraged to acquire national certification regardless of the work setting they may choose.

California License as a Speech Pathologist. The master's degree fulfills all academic and

clinical practicum requirements for the State License. A year of paid Required Professional Experience (RPE) is necessary along with passing the PRAXIS Exam in Speech-Language Pathology before the license is issued by the Department of Consumer Affairs. The license is required for employment in almost all settings except the public schools.

The CFY and RPE can be completed concurrently when graduates accept their first professional position.

Certification by Council on Education of the Deaf. For students specializing in deaf education, completion of the master's degree fulfills all the academic and clinical practicum requirements for Provisional Certification by the Council on Education of the Deaf, the national organization responsible for certifying teachers of the deaf. Professional level certification is available following three years of successful teaching under the supervision of a professionally certified educator of deaf and hard-of-hearing children. All students are encouraged to acquire national certification.

Credentials

Two major school credentials for employment are available through the Department of Communicative Disorders and Deaf Studies. Students majoring in speech-language pathology complete their Speech-Language Pathology Services Credential before they work as speech-language pathologists with individuals and/or small groups in one or several schools. Speech-language pathology students accepted into the graduate program in the fall of 1994 or thereafter must complete the master's degree before they are issued the Speech-Language Pathology Services Credential .

Students in speech-language pathology must be approved for admission into the graduate program before the Speech-Language Pathology Services Credential is issued. Deaf education students may pursue the Preliminary Level I and Professional Level II Education Specialist Credential: Deaf and Hard-of-Hearing with or without pursuing the M.A. They are trained to teach deaf and hard-of-hearing classes in early childhood, elementary, and secondary settings, as certified by CED. Students pursuing these credentials must meet all admission requirements for the graduate program.

Individuals interested in teaching children and youth who are deaf or hard of hearing must obtain the Preliminary Level I Education Specialist: Deaf and Hard of Hearing (D/HH) Credential and within five years receive the Professional Level II Education Specialist: Deaf and Hard of Hearing Credential. For more detailed information, contact the Department of Communicative Disorders and Deaf Studies office.

Students are not eligible to take any Communicative Disorders and Deaf Studies (CDDS) 200-level coursework without departmental acceptance into the M.A. or credential program. CDDS 200-level coursework taken by deaf education students for a credential will not be included on a master's degree program of study unless the student has been admitted into the M.A. program. Students cleared as credential candidates by the department and the School of Education and Human Development are not automatically accepted into the department's graduate program.

Information regarding the two credentials is available from departmental credential advisers and the School of Education and Human Development. Students must see their advisers in regard to the upcoming changes in the credential programs.

Preliminary Level I Education Specialist Credential: Deaf and Hard of Hearing

	Units
Undergraduate courses: CDDS 80, 93, 94S, 95, 106, 114, 121, 128, and 131 (concurrently), 138, 139, 141, 162, 163, 164	**43**
Graduate courses: CDDS 202, 255, 262, 263, 264	**15**
Graduate clinical courses: CDDS 260 (2 units); CDDS 258 (6 units) and CDDS 268 (6 units) or CDDS 258 (12 units)	**14**
State credentialing professional education courses: *Phase I* (11 units) CI 171; LEE 172, 173; EHD 174 *Phase II* (11 units) CI 175, 176; LEE 177; EHD 178	**22**
Total	**94**

Professional Level II Education Specialist: Deaf and Hard of Hearing Credential

After candidates complete their Preliminary Level I Credential program, they can be employed in a special education position requiring the Level I Education Specialist: Deaf and Hard of Hearing Credential authorization. Additional coursework and a minimum of two years of employment are required for the Professional Level II Credential.

The Level II Credential is required as a condition for continuous employment in special education in the state of California and must be obtained no later than five years after obtaining the Preliminary Level I Credential.

Information regarding admission to the Professional Level II Education Specialist: Deaf and Hard of Hearing Credential can be obtained from the Department of Communicative Disorders and Deaf Studies office, 278.2423, or by visiting the department's Web site at *www.fresnostate.edu/csd.*

Level II Program

Prerequisite: Preliminary Level I Education Specialist: Deaf and Hard of Hearing Credential

	Units
Core: CDDS 278 and 279	**6**
Generic Core: CI 100; PH 120	**6**
Total	**12**

Speech-Language Pathology Services Credential

	Units
Generic courses: CDDS 80, 91, 95, 101, 102, 103, 105, 107 and 110 (concurrently), 109, 114, 115, 116, 128 and 131 (concurrently), 171, 172; PSYCH 101	**50**
Advanced Specialization in Language, Speech, and Hearing: CDDS 200, 202, 204, 207, 210, 213, 214, 215, 216, 220	**30**
Clinical core: CDDS 257 (4-9 units), 209 (1 unit), 130 or 230 (10-15 units), 150 or 250 (5 units)	**20-30**
Total	**100-110**

COURSES

Note: Students must provide their own transportation in those courses requiring off-campus clinical instruction or observation and defray any resulting personal expense. Students involved with clinical practice must carry professional liability insurance and meet departmental health requirements.

Communicative Disorders and Deaf Studies (CDDS)

CDDS 80. Introduction to Human Communication and Disorders (3 units)
An overview of speech, language and hearing, and disorders of communication; interrelations between the causes of communication disorders and their psychological and sociological effects. **FS**

CDDS 90. Deaf American Literature (3 units)
Prerequisites: G.E. Foundation A2. Introduction to major American Sign Language and English language works composed by deaf authors and artists in America. Addresses contexts in which literary and cultural texts were created and how they reflect and shape American deaf culture. Knowledge of sign language recommended but not required. G.E. Breadth C2.

CDDS 91. American Sign Language I (3 units)
Introduction to the appreciation, comprehension, and analysis of a language developed in a visual/gestural mode. American Sign Language, including its cultural/historical background, the role it plays in the deaf community, and its growing influence in American mainstream society. **F**

CDDS 92. American Sign Language II (3 units)
Prerequisites: G.E. Foundation A2; CDDS 91 or permission of instructor. Further appreciation, comprehension, and analysis of the uniqueness of a visual/gestural language, including its cultural/historical background, and the role it has played in deaf communities in the United States and throughout the world. G.E. Breadth C2. **FS**

CDDS 93. American Sign Language III (3 units)
Prerequisites: CDDS 92. Continued study of grammatical structure of the lexicon of American Sign Language related to its historical, artistic, and cultural influence in mainstream society with emphasis on receptive/expressive conversational and cultural skills for communication. **FS**

CDDS 94S. American Sign Language IV (3 units)
Prerequisites: CDDS 93. Full development of receptive/expressive conversational skills in a culturally appropriate and participatory fashion, using American Sign Language to converse, narrate, and engage in conversations with deaf children and adults from diverse backgrounds. **FS**

CDDS 95. Introduction to Speech and Language Development (3 units)
Study of normal verbal development; compilation of developmental milestones in speech and language acquisition. **FS**

CDDS 98. Introduction to Hard of Hearing and Deaf People (3 units)
Prerequisite: G.E. Foundation A2. Introduces diversity among hard of hearing and deaf individuals, their backgrounds, their history, and their life experiences. Places emphasis on understanding their minority status and appreciating communications and cross-cultural skills for interaction. G.E. Breadth D3. **FS**

CDDS 101. Phonetics of American English (3 units)
Perceptual and physiological characteristics of American English speech sounds; application of phonetics to the study of normal and abnormal speech patterns and regional dialects. (2 lecture, 2 lab hours) **FS** (Formerly CSD 101)

CDDS 102. Anatomy and Physiology of Speech and Hearing (3 units)
Anatomic and physiologic bases of the speech and hearing mechanisms. **FS**

CDDS 103. Speech and Hearing Science (3 units)
Physiological acoustics, psychoacoustics, acoustic phonetics, and perception of speech. (2 lecture, 2 lab hours) **F**

CDDS 105. Speech Sound Disorders in Children (3 units)
Prerequisites: CDDS 80, 95, 101, 102. Seminar on the assessment and treatment of articulation and phonological disorders. (2 lecture, 2 lab hours) **FS**

CDDS 106. Analysis of Language Acquisition by Deaf Children (3 units)
Prerequisite: ENGL 5B or 10. Comparative analysis of the structure of written language of normally developing and deaf children and youth. **FS**

CDDS 107. Observation in Speech-Language Pathology (1-3; max total 3 units)
Prerequisites: CDDS 80, 95, 101, 102, 103, 105; corequisite: CDDS 110. Observation of assessment, treatment, parent counseling, and other clinical services in the University Speech and Hearing Clinic or at other professional settings. **FS**

CDDS 109. Disorders of Language in Children (3 units)
Prerequisites: CDDS 80, 95, 101, 102. Language disorders in children and adolescents; description of clinical subgroups; assessment and treatment. (2 lecture, 2 lab hours) **S**

CDDS 110. Diagnostic Procedures (3 units)
Prerequisites: CDDS 80, 95, 101, 102, 105. Corequisite: CDDS 107 (1 unit). Principles and procedures of diagnostic evaluation of communicative disorders. (2 lab hours) **FS**

CDDS 114. Education of Exceptional Children (3 units)
Characteristics of exceptional children; diagnostic and instructional programs; legal and certification issues; observation. (2 lecture, 2 lab hours) **S**

CDDS 115. Disorders of Fluency and Voice (3 units)
Prerequisites: CDDS 80, 95, 101, 102. Normal and deviant vocal productions; introduction to assessment and treatment principles in voice. Foundational principles of analysis, measurement, and management of fluency disorders in children and adults. **F**

CDDS 116. Treatment Procedures in Communicative Disorders (3 units)
Select one of the following prerequisites: CDDS 105, 109, or 115. Treatment procedures that apply across disorders of communication; developing client-specific treatment programs. (2 seminar, 2 lab hours) **S**

CDDS 121. Cochlear Implants and Deaf Children (3 units)
Strategies for addressing — in a variety of educational settings — academic, social, emotional, and audiological needs of children with cochlear implants. Emphasis on communication skills, auditory skills development, and early literacy development, as well as checking and troubleshooting equipment. **S**

CDDS 125. Audiometry and Audiology for School Nurses (3 units)
Prepares students to obtain certification as a school audiometrist. Provides an introduction to the profession of audiology, hearing loss and its medical aspects; the components of a hearing conservation program; basic assessment and management; and the fundamentals of interpretation. (Formerly CDDS 188T)

CDDS 128. Observation in Audiology (1-3; max total 3 units)
Prerequisites: CDDS 80, 95, 102; or permission of instructor. Priority will be given to seniors. Corequisite: CDDS 131. Observation of audiologic testing. **FS**

CDDS 131. Principles of Audiology (3 units)
Prerequisite: CDDS 80, 95, 102; or permission of instructor. Priority will be given to seniors. Corequisite: CDDS 128. Hearing loss and its medical aspects; introduction to hearing conservation; assessment of hearing loss; interpretation of diagnostic test results. **FS**

CDDS 135. Sign Variations for Classroom Use (3 units)
Prerequisites: CDDS 91, 92, 93. Focus on signing skills and different models/systems of communication used with deaf and hard-of-hearing students in a classroom.

CDDS 136. Sign Language Vocabulary for Professionals (3 units)
Prerequisites: CDDS 94S. Focus primarily on building extensive specialized vocabularies essential for gaining sign language fluency and conversational competence for professionals working and communicating with deaf and hard-of-hearing children and adults. **S**

CDDS 138. Linguistics of American Sign Language (3 units)
Prerequisites: CDDS 91, 92. Includes an overview of basic morphology, phonology, syntax, and sociolinguistics; a study of systems previously used to analyze American Sign Language; and comparison of the structure of American Sign Language to spoken languages. **F**

CDDS 139. Deaf Culture (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Experiences faced by deaf people, and their varying degrees of participation in deaf culture/deaf community; social, emotional, vocational, intellectual, and linguistic aspects of deaf culture; historical and current struggles to overcome problems experienced by deaf people in American and international cultures. G.E. Multicultural/International MI. **FS**

CDDS 141. Education of Deaf Children and Their Parents (3 units)
Study of deaf children in general, parent education, and various educational programs and services for deaf children and their parents. Emphasis on methods of instruction, education of deaf children, and families. **S**

CDDS 162. Speech for Deaf and Hard-of-Hearing Children Youth (3 units)
Prerequisites: CDDS 80, 91, 92, 95, 106; corequisite: CDDS 138. Seminar on techniques to develop speech in deaf and hard-of-hearing children and youth; observation, demonstration, and practice with deaf and hard-of-hearing children and youth. **S**

CDDS 163. ASL and English Acquisition by Deaf Children and Youth (3 units)
Prerequisites: CDDS 80, 91, 92, 95, 106, 138, 141. Teaching techniques to develop language in deaf and hard-of-hearing children and youth; construction of English sentences and grammar; comparative studies of various language curricula. **F** (Formerly CSD 163)

CDDS 164. School Subjects for Deaf and Hard-of-Hearing Children and Youth (3 units)
Prerequisites: CDDS 80, 91, 92, 95, 106, 138, 141; and permission of instructor. The process of teaching academic school subjects to deaf and hard-of-hearing children and youth; observation and demonstration. (2 lecture, 2 lab hours) **F**

CDDS 166. Introduction to Interpreting (3 units)
Corequisites: CDDS 93 and 139. Study of the theoretical foundations and technical skills needed to interpret in professional settings for deaf and hard-of-hearing children and adults. The roles, responsibilities, and ethics of interpreters providing interpreting services in various professional settings. **F**

CDDS 168. Practical Experience in Interpreting (2 units)
Prerequisite: CDDS 166. Development of practical interpreting skills in professional settings, such as artistic, educational, health, legal, medical, mental health, rehabilitation, and social services settings.

CDDS 169. Sign Language Interpreting I: Voice to Sign (3 units)
Prerequisite: CDDS 136 (with a grade of *C* or better) and 139. Emphasis on the development of the communication skills necessary for interpreting from spoken English to sign language in professional settings. **S**

CDDS 170. Sign Language Interpreting II: Sign to Voice (3 units)
Prerequisite: grade of *C* or better in CDDS 169. Emphasis on the development of the communication skills necessary for interpreting from sign language to spoken English in professional settings. **F**

CDDS 171. Professional Writing in Communicative Disorders and Deaf Studies (3 units)
Select one of the following prerequisites: CDDS 105, 106, or 109. Principles of clinical and scientific writing in communicative disorders; exercises in writing professional and scientific reports. **F**

CDDS 172. Neural Bases of Speech, Language, and Hearing (3 units)
Prerequisites: CDDS 80, 95, 101, 102. Neuroanatomical and neurophysiological bases of speech, language, and hearing; clinical implications of neuropathology. **S**

CDDS 175. Internship in Interpreting (1-3; max total 6 units)
Prerequisites: permission of instructor, CDDS 169. Interpreting under supervision in professional settings such as: artistic, educational, health, legal, medical, mental health, rehabilitation, and social services settings. *CR/NC* grading only. **FS**

CDDS 188T. Topics in Communicative Disorders and Deaf Studies (1-3; max total 6 units)
Special courses offered on various topics not included in the regular curricula in speech, language, and hearing sciences and disorders. **FS**

CDDS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. **FS**

GRADUATE COURSES

(See *Catalog Numbering System*.)

Communicative Disorders and Deaf Studies (CDDS)

CDDS 200. Graduate Studies and Research in Communicative Disorders and Deaf Studies (3 units)
Prerequisite: statistics (PH 92 or equivalent). Introduction to graduate studies and methods of research in communicative disorders; concepts and methods of science and clinical research designs; graduate level professional and scientific writing skills. (

CDDS 201. Interviewing and Counseling in Communicative Sciences and Disorders (3 units)
Theory and practice in interviewing and counseling clients and families related to specific speech, language and hearing disorders. Techniques for altering and modifying behaviors that affect maximum growth and potential of the client and families.

CDDS 202. Aural Rehabilitation (3 units)
Prerequisites: CDDS 128, 131. Habilitative and rehabilitative procedures to assist the hearing impaired: amplification, speech-reading, auditory training, speech and language training; psycho-socio-educational issues.

CDDS 204. Seminar in Stuttering (3 units)
Prerequisite: permission of instructor. Research on stuttering in children and adults; assessment and treatment procedures.

CDDS 207. Seminar in Neurogenic Language Disorders (3 units)
Prerequisite: CDDS 172. Demography, etiology, and symptomatology of aphasia, traumatic brain injury, and dementia; medical and communication assessment; treatment and treatment efficacy research.

CDDS 209. Speech-Language-Hearing in Public School Environment (1 unit)
Corequisite: CDDS 257. Seminar in selecting assessment and remediation procedures for public school children with communicative disorders; demonstration and application of therapeutic procedures; organization and administration of school speech and hearing program.

CDDS 210. Seminar in Communicative Disorders with Orofacial Anomalies (3 units)
Prerequisite: permission of instructor. Etiology and symptomatology of cleft palate and other orofacial syndromes in children; medical and communication assessment and treatment procedures.

CDDS 213. Seminar in Motor Speech Disorders (3 units)
Prerequisites: CDDS 102, 172. Etiology and symptomatology of apraxia, and dysarthria; assessment and treatment.

CDDS 214. Seminar in Child Language Disorders (3 units)
Prerequisites: CDDS 95, 109. Etiology, symptomatology, assessment, and habilitation of language disorders in infants, children, and adolescents.

CDDS 215. Phonological and Severe Speech Disorders: Communication Intervention, Augmentation, and Alternatives (3 units)
Advanced study in intervention of phonologic and severe speech disorders. The design, selection, and use of augmentative and alternative methods of communication; the populations for which they are appropriate; and issues related to assessment and treatment.

CDDS 216. Seminar in Voice Disorders (3 units)
Information addressing significant clinical, theoretical, and scientific issues in the study, diagnosis, and treatment of voice disorders in children and adults. Presentation of case studies. Analysis of current research.

CDDS 218. Autism Spectrum Disorders and Augmentative or Alternative Communication (3 units)
Characteristics and possible etiologies of autism spectrum disorders, their assessment, diagnosis, and treatment. The design, selection, and use of augmentative and alternative methods of communication; the populations for which they are appropriate; and issues related to the assessment and treatment.

CDDS 220. Introduction to Dysphagia and Traumatic Brain Injury (3 units)
The assessment and treatment of swallowing disorders and traumatic brain injury. Emphasis on functional treatment outcomes for both disorders.

CDDS 221. Seminar in Advanced Clinical Methods for Dysphagia and Traumatic Brain Injury (3 units)
Prerequisite: CDDS 220. Assessment and treatment of dysphagia and cognitive-communication problems associated with traumatic brain injury (TBI) in the following populations: pediatrics, combat veterans with TBI/PTSD, and medically complex or tracheostomized patients. Numerous opportunities to evaluate MBSS, review case studies, develop treatment plans, and create therapy materials.

CDDS 230. Advanced Clinical Practice in Speech-Language Pathology (1-6; max total 24)
Prerequisites: CDDS 80, 95, 101, 102, 103, 105, 107, 110. Supervised clinical practice in the diagnosis and treatment of communicative disorders; development of treatment programs, parent counseling; referrals; on- and off-campus clinical sites. *CR/NC* grading only. (Lab fee, $10)

CDDS 250. Advanced Clinical Practice: Audiology (1-6; max total 24)
Prerequisites: CDDS 103, 128, 131, graduate standing and permission of instructor. Supervised clinical practice in diagnosis and management of hearing problems. *CR/NC* grading only. (Lab fee, $10)

CDDS 255. Seminar in Assessment of Deaf and Hard-of-Hearing Children and Youth (3 units)
Prerequisite: permission of instructor. In-depth examination of psychological, achievement, language, communication, and diagnostic assessment tools and unique administration procedures used with deaf children and youth, including an extensive independent child/youth study and evaluation, shared through discussions, student presentations, and written form.

CDDS 257. Student Teaching: Speech-Language Pathology (1-9; max total 9 units)
Prerequisites: 5-15 units of CDDS 130 or 230, including 150 supervised clinical hours; admission to the credential program; corequisite: CDDS 209. Directed observation, participation, and clinical practice (100 hours minimum) under supervision. *CR/NC* grading only.

CDDS 258. Student Teaching: Deaf and Hard-of-Hearing (6-12; max total 12 units)
Prerequisites: CDDS 202, CDDS 255, CDDS 262, CDDS 263, 2-12 units of CDDS 260, CDDS 264, permission of instructor; CSET must be taken and passed. Teaching under supervision in a class for deaf or hard-of-hearing children and youth. Directed observation, participation, and weekly conference with university supervisor. *CR/NC* grading only.

CDDS 260. Advanced Clinical Practice: Deaf Education (1-6; max total 12 units)
Prerequisites: CDDS 138, 162, 163, 164. Supervised clinical participation and practice in teaching deaf and hard-of-hearing children and youth; parent counseling; on- and off-campus clinical sites. *CR/NC* grading only. (Lab fee, $10)

CDDS 262. Seminar in Speech for Deaf and Hard-of-Hearing Children and Youth (3 units)
Prerequisites: CDDS 162, 202, permission of instructor. Methods to develop oral communication for deaf and hard-of-hearing children and youth; demonstration and off-campus practicum. (2 lecture, 2 lab hours)

CDDS 263. Seminar in Language for Deaf and Hard-of-Hearing Children and Youth (3 units)
Prerequisites: CDDS 163, permission of instructor. Language problems of deaf and hard-of-hearing children and youth; techniques of remediation; use of specialized equipment and development of teaching materials. (2 lecture, 2 lab hours)

CDDS 264. Seminar in School Subjects for Deaf and Hard-of-Hearing Children and Youth (3 units)
Prerequisites: CDDS 164 and permission of instructor. Special problems and techniques of adapting pre- K-12 school curriculum to the needs of deaf and hard-of-hearing children and youth; demonstration and practice. Project required.

CDDS 267. Externship in Speech-Language Pathology (1-9; max total 9 units)
Prerequisites: 5-15 units of CDDS 230 and permission of instructor. Supervised externship in speech-language pathology; diagnosis and management of communicative disorders. ***CR/NC*** grading only.

CDDS 268. Externship with Deaf Children and Youth (6 units)
Prerequisites: CDDS 202, CDDS 255, CDDS 258, 2-12 units of CDDS 260, CDDS 262, CDDS 263, CDDS 264, permission of instructor; CSET must be taken and passed. Supervised externship in a residential school for deaf children and youth. Full time in residence for 8 weeks. ***CR/NC*** grading only.

CDDS 278. Application of Theory into Practice in Deaf Education (3 units)
Supervised field experience working with deaf and hard-of-hearing students with an emphasis on the integration of applied research and theory into practice. Development of an induction plan will include the candidate, university supervisor, and school district representative where the candidate is employed. ***CR/NC*** grading only.

CDDS 279. Induction Plan-based Field Experience in Deaf Education (3 units)
Prerequisite: CDDS 278. Final supervised field experience working with deaf and hard-of-hearing students with an emphasis on self-assessment, goal-setting, and other induction plan components. Support is provided through collaboration between university and school district personnel. ***CR/NC*** grading only.

CDDS 290. Independent Study (1-3; max total 6 units)
See *Academic Placement—Independent Study*. Approved for ***RP*** grading.

CDDS 292. Seminar in Advanced Clinical Methods in Communicative Disorders (3 units)
Prerequisites: completion of CDDS 200 and two graduate seminars. Advanced review of clinical methods, research trends, and recent developments in assessment and treatment procedures with emphasis on language disorders in adolescent and young adults. Required for non-thesis/project SLP graduate students.

CDDS 298. Individual Research Project (1-6; max total 6 units)*
Prerequisite: consent of advisory committee. See *Criteria for Thesis and Project.* A written report on an individual research project for the master's degree. Approved for ***RP*** grading.

CDDS 299. Thesis (2-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project.* Preparation and submission of a thesis. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System.)*

Communicative Sciences and Disorders (CDDS)

CDDS 300T. Selected Topics in Communicative Disorders and Deaf Studies for Continuing Education (1-3; max total 6 units)

Gerontology

Gerontology is the study of aging. Our nation's steadily increasing older population is creating a unique demand for well educated individuals to serve as competent professionals in the field of aging.

The Gerontology Program offers a minor and a certificate in gerontology, both designed to prepare students to address unmet and urgent needs of elders. Special majors can also be arranged for the student. The Gerontology Program attracts undergraduate students from all academic areas, reentry students, graduate students within social science and health professions, service providers, and elders seeking greater understanding of this stage of life.

Courses are designed to present comprehensive biological, psychological, cultural and sociological theories related to the lifelong aging process. The influence of heritage, culture, and creativity are emphasized, as are services and resources; housing and environment; disabilities and rehabilitation; federal, state, and local agencies; and social polices and programs for elders. Students have the opportunity to develop empathy for older adults as they communicate and interact with elders through community service, internships, and service learning.

Career Opportunities

The development of employment opportunities in the field of gerontology include federal, state, county, and city agencies; senior centers, adult day care centers; long term care facilities, intermediate care facilities, acute care hospitals, medical centers; and senior housing sites, retirement communities, home health agencies, hospices, legislative bodies, and community planning agencies. New programs are developing in eldercare, case management, and consultation in businesses such as banks, travel agencies, large corporations, insurance companies, educational agencies, publishing and broadcasting agencies, and department stores.

Gerontology Minor

The Minor in Gerontology (study of aging) is open to students in any major. It is designed to serve undergraduate majors in business; communicative disorders and deaf studies; child, family, and consumer sciences; health science; nursing; kinesiology; physical therapy; psychology; therapeutic recreation; social work; and sociology.

The minor consists of 15 semester units of credit. Students should register in the Gerontology Program Office and meet with the gerontology director if they plan to request a minor.

Gerontology Minor	*Units*
Coursework must be completed with a *C* or better.	
Required	**6**
GERON 10S or GERON 100; GERON 161	
Electives	**9***
GERON 103, 111, 115, 117, 125, 132, 134, 137 (1-3 units), 139, 140, 148, 150	
Total	**15**

* Other gerontology courses may be approved as alternatives with permission of a gerontology adviser.

Note: The Gerontology Minor also requires a 2.0 GPA and 6 upper-division units in residence. If students take a cross-listed course from their major, the cross-listed course only counts toward the Gerontology Minor if the unit requirements for the major can be met without using the cross-listed course toward their major.

A Special Major for those interested in gerontology may be designed. The process for this is initiated through the Office of Advising Services, 559.278.1787, Joyal Administration, Room 224.

Gerontological Specialist Certificate

The certificate will be awarded to students who complete a program of study consisting of 21 units of courses in gerontology.

Those who have completed the course of study may use the title "**Gerontological Specialist.**" The following list includes the recommended content areas in the field of aging to be covered: an introductory course in gerontology, social policy, multicultural aging, physiological aging, psychological aging, sociological issues, internship, and social services. Coursework must be completed with a *C* or better.

	Units
Required	**12**
GERON 100, 140, 161, 185	
Electives	**9***
Select 9 units from: GERON 103, 111, 115, 117, 125, 132, 134, 137 (1-3 units), 139, 148, 150, 180T, 190	
Total	**21**

* Other gerontology courses may be approved as alternatives with permission of a gerontology adviser.

College of Health
and Human Services

Gerontology Program
Helen Miltiades, *Director*
Christi Smith,
Administrative Support Coordinator
Professional and Human Services,
Room 107A
559.278.7253
www.fresnostate.edu/gerontology

Minor in Gerontology

Gerontological Specialist Certificate

COURSES

Gerontology (GERON)

GERON 10S. The Journey of Adulthood: Planning a Meaningful Life (3 units)
An introduction to theories, concepts, perspectives, and the study of aging; psychological, physiological, cultural, and ethnic issues fundamental to planning a meaningful life during the journey of adulthood. Examines developing a healthy lifestyle and cultivating lifelong learning and satisfaction. Not available for *CR/NC* grading. G.E. Breadth E1.

GERON 18. Women and Aging (3 units)
(See WS 18.) G.E. Breadth E1.

GERON 100. Images of Aging in Contemporary Society (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Explores aging theories; multicultural portrayals of aging through art, literature, and media; examines generational/societal perceptions of aging. Develops awareness of competence in recognizing different images, and examines the influence of these images on societal/emotional status, resources and other elder issues. G.E. Integration ID.

GERON 103. Psychology of Aging (3 units)
(Same as PSYCH 103.) Psychological study of maturity and old age; physiological and sociological considerations.

GERON 111. Heritage and Aging (3 units)
Aging is continual from birth to death. Events throughout a person's life coincide with dates of many different historical, cultural, and humanistic occurrences. Students explore the interrelationship of events to an elder's heritage, creativity, and potential for successful aging. G.E. Breadth E1.

GERON 115. Health Issues of Aging (3 units)
(See PH 115.)

GERON 117. Resource Management of Aging (3 units)
(See CSH 117.)

GERON 125. Social Services for the Aging (3 units)
(See SWRK 125.)

GERON 132. Alzheimer's Disease (1 unit)
Focuses on Alzheimer's Disease (AD) and other related dementias. Course will include a complete assessment, evaluation, and treatment of AD.

GERON 134. Mental Health and Caregiving (3 units)
Presents the impact of mental disorders on older adults and their caregiver. Addresses evidence-based guidelines for care, patient and caregiver issues, and non-pharmacologic management principles to delay institutionalization and promote caregiver peace of mind.

GERON 137. Community Service in Gerontology (1-3; max total 3 units)
Prerequisite: permission of instructor. Service-oriented course designed to provide opportunities to observe, interact, and learn from elders in gerontological settings. Hour requirements are supported through writing and discussion of issues and solutions. ***CR/NC*** grading only.

GERON 139. Death and Dying (3 units)
Exploration of personal values and beliefs as well as diverse spiritual and cultural beliefs, groups regarding death, and its meaning for living. Practical matters surrounding death are also addressed.

GERON 140. Aging in America: Politics and Change (3 units)
An introduction to policies, politics, and programs of an aging society. The course will examine the historical, social, cultural, economic, and demographic issues affecting the elderly and will provide an overview of federal and state legislation and programs for older Americans.

GERON 148. Biophysical Aspects of Aging (3 units)
(See KINES 148.)

GERON 150. Communication and Aging (3 units)
(See COMM 150.) (Formerly SPCH 188T section)

GERON 161. Multiculture/Aging (3 units)
Prerequisite: G.E. Foundation and Area D. Explores diversity and commonality among older persons. Analysis of ways demographic, ethnic, cultural, location, and situation topics relate to gerontological concepts, research, and theories. Presents problems with health, socioeconomic, and minority issues. Discusses ageism, racism, and sexism. G.E. Multicultural/International MI.

GERON 180T. Topics in Gerontology (1-3; max total 9 units)
Various topics in the field of aging such as health and wellness, death and dying, and activity courses. Content varies from semester to semester.

GERON 185. Internship in Gerontology (1-6; max total 6 units)
Prerequisites: upper division or graduate standing and permission of instructor. Supervised work experience in gerontology. May be coordinated with student's major, e.g., *business and gerontology*. ***CR/NC*** grading only.

GERON 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

IN-SERVICE COURSE
(See *Catalog Numbering System.)*

Gerontology (GERON)

GERON 301. Topics in Gerontology (1-3; max total 6 units)
Designed for professionals and pre-professionals working with elders. Topics such as: care of elders in settings such as acute, subacute, transitional, skilled nursing, residential facilities for elderly, long-term, and community; case management; caregivers; and chronic illness and dementia.

Kinesiology

Kinesiology

The term kinesiology means "the study of movement," and the academic discipline of kinesiology comprises the sub-disciplines of exercise physiology, biomechanics, sport and exercise psychology, athletic training and sports medicine, sports administration, physical education, and fitness and health promotion. The overall objective of the programs in kinesiology is to improve the lives of students by providing insight, education, and practical experience in exercise, sport, and physical activity. Programs in kinesiology open doors to relevant and rewarding professional careers.

The Department of Kinesiology is composed of a cohesive, creative, and dynamic group of well-educated faculty with a wealth of practical and professional experience. Students are engaged in educational and clinical research programs and practical experiences which incorporate leading-edge technology and best practices. The curriculum and associated instruction provide a solid foundation for future learning and professional growth. The program incorporates many opportunities for professional certification through prestigious national organizations and governing bodies. Students become experts in exercise, fitness, performance, and wellness.

The **Athletic Training Major** is designed for students with professional goals in athletic training. The program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE). Students completing the program may be eligible to sit for the Board of Certification exam to become a Certified Athletic Trainer (ATC). The program has high academic and performance standards that include completion of a three-year competency-based clinical education program. California residents are given preference over out-of-state and international students in this and other impacted programs.

The **Exercise Science Option** provides a comprehensive foundation in the biological, physical, and technological sciences which fully prepares students for graduate study and professional careers in fitness, wellness, health promotion, human performance, and preventive and rehabilitative sciences. Flexible and personalized educational and career development strategies are hallmarks of this program. Exercise science faculty provide instruction and advising that is based upon extensive practical and professional experience.

The **Physical Education Teacher Education (PETE) Option** offers National and State standards-based curricular emphasis in physical education pedagogy, movement development and analysis, teaching strategies, and application of physical activities designed for students with professional goals to teach physical education. The PETE program is a blended program that allows teacher candidates to complete specified unit requirements in General Education, the Physical Education Option, and a Single Subject Credential in four years. Upon completion of the PETE program, teacher candidates will have access to teaching careers in the K-12 school setting. The PETE program is an accredited, blended program that adheres to the standards outlined by the California Commission on Teacher Credentialing (CCTC) and National Association for Sport and Physical Education (NASPE).

The undergraduate **Sport Administration Option** prepares students for entry level careers in the sport industry and graduate studies in Sport Administration. Students learn a combination of skills related to sport and undergo a strategic career analysis, evaluate their marketability within the sport industry, learn how to differentiate themselves from the competition, network with leading sport personnel and organizations, and develop a career plan and resume -- all while gaining essential hands-on sport industry experience.

Obtaining a **Master of Arts** is a very effective strategy for career advancement. At the master's level, the Department of Kinesiology offers options in Exercise Science, Sports Administration, and Sport Psychology, and curricular emphases in physical education. There are 12 graduate faculty members in the department. The exercise science and sport psychology labs are fully equipped with research-standard technology. Graduates of this program have achieved remarkable success in professional careers as well as in doctoral programs in prestigious universities.

A degree in kinesiology can lead to very bright career prospects in health care, sports and athletics, education, and other professional avocations.

Activity Classes

The activity program is dynamic, diverse, rewarding, and fun. The focus is on quality experiences in fitness, skill, and personal development. Activity courses are offered in aquatics, dance, individual activities, and team sports. These courses are open to all students, and as many as 8 units of activity classes can be counted toward graduation (12 units for kinesiology majors).

Facilities

The facilities for these programs include a gymnasium; 12 tennis courts; a mat/gymnastics facility; a weight/cardio room; two multipurpose/dance rooms; an all-weather track; multi-purpose fields for softball, soccer, football, ultimate Frisbee, and golf; a putting green and associated sand bunkers; a swimming complex; and outdoor basketball courts. Modern, well-equipped instructional and research labs in exercise physiology, biomechanics, sports and exercise psychology, and athletic training are central components of the department.

College of Health
and Human Services

Department of Kinesiology
Michael G. Coles, *Chair*
To be announced, *Department Administrative Coordinator*
South Gym, Room 112
559.278.2016
www.fresnostate.edu/kines/programs/

B.S. in Kinesiology
Options:
- Exercise Science
- Physical Education Teacher Education
- Sport Administration

B.S. in Athletic Training

M.A. in Kinesiology
Options:
- Exercise Science
- Sport Administration
- Sport Psychology

Sports Coaching Minor

Single Subject Teaching Credential in Physical Education

Faculty

Michael G. Coles, *Chair*
Jenelle N. Gilbert, *Graduate Coordinator*
Mark Baldis, *Coordinator of Exercise Science Option*
Scott Sailor, *Coordinator and Curriculum Director of Athletic Training Option*
David Kinnunen, *Coordinator of Physical Education Option and Credential Adviser*
Catherine Jackson, *Coordinator of General Option*
John McMillen, *Coordinator of Sport Administration Option*

Tim R. Anderson
Mark Baldis
Michael G. Coles
Jenelle N. Gilbert
Wade Gilbert
Felicia Greer
Tim Hamel
Catherine G.R. Jackson
David Kinnunen
Dawn K. Lewis
Justine McAlpine
John McMillen
Thomas C. Minniear
Jacobo O. Morales
Scott Sailor

Bachelor of Science Degree Requirements

Kinesiology Major *Units*

Major requirements 47-85
(Combined core and option requirements.)

Core Program .....(15)
(required of all options)
KINES 1, 32*, 33, 116, 118

Options (select one).....(32-70)**

Exercise Science Option ..... (37-54)**
KINES 109 or 110, 119, 121, 137, 163, 165, 167; BIOL 64, 65
Select any two KAC courses or ATHL 100
Select 24 elective units (16 units for associate degree for transfer) from:
- Any KINES academic course, other than those required for the option;
- Any KAC activity course (no more than 3 additional KAC courses can be applied to the major; repeated KAC course cannot be counted);
- PH 48, 92, 109, 114, 128, 141; PSYCH 10, 42, 155, 166, 169; BIOL 1A, 1B, 1BL, 10, 20, 102, 103, 144, 166, 167; CHEM 1A, 1B, 3A, 3B, 3BL, 8, 128A, 129A, 128B, 129B, 150, 155; PHYS 2A, 2B; MATH 11; NUTR 53, 54, 147, 153

Physical Education Teacher Education Option ..... (32-35)**
KINES 31, 35 (or BIOL 33), 110, 120, 122, 123, 126, 131, 144, 159
Select one from: KAC 40, 41, 43, 44, 47, 49, 50
Select one from: KAC 10, 12, 13; DANCE 115, 117A, 155A, 158A; CLAS 107

Sport Administration Option (54 units)
KINES 45, 146, 147, 150; RA 150, 154
Select 26 units from: KINES 111; RA 152; COMM 170; ECON 144; ACCT 3, 4A; BA 179; FIN 120, 143; MGT 104, 106, 127; MKTG 90, 100S, 103, 150, 153

General Education requirements..... 51
Major requirements 47-85**
Electives 0-24**
Total 120**

Advising Notes

1. With the assistance of the department adviser, students may choose a program that will prepare them for working with specific age groups or special populations, coaching, athletic training, teaching physical education, or professional applications in the exercise sciences and fitness-related industries.
2. Students majoring in kinesiology may count a maximum of 12 units of activity courses (ATHL, KAC, DANCE) toward the 120 units required for a bachelor's degree. Repeat credit towards the kinesiology major is not allowed in any of these activity courses.
3. ***CR/NC*** grading is not permitted in courses for the kinesiology major, except in those courses which are designated ***CR/NC*** grading only.
4. General Education and elective units may be used toward a minor (see *departmental minors*) or supplemental credential. Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. Students interested in the athletic training option should consult the department regarding criteria for selection into this program.
6. A grade of ***C*** or higher in all required coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of ***C*** or better before registration in the subsequent course.
7. Lower-division courses taken at other institutions may be accepted as being equivalent to lower-division requirements in the department. Petitions to have courses accepted should be completed during the first semester in the major.
8. No General Education Integration and Multicultural/International course offered by the Kinesiology Department may be used to satisfy the General Education requirements for majors in the department.
9. The Kinesiology – Exercise Science Option complies with university policy regarding the re-taking of courses. Exercise science students who fail a course (***D*** or ***F***) in the Kinesiology core may retake the class for a second time. If they earn a failing grade (***D*** or ***F***) a second time, they will not be allowed to petition to repeat the course for a third time. These students will not be able to complete the Kinesiology – Exercise Science Option requirements and will be required to declare a new major.

Advising Notes for PETE

1. Students enrolled in the PETE must confer with the department's physical education option adviser during every semester they are enrolled in the program.
2. Students in the PETE must maintain a grade point average of 3.0 (GPA) in all blended physical education option courses (32 units + core of 17 units). If the student falls below 3.0 GPA in the PETE for two consecutive semesters, he/she will be automatically disqualified. A student that achieves a GPA of 3.0 or higher fulfills Subject Matter Competency (SMC) and therefore is exempt from taking the California Subject Examinations for Teachers (CSET). Verification of SMC and recommendation for admission into the professional preparation program are the responsibility of the department credential adviser.

3. Transfer students must see the departments program adviser regarding an accelerated three-year program.
4. Students must apply and be admitted to the Kremen School of Education and Human Development (Credential Program) during Year 3 - Semester 5 of the PETE.
5. Students must also maintain a GPA of 3.0 or higher throughout their credential coursework (Kremen School of Education requirement).
6. Students may be able to double count KINES 32 with Core and General Education Area E.
7. PETE majors are required to take KAC 103 as the activity component with KINES 32.
8. Students are required to maintain current certification for Adult/Child CPR and First Aid.

Bachelor of Science Degree Requirements

Athletic Training Major

Policies and Procedures for B.S.A.T. Admission. The Department of Kinesiology offers a program that leads to the Bachelor of Science degree in Athletic Training (BSAT). The degree requires a minimum of 120 semester units. The Athletic Training Program requires four semesters of athletic training and other required courses in addition to the required prerequisite courses. The General Education requirements are the same for all CSU Fresno students.

Students who are enrolled and/or registered in their final semester prior to graduation or have already graduated are eligible to sit for the Board of Certification exam. The program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

Applicants must meet all criteria for admission to the university and to the athletic training major. Admission to the program is a two-step process: (1) admission to the university and then (2) admission to the Athletic Training major. All prerequisites must be completed prior to application to the Athletic Training major.

All students who have been admitted to Fresno State, but have not yet been admitted to the Athletic Training Program, will be admitted to the university as "pre-athletic training" students. Admission to the university does not guarantee admission to the Athletic Training program.

Eligibility to apply to the BSAT

- Specific health criteria must be met. Students with physical limitations who cannot meet clinical course objectives may be unable to satisfactorily complete the requirements for a B.S. in Athletic Training. Contact the coordinator of the Athletic Training program regarding specific physical requirements.
- Students must have an overall GPA of 2.75.
- The following ten (10) prerequisite courses must be completed prior to application to the athletic training major program.
    1. G.E. Area A1 (COMM 3, 7, or 8) (3 units)
    2. G.E. Area A2 (ENGL 10/ENGL 5B) (3 units)
    3. G.E. Area B2 (BIOL 10 or 1A) (3 units)
    4. G.E. Area B4* or Statistics
    5. G.E. Area E (KINES 32 + KAC) (3 units)
    6. Human Anatomy w/ lab (BIOL 64) (3 or 4 units)
    7. Human Physiology w/ lab (BIOL 65) (4 or 5 units)
    8. Introduction to Athletic Training (KINES 38) (3 units)
    9. Pre-Observation in Athletic Training (KINES 43) (1 unit) or completion of at least 200 clinical observation hours in a settings employing a certified athletic trainer.
    10. First Responder and Emergency Care (PH 49) (3 units) or Emergency Medical Technician

    Total (30 units)

    See *G.E. list* for approved courses.
- Each prerequisite must be completed with a minimum ***C*** grade. ***CR/NC*** grades are not acceptable except in those courses which are designated ***CR/NC*** grading only
- A GPA of 3.0 is required in the ten prerequisite courses
- A maximum of two different prerequisite courses may be repeated once to improve grade
- Online, Web-based, or distance learning science and laboratory courses taken at other institutions must be approved by the athletic training program director.

Applying to the Program/Selection Criteria. The program is on impacted status (i.e., the number of applications received is greater than the number of vacancies for the program). Therefore, admission into the Athletic Training major is very competitive. Only applicants with the highest composite scores in the ten prerequisite courses, who do well on their personal interview score, and with strong professional letters of recommendation will be offered admission. Applicants not selected may reapply each year, but must compete with the entire new applicant pool.

Selection process for the Athletic Training Program:

- Students must submit an Athletic Training Program application.
- Students must submit sealed, official transcripts from all colleges and universities attended, except for Fresno State.
- Students will be ranked according to overall grade point average (GPA) and GPA in the ten prerequisites courses.
- Letters of recommendation will be reviewed and scored based on specific criteria. Two letters of recommendation are required. One letter must be from a certified athletic trainer.
- Composite scores will be calculated from overall GPA + prerequisite course GPA + and letters of recommendation scores.
- Interviews will be granted to applicants with the highest composite scores.
- Interview performance will be reviewed and scored based on specific criteria .
- Interview score will be added to the composite score (see above). Those with the highest scores (beginning with the highest score and in descending order) will be offered admission to the program, until all vacancies are filled.

Preference will be given to US. military veterans who meet minimum requirements for admission and who submit a DD214 showing a discharge date no more than four years prior to date application is submitted.

Students who have been admitted to the major and fail to attend the first day of

class, without prior arrangement with the athletic training program director, will be dropped from the major and not considered for future admission.

Application Filing Period

- **Fall Admission Athletic Training Program Application Deadline - February 1, prior to fall admission**
- Cohorts for the athletic training major are only admitted each fall semester. Athletic Training Program applications are available January 1-31 and must be submitted by Feb.1 of each year.
- University applications are available at *www.csumentor.com*.

* Dates are subject to change. Additional information and applications can be obtained online at *http://www.fresnostate.edu/chhs/kinesiology/degrees-programs/athletic-training/* or by calling the athletic training program director at 559.278.2543. The program application includes additional instructions and deadlines. The university application form can be obtained online at *www.csumentor.edu*.

Note: Students who have been admitted to the major, have made no arrangements with the department, and fail to attend the first day of class will be dropped from the major and not considered for future admission.

Leave of Absence from Athletic Training Program

- In order to request a leave of absence (LOA), a student must submit the following in writing, to the athletic training program director:
  - Dates of the LOA (start and end dates)
  - Detailed reason required for the LOA
  - Contact information during the time of the LOA
- Leaves will only be granted to students who have been admitted to the program and have completed at least one semester in the program.
- A leave of absence may be granted for up to one year.

Request to return from leave of absence

- In order to be reinstated into the athletic training program, students must request reinstatement, in writing, to the athletic training program Director.
- Students may be asked to fulfill the following requirements before reinstatement from an LOA is granted:
  - Letters of recommendation or clearance to return from involved parties (i.e., counselors, physicians, rehabilitation specialists, financial institutions, etc.)
  - Re-enroll in up to 6 units of coursework in order to remediate loss of knowledge, skills, and abilities.
- Students will only be allowed reinstatement on a space-available basis and must receive permission from the program director in order to enroll in classes. Students will receive written notice of reinstatement to the major.

Progression in the major. Criteria for retention, progression, and graduation from the program requires a minimum grade of ***C*** in all required major courses and "credit" in courses offered for ***CR/NC*** grading only. Required major courses may be repeated only once to achieve a ***C*** or credit grade. Any student who must repeat more than two major courses will not be permitted to continue in the major.

Refer to the *Student Handbook*, Baccalaureate Degree Athletic Training Program, for complete progression and retention policies.

Expenses. Students must be prepared to incur any additional cost such as uniforms, malpractice insurance, health insurance, stethoscopes, course materials, lab fees, etc., and be responsible for their own transportation to clinical facilities. A current CPR certification, a physical examination, and specific immunizations are required. CPR certification must be maintained throughout the students' tenure in the program.

Clinical Facilities. As part of the athletic training program, students are required to complete 1,200 clinical hours, working under the direct supervision of a certified athletic trainer. Clinical placements are determined in consultation with the program director, and Fresno State and affiliated clinical staff. A wide variety of clinical placements are available. Placement facilities include Fresno State Athletics, Fresno Pacific University, Sierra Pacific Orthopedic and Spine Center, several high schools within Clovis Unified School District, Fresno Unified District, Central Unified District, Madera Unified District, Golden Valley Unified District, and San Joaquin Memorial High School.

Bachelor of Science Degree Requirements

Athletic Training Major

Athletic training requirements 69
Core Program ..... (15)
(required of all options)
KINES 1, 32*, 33, 116, 118
Major requirements ..... (54)
KINES 38, 43, 137, 138A, 138B, 139, 140A, 140B, 141, 142 (4 units); NUTR 147; KINES 143 (8 units); PH 48; BIOL 64, 65; PHTH 119
General Education requirements 51
Total 120**

* KINES 32 is taken concurrently with KAC 6, 21, 24, 31, 33, 39, or 103

** This total allows KINES 32 and KAC (3 units) from Area E1 of General Education to be applied towards the major. A maximum of two additional General Education courses (maximum 8 units) found in the approved list of electives may be applied towards the elective units. Consult the department chair, faculty adviser, or the catalog for more General Education information.

Advising Notes for BSAT

1. Required major courses may be repeated only once to achieve a ***C*** or credit grade.
2. Any student who must repeat more than two major courses will not be permitted to continue in the major.
3. ***CR/NC*** grading is not permitted in courses for the kinesiology major, except in those courses which are designated ***CR/NC*** grading only.
4. General Education and elective units may be used toward a minor (see departmental minors) orsupplemental credential. Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. A grade of ***C*** or higher in all required coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of ***C*** or better before registration in the subsequent course.
6. Lower-division courses taken at other institutions may be accepted as being equivalent to lower-division requirements in the department. Petitions to have courses accepted should be completed

during the first semester in the major.

7. No General Education Integration and Multicultural/International course offered by the Kinesiology Department may be used to satisfy the General Education requirements for majors in the department.

Physical Education Teaching Credential Requirements

	Units
Single Subject Credential in Physical Education	
B.S. with option in physical education	**94-97**
Professional preparation courses	**33**
Total	**127-130**

Minor in Sports Coaching Requirements

	Units
KINES 1	**3**
KINES 38	**3**
KINES 109, or 110, or 125A, or 125B, or 125C, or 125D , or 190	**3**
KINES 146	**3**
KINES 159	**3**
KINES 162	**3**
Total	**18**

Note: The Coaching Minor also requires a 2.0 GPA.

Supplementary Authorization in Physical Education
(Formerly Physical Education Minor) — see Kinesiology Department's credential adviser.

Advising Notes
1. Students must consult with an adviser.
2. Advanced First Aid and CPR must be current at the time of graduation.

Master of Arts Degree Requirements

The Department of Kinesiology offers advanced study designed to enhance professional competencies in pedagogy (M.A. in Kinesiology), exercise science (Exercise Science Option), sport administration (Sport Administration Option), and sport psychology (Sport Psychology Option). These offerings prepare students for more advanced degrees, applied research, and/or careers in clinical settings, teaching, administration, coaching, or the sport industry.

Specific requirements. The Master of Arts degree requires 30 units of advanced coursework, of which there is a common core of 6 units. Dependent on the option, 9-18 units are selected from specified courses, and 3-12 units of electives plus a culminating experience are chosen.

Under the direction of a graduate adviser, each student designs a coherent program within the following framework:

M.A. in Kinesiology	*Units*
Core	**6**
KINES 230 and 231	
Required coursework	**12**
With advisement, select from: KINES 241, 242, 244, 261, 262, 263, 264, and 285	
Electives	**12**
Any additional KINES 200-level courses or approved outside area courses	
Culminating experience	**0-6**
KINES 298, 299, or comprehensive exam	
Total	**30**

Exercise Science Option	*Units*
Core	**6**
KINES 230 and 231	
Required coursework	**15-21**
With advisement, select from: KINES 222, 233, 235, 237, 238, 265, and 285	
Electives	**3-6**
Any KINES 200-level course or approved outside area course	
Culminating experience	**0-6**
KINES 298, 299, or comprehensive exam plus internship	
Total	**30**

Sport Administration Option	*Units*
Core	**6**
KINES 230 and 231	
Required coursework	**18**
KINES 241, 244, 245, 246, 261, 285	
Electives	**0-6**
Any approved KINES 200-level or approved outside area course. A list of approved outside courses is available from the graduate coordinator.	
Culminating experience	**0-6**
KINES 298, 299, or comprehensive exam	
Total	**30**

Sport Psychology Option	*Units*
Core	**6**
KINES 230 and 231	
Required coursework	**15**
KINES 262, 263, 264, 265, and 266	
Electives within program	**3-9**
Any KINES 200-level course or approved outside area course	
Electives outside program	**0-6**
COUN 200, MBA 270, PSYCH 166	
Culminating experience	**0-6**
KINES 298, 299, or comprehensive exam	
Total	**30**

Advising Notes
1. The Master of Arts degree program in Kinesiology assumes undergraduate preparation equivalent to a California State University, Fresno major in kinesiology. Students may be required to take 12-15 prerequisite units.
2. The Department of Kinesiology accepts either the Graduate Record Exam (GRE) or the Miller Analogies Test (MAT) as part of the admission requirements. Please contact the graduate program coordinator within the department for more information.
3. All students must pass a written qualifying exam before advancement to candidacy. The university graduate-level writing skills requirement is met by successful completion of this step. See the graduate coordinator for more information.
4. See also the general graduate requirements listed under *Graduate Studies*.

COURSES

Note: Activity courses may be repeated for credit. Students may apply a maximum of 8 KAC units for the total degree requirements (12 KAC units for kinesiology majors).

Aquatics (KAC)

KAC 4. Swimming for Beginners (1 unit)
An introduction to aquatic safety, swim lore, self rescue, and the following strokes: freestyle, back crawl, breast stroke, butterfly, and side stroke. (Course fee, $4)

KAC 6. Water Aerobics (1 unit)
Water exercises which will be the vehicle to develop improved physical fitness or a therapeutic role with pool activities ranging from walking and jogging to resistance activities and hydrotherapy. (Course fee, $4)

KAC 101. Advanced Lifesaving (2 units)
Prerequisite: 300-yard continuous swim (front crawl and breaststroke), 20-yard swim surface dive of 7-10 feet, retrieving a 10-pound object, 20-yard swim with the object, and exiting the water using the ladder/steps within 100 seconds. (Course fee, $4)

KAC 103. Swim for Fitness (1 unit)
Prerequisite: intermediate swim ability. Development of aerobic, cardiovascular fitness through swimming. Exposure to various swim programs and practice of a variety of swimming strokes. (Course fee, $4)

Recreational Dance (KAC)

KAC 10. Hip Hop Dance (1 unit)
Observation, practice, and refinement of basic skills in the art of hip-hop dance.

Understanding and appreciation of dance in diverse cultures and as a fitness activity. (Formerly KAC 80T)

KAC 11. Partners Club Dancing (1 unit)
Teaches dancing with a variety of partners in club settings. Covers analysis of rhythms associated with modern music and application of these rhythms to partner dance. (Course fee, $4) (Formerly KAC 80T)

KAC 12. Elementary Social Dance (1 unit)
An introduction to a variety of dances. Includes the basic step and variations for the cha-cha, waltz, fox trot, swing, tango, and rumba. (Course fee, $4)

KAC 13. Swing Dance (1 unit)
Exploration of the many facets of swing dance for couples, including step patterns, rhythms, and configurations. (Course fee, $4) **F**

Individual Activities (KAC)

KAC 15. Basic Massage (1 unit)
Fundamental massage techniques; types of massage and their usage; physiological and psychological effects of massage, classical Swedish massage strokes and their sequence. (Course fee, $4)

KAC 17. Elementary Archery (1 unit)
Instruction in archery skills, including care and construction of tackle. Emphasis on fundamental skills and shooting form. (Course fee, $4)

KAC 19. Elementary Badminton (1 unit)
Instruction in basic skills and techniques of badminton for singles, doubles, and mixed doubles play. Emphasis on basic skill development, rules, and strategy. (Course fee, $4)

KAC 21. Elementary Strength Training (1 unit)
Basic knowledge and concepts of use of resistive exercises to increase muscular strength and endurance. The course stresses the physiological considerations of weight training, selecting exercises for basic programs, charting workouts, nutritional considerations, and the safety of weight training. (Course fee, $4)

KAC 22. Elementary Bowling (1 unit)
An introductory course which stresses fundamentals of the stance, approach and delivery, scoring, bowling terminology, etiquette, and league play. (Course fee, $25)

KAC 24. Elementary Conditioning Exercises and Aerobics (1 unit)
A variety of floor and step activities to develop and improve strength, flexibility, and cardiovascular endurance. (Course fee, $4)

KAC 26. Shiatsu Massage (1 unit)
Basic theory and practice of Shiatsu massage, with emphasis on proper body alignment. (Course fee, $4)

KAC 27. Elementary Fencing (1 unit)
Instruction in the on-guard position, footwork, basic defensive and offensive skills, and judging a foil fencing bout. Emphasis on foil fencing. (Course fee, $4)

KAC 28. Beginning Billiards (1 unit)
Basic concepts, techniques, skills, and strategies associated with billiards, pool, and similar games. (Course fee, $4)

KAC 30. Elementary Golf (1 unit)
Beginning instruction on the techniques for putting, chipping, pitching, iron, and wood shots. Also includes rules and etiquette for golf. (Course fee, $4)

KAC 31. Elementary Gymnastics (1 unit)
Basic skills for balancing, stunts, tumbling, trampolining and apparatus work. (Course fee, $4)

KAC 33. Fitness Walking (1 unit)
Designed to improve physical and emotional health through walking for pre-set duration and intensity. Includes benefits, walking technique, weight loss plan, and pre- and post-fitness levels. (Course fee, $4)

KAC 39. Jogging (1 unit)
Instruction in the basic principles of fitness as they apply to a jogging program. Emphasis on learning how to train/workout, cardiorespiratory endurance, and proper walking/jogging techniques and flexibility. (Course fee, $4)

KAC 40. Elementary Karate (1 unit)
Japanese style of Shotokan Karate. (Course fee, $4)

KAC 41. Judo (1 unit)
Basic instruction in techniques for throwing, grappling skills, and limited self-defense. Students should achieve technical level of yellow belt. (Course fee, $4)

KAC 42. Physical Training (2 units)
Unique overall fitness program emphasizing strength and endurance training. Designed to tone muscles, promote weight loss and increase stamina. Course is tailored to individual student needs. Program includes running, weight lifting, aerobics, organized sports, and calisthenics. (Course fee, $4)

KAC 43. Taekwondo (1 unit)
Korean martial art and Olympic event; emphasizes self-control, balance and coordination, flexibility, speed, self-defense, and Olympic-style sparring. (Course fee, $4)

KAC 44. Kendo (1 unit)
The art of Japanese fencing; emphasizes self-discipline, physical training, competition, and swordsmanship. (Course fee, $4)

KAC 45. Basic Aikido (1 unit)
Basic Aikido techniques, terminology, and Dojo etiquette. Facilitates the understanding and application of basic Aikido self-defense techniques, and prepares the student with basic skills necessary to comfortably train in any Aikido Dojo. (Course fee, $4)

KAC 46. Elementary Racquetball (1 unit)
Introduction to rules, etiquette, basic strategy, and a variety of shots, including the forehand and backhand drive, lob, pinch, kill, and back-wall. Also includes a variety of serves. (Course fee, $4)

KAC 47. Tai Chi (1 unit)
Fundamentals of history, philosophy, and practice of Tai Chi. (Course fee, $4)

KAC 48. Cardiovascular Boot Camp (1 unit)
An advanced physical conditioning course that provides students with a military style cardio-respiratory and strength training program which will promote lifetime fitness. (Course fee, $4)

KAC 49. Kickboxing (1 unit)
Basic kickboxing techniques and physical conditioning. (Course fee, $4) **FS**

KAC 50. Assault Avoidance Techniques (1 unit)
Physical training and practice to facilitate the understanding and application of basic self-defense techniques and to raise awareness for personal safety and empowerment. Explores many creative self-defense strategies. (Course fee, $4)

KAC 51. Self-defense (1 unit)
Instruction in the basics of personal defense and safety. Emphasis will be on awareness and prevention as well as techniques for dealing with an assailant. (Course fee, $4)

KAC 53. Beginning Table Tennis (1 unit)
Instruction in basic skills and techniques of table tennis for singles and doubles play. Emphasis upon footwork, strokes, different spins, and strategies. (Course fee, $4)

KAC 54. Elementary Tennis (1 unit)
Designed for players with little or no experience who want to review the basics. Topics include terminology, stroke fundamentals, game rules, basic positioning for singles and doubles play, footwork, and etiquette. Non-marking tennis-specific shoes required. (Course fee, $4)

KAC 60. Yoga (1 unit)
Instruction and practice in the basics of Hatha Yoga. Includes beginning breathing patterns, relaxation techniques, physical postures, and concentration exercises. (Course fee, $4)

KAC 61. Fitness Development through Pilates Mat (1 unit)
Basic principles and techniques of Pilates mat exercises. (Course fee, $4)

KAC 154. Intermediate Tennis (1 unit)
Prerequisite: KAC 54 or equivalent. Review of beginning level skills and introduction of intermediate level tennis strokes and strategy. Non-marking tennis-specific shoes required. (Course fee, $4)

Team Activities (KAC)

KAC 65. Basketball (1 unit)
Participation-based course emphasizing basketball fundamentals such as passing, dribbling, and shooting, as well as basic fast break and offensive and defensive principles. (Course fee, $4)

KAC 68. Soccer (1 unit)
Instruction and practice in the basic fundamentals of soccer. Includes game rules, terminology, participation and competition drills, fundamental soccer skills, conditioning, principles of play, and appropriate sportsmanship. (Course fee, $4)

KAC 71. Elementary Volleyball (1 unit)
Instruction and practice in basic fundamentals of volleyball. Includes setting, serving, passing, blocking, rules and strategies, and practical applications of knowledge in game situations. (Course fee, $4)

KAC 73. Softball (1 unit)
Instruction and practice in playing skills, strategies, and rules of softball. Includes individual skill, offensive and defensive skills and concepts, modified game activities, and competitive opportunities. (Course fee, $4)

KAC 80T. Topics in Kinesiology (1-2; max total 8 if no topic repeated)
Participation in and investigation of selected physical activities not in current curriculum. (Course fee, $4)

KAC 171. Intermediate Volleyball (1 unit)
Prerequisite: KAC 71 or equivalent. Review of basic skills and introduction of intermediate level skills and strategies. (Course fee, $4)

Kinesiology (KINES)

KINES 1. Introductory Principles and Techniques for Physical Fitness Development (3 units)
Prerequisites: kinesiology or athletic training major, or by permission of the department chair. The study of introductory concepts, principles, and techniques for the development of physical fitness. Students are strongly encouraged to complete this course during the first or second semester on campus.

KINES 20. Fitness Development (1 unit)
Prerequisite: kinesiology or athletic training major, or by permission of the department chair. Fundamental and basic principles of development of physical fitness; integration of theory and practice. Physical performance and written requirements included. Prerequisite for many other kinesiology courses. (2 lab hours)

KINES 25. Conditioning and Resistance Training Techniques (1 unit)
Prerequisite: kinesiology or athletic training major, or by permission of the department chair. The foundational application, performance, supervision, and instruction of accepted strength training and conditioning techniques.

KINES 31. Historical and Professional Foundations of Physical Education (3 units)
Introduction to the physical education profession. Includes history, philosophy, psychology, sociology, concepts, programs, state and national standards, qualifications, career issues, and future of the discipline.

KINES 32. Lifetime Fitness and Wellness (2 units)
Healthy lifestyle patterns, exercise, nutrition, and physiological hygiene. Prevention of chronic diseases. Long-term behavior modification. Includes physiological measurements, nutritional analysis, and principle of exercise. Requires concurrent enrollment in any Kinesiology Activity Course (KAC). G.E. Breadth E1.

KINES 33. Foundations of Sport and Exercise Psychology (3 units)
The study and application of psychological principles and foundations to sport and exercise across the lifespan and across activity contexts.

KINES 35. Human Structure and Function: Applications to Kinesiology (3 units)
An introductory study of principles, concepts, and interactions of human anatomy and physiology specifically related to physical activity and directed toward kinesiologists and/or coaches. Emphasis on metabolism (bioenergetics) and respiratory, cardiovascular, neuromuscular, and skeletal systems.

KINES 38. Introduction to Athletic Training (3 units)
Designed for prospective coaches, athletic trainers, and health and physical educators. Aids in the recognition, evaluation, and care of athletic injuries. Techniques in taping, prevention, and rehabilitation of injuries. (2 lecture, 2 lab hours)

KINES 43. Preliminary Athletic Training Laboratory (1; max total 2 units)
Prerequisite: PH 48, KINES 38. Designed for prospective athletic training students. A minimum of 100 hours of directed observation under the supervision of a certified athletic trainer is a course requirement. *CR/NC* grading only.

KINES 45. Introduction to Sport Administration (3 units)
Examination of the sport industry, including the professional, college, youth, high school, and Olympic sport sectors. Overviews the internal and external aspects of sport organizations as well as common sport careers, duties, and responsibilities within the sport industry. (Formerly KINES 180T)

KINES 75T. Topics in Kinesiology (1-3; max total 8 units)
Introductory topics in kinesiology not available through current curricula offerings.

KINES 109. Motor Learning (3 units)
Principles of motor learning. The study of various theories. Application of theories and findings in presentations and planning of movement activities. (2 lecture, 2 lab hours)

KINES 110. Motor Development (3 units)
Prerequisites (for Physical Education Option only): KINES 1 (or 20, 25), 31, 32, 35. Comprehensive study of physical, psychological, and social stages of human development through the lifespan related to motor development. Students will be prepared to recognize, assess, and provide feedback related to developmental and learning sequences and to basic movement patterns.

KINES 111. The Olympic Games (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. History, development, and significance of the Olympic Games; Olympism as a microcosm of cross-cultural, political, economic, and gender relationships. Will not meet the upper-division G.E. requirement for kinesiology or athletic training majors. G.E. Integration ID.

KINES 116. Fundamentals of Biomechanics (3 units)
Prerequisites: KINES 35 or BIOL 33 (or BIOL 64 or PHTH 119 or PHTH 125). Study of structural and mechanical properties of musculoskeletal system, associated movement function of human body, and applied physics. (2 lecture, 2 lab hours)

KINES 118. Fundamentals of Exercise Physiology (3 units)
Prerequisites: KINES 35 or BIOL 33 (or BIOL 64 and 65) (or PHTH 119 and BIOL 65). The study and application of physiological bases of movement, work, response, and adaptation to exercise. Environmental conditions, gender, and age considered.

KINES 119. ECG and Clinical Exercise Physiology (3 units)
Prerequisite: KINES 118 (can be taken concurrently). Foundational principles and concepts of electrocardiography and clinical applications of principles and concepts of exercise physiology.

KINES 120. Planning Strategies for Physical Education (3 units)
Prerequisites: KINES 31, 32, 35, 110; KAC Area A, B, and C. Organization, presentation, and evaluation of in-class demonstrations. Philosophy of teacher preparation covered and developed through practice, observation, planning and presentations. (2 lecture, 2 lab hours)

KINES 121. Body Composition: Theory, Principles, and Management (3 units)
Prerequisites: KINES 32. Concepts and models of body composition. Theoretical principles underlying measurement of body composition; practical application of principles to measurement. Behavioral strategies for optimization of body composition.

KINES 122. Nontraditional Games and Outdoor Education (3 units)
Prerequisites: KINES 1, 31, 32, 33, 35, 110, 116, 118, 120; KAC Area A, B, and C. Study of a variety of recreational, multicultural, and non-traditional games, as well as outdoor education for lifelong participation. (2 lecture, 2 lab hours)

KINES 123. Analysis and Application: Rhythmic Movement in Physical Education (3 units)
Prerequisites: KINES 1, 31, 32, 33, 35, 110, 116, 118, 120; Area A, B, and C. Practical experience in learning, refinement, and analysis of skills, with focus upon appropriate teaching models and strategies for gymnastics/tumbling and dance. (1 lecture, 4 lab hours)

KINES 125A. Coaching Football (3 units)
Principles underlying participation in competitive football.

KINES 125B. Coaching Basketball (3 units)
Principles underlying participation in competitive basketball.

KINES 125C. Coaching Track and Field (3 units)
Principles underlying participation in competitive track and field.

KINES 125D. Coaching Baseball (3 units)
Principles underlying participation in competitive baseball.

KINES 126. Analysis and Application: Aquatics (3 units)
Prerequisites: KINES 1, 31, 32 (with KAC 103), 33, 35, 110, 116, 118, 120, 122, 123, 131; KAC Area A and B, KAC 4 or swim competence. Overview of aquatics: elementary through advanced skills (infant through adult). Emphasis on sequencing skills and water safety certification. Required to teach physical education in California public schools. (2 lecture, 2 lab hours)

KINES 131. Analysis and Application: Individual, Team, and Fitness Activities (3 units)
Prerequisites: KINES 1, 31, 32, 33, 35, 110, 116, 118, 120; KAC Area A, B, and C. Analysis and application of strategies for teaching individual, team, and fitness activities. Principles, theory, and practice of fitness and teaching in adapted or mainstream settings. (2 lecture, 2 lab hours)

KINES 137. Structural Biomechanics (3 units)
Prerequisites: BIOL 64 or PHTH 119. Human movement: biological and mechanical bases, application of musculoskeletal considerations, and principles of mechanics to human movements.

KINES 138A. Injury/Illness Assessment I (3 units)
Prerequisites: KINES 38, 137. Assessment techniques and care for injury/illness to the head, face, and upper extremity. Integration of anatomical structures and evaluative techniques to provide the basis for critical decision-making in injury management. (2 lecture, 2 lab hours)

KINES 138B. Injury/Illness Assessment II (3 units)
Prerequisites: KINES 138A. Assessment techniques and care for injury/illness to the trunk and lower extremity. Integration of anatomical structures and evaluative techniques to provide the basis for critical decision-making in injury management. (2 lecture, 2 lab hours)

KINES 139. Therapeutic Modalities in Athletic Training (3 units)
Prerequisites: KINES 38; BIOL 64 or PHTH 119. The theory and application of various therapeutic modalities used in the treatment of athletic injuries. (2 lecture, 2 lab hours)

KINES 140A. Rehabilitation Techniques in Athletic Training I (3 units)
Prerequisites: KINES 137, 138A, 138B, 139. Clinical applications, parameters, and principles governing rehabilitation techniques prevalent in modern athletic training. (2 lecture, 2 lab hours)

KINES 140B. Rehabilitation Techniques in Athletic Training II (3 units)
Prerequisites: KINES 140A. Kinesiological factors for integrative application of rehabilitation techniques to spine and extremities. Explores post-operative and rehabilitation considerations for returning active patients to a variety of settings and athletic venues. (2 lecture, 2 lab hours)

KINES 141. Organization and Administration in Athletic Training (3 units)
Prerequisites: KINES 38, and senior status. Current issues in athletic training, organization, administration, and professional preparation.

KINES 142. Seminar in Athletic Training (1; max total 4 units)
Taken concurrently with KINES 143. A seminar course designed to focus on and review the athletic training competencies. **FS**

KINES 143A-D. Practicum in Athletic Training (2; max total 8 units)
Prerequisites: admission into Athletic Training Education Program. Students are instructed and evaluated while performing athletic training proficiencies on patients under the direct supervision of approved clinical instructors. Involves approximately 250 to 300 hours. ***CR/NC*** grading only. 143A&C - ; 143B&D -

KINES 144. Field Experience in Teaching (3 units)
Prerequisites: KINES 1, 31, 32, 33, 35, 110, 116, 118, 120, 122, 123, 131; KAC Area A, B, and C. Open only to kinesiology majors with options in physical education. Supervised placement in physical education instructional settings at the elementary, middle, and high school levels. Includes a variety of practical learning experiences and seminar discussions. ***CR/NC*** grading only. (3 hours undergraduate seminar education workshop)

KINES 146. Risk Management of Sport and Exercise (3 units)
Prerequisites: Kinesiology Exercise Science Option major, or ***B*** or better in KINES 45. Examination of common risk management issues and principles in the sport and exercise industries, including contracts, torts, constitutional law, intellectual property, employment law, agency law, and sport legislation. (Formerly KINES 180T)

KINES 147. New Ventures in Sport and Exercise (3 units)
Examination of how new ventures are created in the sport and exercise industries.

Covers planning, self-assessment, idea generation, development, and operating strategies required to start a new venture in sport or exercise. (Formerly KINES 180T)

KINES 148. Biophysical Aspects of Aging (3 units)
(Same as GERON 148.) Theories of aging, biological mechanisms of the aging process, and the role of physical activity in those physiological functions influenced by age.

KINES 150. Internship in Sport Administration (12)
Prerequisites: completion of General Education courses and approval from kinesiology sport administration coordinator. Supervised work experience in a sport administration setting, directed and evaluated by a qualified faculty member with supervision by an on-site sport administration professional.

KINES 152. Physical Education for Children (3 units)
Prerequisite: minimum of junior standing. Theory, analysis, and study of movement experiences, skills and materials, appropriate for elementary level school children. (2 lecture, 2 lab hours)

KINES 159. Measurement and Evaluation (3 units)
Prerequisites (for Physical Education Option only): KINES 1, 31, 32, 33, 35, 110, 116, 118, 120, 122, 123, 131; KAC Area A, B, and C. Selection, adaptation, and development of appropriate measurement instruments and strategies based on physical, motor, and fitness attributes and needs of individuals and classes. Application and interpretation of basic statistical methodology. Offered spring semester only. (2 lecture, 2 lab hours)

KINES 162. Coaching Concepts (3 units)
Current problems of coaches in the school setting; techniques of motivation, organization, and public relations.

KINES 163. Fitness and Wellness (3 units)
Prerequisite: KINES 32, 118 (may be taken concurrently). Study, analysis, development, and practice of health related fitness and weight control programs for various populations. (2 lecture, 2 lab hours)

KINES 165. Performance Related Fitness (3 units)
Prerequisites: KINES 118 and 116 or 137 (all may be taken concurrently). Physiological and biomechanical principles related to implementation of conditioning programs for athletic performance. Practical applications. Discussion of skill and performance-related components of physical fitness. (2 lecture, 2 lab hours)

KINES 167. Integrative Exercise Science (3 units)
Prerequisites: KINES 116 and 118 (both may be taken concurrently). Integration of humanistic, physiological, and biomechanical aspects of exercise science through lectures, readings, discussions, and writing assignments.

KINES 180T. Topics in Kinesiology (1-3; max total 12 units)
Topics relating to analysis, performance, theory, current trends, and research in kinesiology not available through current curricula offerings.

KINES 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

KINES 199. Supervised Work Experience (1-2; max total 4 units)
Prerequisites: upper-division status, GPA 2.5 last 30 units, permission of department chair and instructor. ***CR/NC*** grading only.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Kinesiology (KINES)

KINES 222. Biomechanics (3 units)
Prerequisites: KINES 116 or 137 (or equivalent). Study of physical and mechanical bases of human movement. Mechanical properties of tissues, relation to function. Application of principles of physics and mechanics to human movement and sport. Kinematic analysis of sport performances.

KINES 230. Statistical Inference in Kinesiology (3 units)
Theory and nature of statistical inference; study of statistical methodology relating to the selection of the most appropriate statistical technique, and the interpretation of findings. Required of all M.A. candidates.

KINES 231. Research Methods in Kinesiology (3 units)
Seminar in research methods appropriate for physical education, exercise science, and related professions: use of information retrieval technology; critiquing, conducting and reporting research. Required of all M.A. candidates.

KINES 233. Advanced Exercise Physiology (3 units)
Prerequisites: KINES 118 or equivalent. Advanced concepts, mechanisms, and applications of exercise physiology. Systems physiology approach with emphasis on biophysical principles. Applications to response and adaptation to exercise, health and wellness, growth and development, and aging.

KINES 235. Exercise Physiology Instrumentation and Technology (3 units)
Prerequisites: KINES 118 (or equivalent) Analysis of theory of operation, application, and operation of laboratory instrumentation and technology in exercise physiology laboratories. Requires course presentations supported by extensive practical experiences in equipment operation, calibration, maintenance, and laboratory data management.

KINES 237. Design and Implementation of Resistance Training Programs (3 units)
Study of research findings and established scientific principles of resistance training for development of muscular strength, power, and endurance. Practical applications to technique, program development, and competition.

KINES 238. Exercise Testing, ECG, and Prescription (3 units)
Prerequisite: KINES 118(or equivalent). Study of the American College of Sports Medicine Guidelines for Exercise Testing and Prescription. Screening, exercise testing, and prescribing exercise for apparently healthy and special needs populations supported by extensive practical laboratory testing experiences.

KINES 241. Administration in Physical Education and Sport (3 units)
Study of environmental factors which influence management of human resources of sport organizations in public and private sectors. Analysis and application of administrative/leadership theory to strategic planning, organizing, implementing and controlling programs in sport and physical education contexts.

KINES 242. Program Development in Physical Education (3 units)
Study of the current education scene to provide students with an understanding of the role that school physical education plays in today's education. Identification of sound procedure and practice in organizing and conducting relevant programs of physical education.

KINES 244. Legal Aspects in Sport and Physical Education (3 units)
The study of legal principles and their implications for physical education and sport. Emphasis is on safety procedures, preventative measures, and legal responsibilities of teachers, coaches, and sport administrators.

KINES 245. Sport Fundraising, Development, and Networking (3 units)
Study of current issues and fundamental principles and techniques of fundraising, development, and networking within the sport industry. (Formerly KINES 250T)

KINES 246. Sport Sales and Sponsorship (3 units)
Examination of the principles of sales, sponsorship, promotion, licensing, and marketing as they apply to the sport industry. (Formerly KINES 250T)

KINES 250T. Topics in Kinesiology (1-3; max total 6 if no topic repeated)
Advanced studies in theoretical research in selected topics.

KINES 261. Philosophical and Ethical Inquiry in Kinesiology (3 units)
Philosophic/critical examination of current and classical literature in physical education, sport, and exercise science. Understanding systems of thought, their application; analysis of, as well as support for, points of view in verbal and written communication.

KINES 262. Social Implications of Sport (3 units)
Cultural and social factors related to play, games, and athletic contests; social parameters in the conduct and management of school athletic programs; emphasis on research studies.

KINES 263. Psychology of Sport: Mental Training (3 units)
An examination of the concepts in sport psychology including mental states, cognitive behavioral techniques and strategies; and issues in sports psychology.

KINES 264. Psychology of Coaching: Talent Development (3 units)
Examination of psychological components of coaching and talent development. Explores coaching development and coaching models, as well as strategies for dealing with athletes and different coaching contexts. Discussion of talent development theories including influence of genetic and environmental factors.

KINES 265. Psychobiology of Sport and Exercise (3 units)
Investigation of the relationship between sport, exercise, physical activity and anxiety, arousal, burnout, causal attributions, cognitive function, exercise adherence, group cohesion, mood states, motivation, negative behavior, personality, public health, quality of life, self-confidence, and youth development.

KINES 266. Psychology of Injury in Sport and Physical Activity (3 units)
An examination of psychological theories and applied considerations related to injuries and the subsequent rehabilitation of the physically active.

KINES 285. Internship in Kinesiology (3-6; max total 6 units)
Work experience within the physical education, health-fitness industry, or sport administration setting, directed and evaluated by a qualified faculty member with appropriate supervision by an on-site professional. ***CR/NC*** grading only.

KINES 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

KINES 298. Project (3-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, submission, and/or demonstration of an original project. Creativity shall be a prime factor. Abstract required, e.g., choreograph gymnastic performance, organize square/folk dance program, compose audiovisual representation of sport forms. Approved for ***RP*** grading.

KINES 299. Thesis (2-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSES

(See *Catalog Numbering System.*)

Kinesiology (KINES)

KINES 310. Analysis of Team Activities (1-3; max total 12 if no area repeated)
Prerequisite: teaching or coaching experience or by permission of instructor. An analysis of the techniques, methods, procedures, and theory of team sports.

KINES 320. Analysis of Individual Activities (1-3; max total 12 if no area repeated)
Prerequisite: teaching or coaching experience, or permission of instructor. An analysis of the techniques, methods, procedures, and theories of individual activities.

Nursing

The mission of the Department of Nursing is to offer quality nursing education to undergraduate and graduate nursing students. This education prepares nurses to make clinical decisions based on theory and research. As life-long learners, graduates are prepared to deliver quality health care for increasingly diverse populations. Graduates will lead, supervise, delegate, manage, and evaluate care outcomes, as well as demonstrate the ability to act as consumer advocates in promoting wellness and facilitating change.

The scope of nursing practice is changing significantly. The professional nurse uses theory and research-based knowledge to provide direct and indirect care to individuals, families, groups, and communities.

In the role as designer, manager, and coordinator of care, nurses collaborate with patients and interdisciplinary care teams.

The department offers an undergraduate program which leads to the Bachelor of Science in Nursing, a postbaccalaureate School Nurse Services Credential Program with an option to pursue the master's degree in nursing, a graduate program leading to a Master of Science in Nursing, a Post-Master's Nurse Practitioner Certificate Program, and a Post-Master's Clinical Nurse Specialist/Nurse Educator Program.

Undergraduate Program

The program requires six semesters of nursing courses in addition to two semesters of prerequisite requirements. The basic General Education requirements are the same for all majors. Upon completion of the sixth semester clinical course sequence, the student is qualified to apply to take the National Council Licensure Examination (NCLEX-RN) and apply for the Public Health Nurse Certificate. California State University, Fresno's nursing program is certified by the California Board of Registered Nursing and accredited by the Commission on Collegiate Nursing Education (CCNE).

Clinical Facilities

A wide variety of clinical placements are available. Placement facilities include Community Hospitals of Central California, St. Agnes Medical Center, Children's Hospital of Central California, Veteran's Administration Medical Center, Kaweah Delta, Adventist Hospital, Madera Community Hospital, Fresno Heart and Surgical Hospital, the Armenian Home, San Joaquin Gardens, the Kaiser Permanente Medical Group, and the health departments of Fresno, Madera, Kings, and Tulare counties.

Advanced Placement in the Nursing Major

Students seeking advanced placement must seek advisement from the department. Students are expected to meet all prerequisites for admission and meet filing deadlines specified for undergraduate students.

Registered Nurses with an associate degree in nursing may articulate at the junior level in the major. Registered nurses from diploma programs may seek advanced placement through credit by examination (see *Academic Placement — Credit by Examination*).

Registered nurses are in a separate admission pool from the generic nursing applicants.

Licensed Vocational Nurses are offered three options:

1. Generic Nursing Program
2. Transfer/Credit by Examination
3. Thirty-Unit Option (nondegree)

LVN 30-unit option students must contact the department chair of nursing for pre-admission advising. Acceptance to the 30-unit option program is based on space availability in selected nursing courses. It is important to note that the 30-unit option RN licensee will not be awarded a degree and his/her ability to practice in different states may be limited by state reciprocity regulations.

Health Related Personnel. Medical corpsmen, psychiatric technicians, and others are eligible for credit by examination under the university's policy as outlined in the current catalog.

Advanced placement in the major prepares qualified students to receive their B.S.N. The curriculum is designed to emphasize theory-based practice in nursing and to provide the foundation for graduate study. While pursuing the degree, students are encouraged to select their area of interest. They are also encouraged to collaboratively care for patients in a variety of settings: acute care, critical care, long-term care, ambulatory care, and home care.

College of Health and Human Services

Department of Nursing
Mary Barakzai, *Chair*
Carol Rayner, *Administrative Support Coordinator*
McLane Hall, Room 190
559.278.2041
www.fresnostate.edu/nursing/

B.S. in Nursing

M.S. in Nursing
Options:
- Clinical Nurse Specialist/Nurse Educator
- Primary Care/Nurse Practitioner

School Nurse Services Credential

Certificate of Advanced Study - Psychiatric Mental Health Nurse Practitioner

Post-Master's Nurse Practitioner Certificate

Post-Master's Clinical Nurse Specialist/Nurse Educator Certificate

Doctor in Nursing Practice (D.N.P.)

Faculty

Mary Barakzai, *Chair*
Danette Dutra
Terea Giannetta
Mary Gish
F. Ndidi Griffin
Mary R. Ivan
Mary Ann McCarthy
Sylvia Miller
Keitha Mountcastle
Christine Ortiz
Janine Spencer

Policies and Procedures for B.S.N. Admission

Admission to the program is a two-step process: (1) admission to the university and (2) admission to the nursing major. For fall entry all prerequisites must be completed by June and for spring entry all prerequisites must be completed by the preceding fall semester. Applicants must meet all criteria for admission to the university and to the nursing major. Students not in the major may apply to the university as prenursing majors.

Specific health criteria must be met. Students with recurrent infections or physical limitations who cannot meet clinical course objectives may be unable to satisfactorily complete the requirements for a B.S. in Nursing. Contact the Nursing Department regarding specific requirements.

Background Checks

All state Boards of Nursing require an individual to possess a professional license to practice as a registered nurse (RN). Students are advised to investigate all background requirements for RN licensure (e.g., criminal background checks, verification of employment eligibility, and verification of citizenship or immigration status). Likewise, clinical nursing courses typically require criminal background checks and drug screening for clinical placement and course enrollment.

Eligibility to Apply to the Program

Students must have an overall GPA of 3.0. Prior to applying to the Nursing Program, students must pass the ATI Test of Essential Academic Skills (TEAS) with a score of 75%. Students receiving a score of less than 75% will be allowed to retake the exam twice, but this must be done prior to their application. For TEAS information, see *www.atitesting.com*.

The following eight prerequisite courses must be completed prior to entry into the nursing program.

	Units
G.E. Area A1 (COMM 3, 7, or 8)	(3)
G.E. Area A2 (ENGL 5B or 10)	(3)
G.E. Area A3*	(3)
G.E. Area B4* (MATH 11 or PH 92)	(3)
Anatomy (BIOL 64)	(3)
Physiology (BIOL 65)	(5)
Chemistry (CHEM 3A)	(4)
Microbiology (BIOL 20)	(4)
Total	**28**

* See G.E. list for approved courses.

- Each prerequisite must be completed with a minimum *C* grade — *CR/NC* grades are not acceptable.
- A minimum GPA of 3.0 is required in the eight prerequisite courses.
- Maximum of two prerequisite courses may be repeated once to improve grade.
- On-line, Web-based or distance learning science and laboratory courses taken at other institutions must be approved by the nursing admissions coordinator.

Selection Criteria. The program is on impacted status (the number of applications received is greater than the number of vacancies for the program). Therefore, admission into the nursing major is very competitive; there is no waiting list. Only applicants with the highest composite scores in the eight prerequisite courses will be admitted. Applicants must reapply each time and compete with the entire applicant pool if not selected.

Selection for the Nursing Program:

a. Students will be ranked by grade point average in the eight prerequisites courses (prerequisites GPA).

b. Preference will be given to U.S. military veterans who meet minimum requirements for admission and who submit a DD214 showing a discharge date no more than four years prior to date application is submitted. Remaining applicants will be ranked by prerequisite GPA and admitted as enrollment quotas allow.

Application Filing Period

Fall admission: Nursing Department applications are available March 1-31; university applications are available February 1 at *www.csumentor.com*.

Spring admission: Nursing Department applications are available August 1-31; university applications are available July 1 at *www.csumentor.com*.

Dates are subject to change. Additional information and applications can be obtained online at *www.fresnostate.edu/nursing* or by calling the nursing admissions coordinator at 559.278.6579.

The program application includes additional instructions and deadlines. The university application form can be obtained online at *www.csumentor.edu*.

Note: Students who have been admitted to the major, have made no arrangements with the department, and fail to attend the first day of class will be dropped from the major and not considered for future admission.

Policies and Procedures for Direct Transfer into the Nursing Major

1. Students must have completed at least two semesters or 12 semester units of nursing courses in the major (all other students must follow the admission procedures for basic or advanced placement majors).
2. Students must submit all transcripts, course descriptions of nursing courses, and two letters of recommendation from their current school to be considered for transfer.
3. Students must meet all California State University, Fresno criteria for admission and continuation in the major to be eligible for transfer.
4. Students are admitted and placed in the major at the discretion of the department chair.
5. Transfer students who have written notification of acceptance into the program enter the major on a space-available basis and must receive department permission to enroll in classes.
6. Applicant Deadline:
   Fall Admission - February 1
   Spring Admission - July 1

Leave of Absence from Nursing Program

1. Request for leave of absence:
   a. Students must request a leave of absence (LOA) in writing from the department chair. Students who don't request a LOA may not be readmitted into the major.
   b. Leaves will be granted only for students who have completed at least one semester in the program and are in good standing.
2. Request to return from leave of absence:
   a. Students must request in writing to be reinstated in the program specifying:
      - Date of LOA
      - Reason for LOA
      - Disposition of circumstances requiring the LOA
      - Activities (e.g., working in hospital) engaged in during LOA
   b. Students will be notified in writing of requirements for returning to program, denial, or reinstatement.
   c. Requirements for return may include any or all of the following, based on the discretion of the department chair:
      - Letters of recommendation from individuals such as counselors or physicians
      - Enrolling in up to 5 units of Independent Study to update theoretical and/or clinical skills

d. Students who receive written notice of reinstatement in the major return on a space-available basis and must receive permission from the department to enroll in classes.

Progression in the Major. Criteria for retention, progression, and graduation from the program include a minimum grade of *C* in each required course and each nursing course offered for a grade, and credit in courses offered for *CR/NC* grading only. Nursing and required courses may be repeated only once to achieve a *C* or credit grade. Any student who receives less than a *C* grade (or no credit) in two nursing courses will not be permitted to continue in the major. Refer to the *Student Handbook, Baccalaureate Degree Nursing Program*, for complete progression and retention policies.

Expenses. Students must be prepared to incur any additional cost such as uniforms, malpractice insurance, health insurance, stethoscopes, course materials, lab fees, etc., and be responsible for transportation to clinical facilities. A current CPR certification, a physical examination, and specific immunizations are required.

Bachelor of Science Degree Requirements

Nursing Major *Units*

Major requirements 57
Select one program:
Generic students .....(57)
NURS 10, 10A, 10L, 110, 110A, 110L, 111, 112, 121, 121L, 123, 123L, 124, 131, 131L, 132, 132L, 140, 140L, 141, 141L, 142, 145, 150, 150L, 151
RN students only .....(57)
NURS 134, 135, 136, 137, 141, 141L, 145, 150, 151, 153; 31 transfer units

Prerequisite requirements..... 28
(See prerequisites listed under *Eligibility to Apply to the Program.* [18 units may be applied to G.E.])

Additional course requirements 18
CFS 38; PH 92 or MATH 11 (if statistics not taken for G.E. Area B4); PHIL 20 or 120; PSYCH 10; SOC 3; NUTR 53. [9 units may be applied to G.E.]

General Education requirements..... 51
(51 units minimum less 27 units counted above in prerequisite requirements and additional requirements to the major leaves 24 units)

Upper-Division Writing Skills 0-4
Total 127-131

For the B.S. in Nursing, MATH 11 or HS 92 are approved to count for G.E. Area B4.

Advising Notes

1. The following prerequisite and additional requirement courses to the nursing major also may be applied to fulfill a maximum of 27 units of General Education requirements: COMM 8 preferred (or COMM 3 or 7) in G.E. Foundation A1; ENGL 5B or 10 in G.E. Foundation A2; 3 units of CHEM 3A in G.E. Breadth B1; 3 units of BIOL 20 for G.E. Breadth B2 (for nursing majors only); PHIL 20 in G.E. Breadth C2; or PHIL 120 in G.E. Area IC; SOC 3 or 3 units of PSYCH 10 for G.E. Breadth D3; and CFS 38 or NUTR 53 in G.E. Breadth E1. Critical Thinking course for G.E. Area A3, Quantitative Reasoning (Math) course for G.E. Area B4.
2. Students must complete CFS 38 and NUTR 53 no later than the first semester of the nursing major.
3. Introduction to Psychology (PSYCH 10) and SOC 3 must be completed no later than the second semester of the nursing major.
4. Students must complete the upper-division writing skills requirement and statistics requirement prior to enrollment in NURS 145 and prior to graduation.
5. Major courses must be taken for a letter grade; *CR/NC* grading is not permitted in the nursing major.
6. Students are strongly encouraged to seek academic advising every semester.
7. All practicum courses (with suffix "A" or "L") require a minimum of three hours of clinical work per unit of credit as a minimum to meet course objectives.

Please see website at *www.fresnostate.edu/nursing* for specific G.E. classes designated for nursing.

School Nurse Services Credential Program

Postbaccalaureate Health Services (School Nurse) Credential

The School Nurse Services Credential Program provides basic preparation for professional roles in school nursing. The program, approved by the California Commission on Teacher Credentialing, leads to the School Nurse Services Credential. The Department of Nursing, in conjunction with the School of Education and Human Development, recommends qualified candidates for credentialing as providers of health services in California public schools (preschool, K-12, adult).

The program of study for credential students consists of a minimum of 27 units. Courses taken in CCNE/NLN accredited baccalaureate programs may be accepted for the credential at the discretion of the Department of Nursing. The core school nursing classes are offered online. For more information see the department's website at *www.fresnostate.edu/nursing*.

Units

Audiology coursework
CDDS 125 3
Special Education coursework
SPED 120 3
Counseling coursework (select one)
COUN 174 3
COUN 200 3
Physical Assessment
NURS 136* 3
Health Teaching
NURS 137* 3
School Nursing
NURS 184* 3
NURS 185* 3
NURS 186* 3
NURS 187* 3
Advanced pathophysiology and pharmacology courses are recommended.

Note: A minimum of 15 units in the credential program must be taken on this campus. The use of any comparable course is contingent upon departmental approval. Coursework taken more than 10 years ago is not acceptable to meet program requirements.

An introductory statistics course and nursing theory/research course are required for admission into the School Nurse Services Credential Program.

A maximum of 9 units is allowed through courses taken in Continuing and Global Education or concurrent enrollment.

*Courses only available through regular enrollment in the university following acceptance into the Credential Program.

Proof of current California RN license, malpractice insurance, current CPR certification, and current valid Student Health Center clearance are required prior to enrollment in NURS 186 and 187.

The student must hold either a Certificate of Clearance or a School Nurse Services Credential prior to enrollment in NURS 186 and 187. Contact the credentials analyst, Education Building, Room 100, 559.278.0300, or the county office of education in your area for application information.

All admission requirements (credential program application form, admission to the university, all documents, and prerequisites) must be completed prior to enrollment in any of the nursing courses.

Admission Criteria

1. Baccalaureate degree in nursing from a NLN accredited program
2. Admission to the university at the post-baccalaureate level
3. Current California Registered Nurse License
4. California Public Health Nurse Certificate or 5 units of university community health coursework
5. Overall GPA of 2.5 and 3.0 in nursing
6. Three satisfactory letters of recommendation (at least one from a recent employer or nursing faculty)

Admission Procedures

1. Complete application for admission to postbaccalaureate standing, Admissions Office, Joyal Building. Forward copy of application to Department of Nursing, school nurse coordinator.
2. Complete Credential Program application, available online at *www.fresnostate.edu/nursing*.
3. Attach official transcripts of previous academic work.
4. Attach photocopies of required documents (R.N. License, P.H.N. Certificate).
5. Submit three letters of reference/recommendation (forms available online at *www.fresnostate.edu/nursing*).
6. Arrange appointment with School Nurse Services Credential Program coordinator for program planning and advisement.

Note: All candidates are required to sign a statement on the application form regarding conviction or plea of *nolo contendere* for any violation of law other than minor traffic offenses.

Candidates with a conviction may be refused a School Nurse Services Credential. For further information, contact the CCTC Professional Practices Division at (916) 445-0234.

Time Restrictions. All requirements for a School Nurse Services Credential must be completed within five years of the date of issuance of the preliminary credential.

Certificate of Advanced Study - Psychiatric Mental Health Nurse Practitioner

Ndidi Griffin, Graduate Coordinator
559.278.6697

The Psychiatric Mental Health Nurse Practitioner (PMHNP) Program is a one-year post-master's program designed to prepare primary care nurse practitioners to provide the full range of psychiatric services to patients throughout the life cycle. This is a formally constructed program that meets the requirements for national certification by the American Nurse Credentialing Center as an Adult Psychiatric and Mental Health or Family Psychiatric and Mental Health Nurse Practitioner.

The program of study consists of 18 post-master's units. To enhance access and provide flexibility, the program will be largely distance delivered via synchronous and asynchronous modalities.

Coursework:

NURS 243	2
NURS 244	2
NURS 245	2
NURS 246	2
NURS 247	4
NURS 248	2
NURS 249	4
Total	**18**

All courses are taken through Continuing and Global Education via special sessions. Courses are offered once a year and students proceed through the program as a cohort. There is no part-time option available at this time.

Admissions Criteria

1. Master's of Science in Nursing.
2. Currently practicing as a primary care nurse practitioner, i.e. Family Nurse Practitioner, Pediatric Nurse Practitioner, Adult Nurse Practitioner, or Geriatric Nurse Practitioner.
3. Valid California Nurse Practitioner license and furnishing number.
4. Current Drug Enforcement Administration authorization for Schedule II medications.
5. Three letters of recommendation, with at least one from a recent employer.

Admissions Procedures

1. The deadline for admissions is March 1
2. Applicants first complete the online University application at *www.csumentor.edu*.
3. The program has additional requirements for admission. Complete instructions for application to the program are available within the *www.csumentor.edu* process.

All program admissions materials should be sent to

The Central California Center for Excellence in Nursing
1780 E. Bullard Ave. #116
Fresno, CA 93740

All materials must be received by ***March 1***.

Certificate of Advanced Study Requirements: completion of the set program of study (18 units) with a GPA of 3.0 or higher within a 5-year period.

Articulation with the Graduate Program

School Nurse Services Credential students may pursue a master's degree in other areas of nursing. Specific questions about graduate program admission requirements and coursework should be directed to the graduate coordinator, Department of Nursing. Graduate students in either the Pediatric or Family Nurse Practitioner programs may take the articulated option in School Nursing, reducing the total number of units needed to meet the educational requirements for a School Nurse Services Credential (see *Graduate Program*).

Graduate Program

The department offers a CCNE accredited program that leads to a Master of Science degree in Nursing. The purpose of the program is to prepare nurses for advanced practice in the functional roles of primary care nurse practitioner and clinical nurse specialist/nurse educator. Each graduate of the master's in nursing program must demonstrate advanced knowledge and skill in physical diagnosis, psychological assessment, and management of health-illness needs in complex client and community

systems. The program provides a foundation for doctoral study in nursing.

Clinical Options

Students select a functional role of either nurse practitioner or clinical nurse specialist/nurse educator. Any nursing class in the role specialization options area may be cancelled because of insufficient enrollment.

Clinical Nurse Specialist/ Nurse Educator

The Clinical Nurse Specialist/Nurse Educator Option prepares the graduate to assume a leadership role with advanced skills, knowledge, and competence in adult/geriatric or pediatric areas of clinical nursing. Students in this option will demonstrate competence in the areas of expert clinical practice, education, research, consultation, and clinical leadership.

CNS graduates meet the requirements for clinical nurse specialist certification through the California Board of Registered Nursing and national certification through the American Nurses Credentialing Center.

Nurse Practitioner

The Primary Care/Nurse Practitioner Option prepares the graduate to provide primary health care to children, the elderly adult, and families. Classroom and clinical experiences focus on health assessment, health maintenance, and promotion, as well as counseling, client education, and management of selected health problems. Practice in rural settings and with clients from diversified cultural backgrounds.

Graduates meet the requirements for recognition as pediatric or family nurse practitioners in California and may apply for national certification.

The purpose of the Primary Care/Nurse Practitioner Option is to prepare nurses as specialists in primary care and to improve the availability, accessibility, and quality of primary care services in the Central San Joaquin Valley.

Policies and Procedures for M.S.N. Admission

Admission Procedures. You must complete two applications for the graduate nursing program.

1. You must apply to the university by March 1 as a graduate student through *csumentor.edu*.
2. You must also complete a Nursing Department application. You may download and complete the application online from the Nursing Department website at *www.fresnostate.edu/chhs/nursing/*, or you can pick up an application from the nursing office. Once they are completed, print and mail the application and accompanying documents to the nursing office at

   California State University, Fresno
   Admissions: Graduate Nursing Program
   Department of Nursing
   2345 East San Ramon Avenue
   M/S MH25
   Fresno, CA 93740-8031
3. Complete the Graduate Record Examination and have scores sent to the university and the Department of Nursing.
4. Complete and submit Nursing Department graduate program written essay.
5. Have official copies of all transcripts sent to ***both*** the Nursing Department and to

   Graduate Admissions Office
   Joyal Administration Building
   5150 N. Maple M/S JA57
   Fresno, CA 93740-8026

Admission Criteria

There are two pathways into the M.S.N. program for individuals with different educational backgrounds: the B.S.N. graduate and the R.N. with a non-nursing baccalaureate degree.

Admission Criteria for B.S.N. Graduates

1. Admission to California State University, Fresno, Division of Graduate Studies
2. Baccalaureate degree in nursing from an NLN/CCNE accredited program
3. Registered nurse license in California (may be waived for nurses licensed in another country)
4. Overall GPA of 2.5 with 3.0 in nursing
5. Malpractice insurance
6. An introductory course in statistics
7. An introductory course in research
8. A physical assessment course that includes theory and practice; or validation of knowledge and skills for graduates of programs with integrated content
9. Current CPR certification

Admission Criteria for Registered Nurses with a Baccalaureate Degree in a Field Other Than Nursing

This program is open only to students eligible for admission to graduate standing at California State University, Fresno, who have completed a nursing program in an accredited school, are registered, or eligible for registration as nurses in the state of California and who hold a bachelor's degree in a related field from an accredited university.

For admission to this program, students are required to meet the following criteria in addition to the regular criteria set for admission to the M.S.N. program:

1. Submission of resume of all past educational and employment experience. Resume should emphasize experience in leadership, community health, research, and writing for publication.
2. Review of resume by the graduate coordinator of the Nursing Department who establishes nursing courses the student must complete to obtain a background comparable to students graduating with a B.S.N. at California State University, Fresno.
3. Satisfactory completion of the individualized program established by the coordinator before enrolling in the regular M.S.N. program.
4. Admission to the Nurse Practitioner Program is not guaranteed, and all students must make application to the Nurse Practitioner Program.

Post-Master's Certificates (State-Issued)

At California State University, Fresno, the **post-master's nurse practitioner certificate** is 31 units and the **post-master's clinical nurse specialist/nurse educator certificate** is 32 units. These certificates are issued by the California Board of Registered Nursing. Applicants may receive credit toward the certificates for graduate courses taken previously. Typically, the main courses that are requested for credit are the advanced theories and advanced issues courses. In order to request a course substitution, the applicant must submit a copy of the course description, objectives, and assignments for review by the graduate coordinator. At that time, the course of study will be determined with input from the student and department graduate curriculum committee. Students

seeking post-master's certificates are exempt from some coursework and have a shorter program.

Master of Science Degree Requirements

Courses. Under the direction of the graduate coordinator, each student prepares and submits an individually designed program based on the following:

	Units
Core courses in nursing NURS 211, 212, 221, 223, 225	**13**
Role specialization courses (See below.)	**21-24**
Thesis (NURS 299) or Project (NURS 298)	**3**
or	
Comprehensive Exam	**0***
Minimum Total	**38-40**

Primary Care minimum total = 40 units
CNS/Nurse Educator minimum total = 40 units

*Additional approved 3-unit elective required for students taking the Comprehensive Exam.

Role Specialization (Options)

Clinical Nurse Specialist/Nurse Educator
NURS 210, 235, 236, 240, 241, 242, 288T (6 units)

Primary Care Nurse Practitioner
Family: NURS 210, 215, 264, 265, 266, 267, 277, 278
Pediatric: NURS 210, 215, 262, 263, 268, 269, 279, 280
Geriatric: NURS 210, 215, 264, 265, 266, 271, 281, 282

Facilities. The diverse facilities of the community provide a wide variety of learning opportunities for individualized pursuit of student goals. Graduate and postbaccalaureate students have clinical placements, which are consistent with their career goals.

Preceptor selection for clinical placement in both the CNS and nurse practitioner programs is the responsibility of the Department of Nursing. The department will gather pertinent information to assist in preceptor identification during the first semester of the program. All preceptors must meet standards for educational and clinical experience as established by the California Board of Registered Nursing and appropriate accrediting bodies. Preceptors must be either a physician or a master's prepared nurse practitioner.

Graduate Writing Requirement

All students must meet the university's graduate writing proficiency requirement prior to being advanced to candidacy for the master's degree. Students fulfill the writing requirement by passing the writing component of NURS 221. Students can obtain additional information regarding the graduate writing requirement in the program's *Graduate Student Handbook.*

Advancement to Candidacy. Completion of 9 graduate units with a GPA of 3.0.

Graduate students are responsible for policies and regulations of the Division of Graduate Studies and those specified in the graduate nursing program brochure.

Thesis, Project, and Comprehensive Exam. The department offers students the option of writing a thesis, completing a project, or taking a written comprehensive exam. Information about the culminating experience is available from an adviser in nursing.

Note: All practicum courses require a minimum of three hours of clinical work per unit of credit to meet course objectives.

The Doctor of Nursing Practice Program

The purpose of the Doctor of Nursing Practice (DNP) Program is to prepare experts in specialized advanced nursing practice. The DNP program prepares graduates for leadership and clinical roles and to engage in evidence-based inquiry. Graduates may also 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. The program is designed for working professionals with the majority of coursework provided via distance modalities. The DNP program is cohort-based and designed to be completed in two years of full-time study. It consists of 37 doctoral units with a culminating doctoral project.

Admission Requirements. Application requirements consist of the following:

1. The applicant must meet the general admission requirements for California State University, Fresno.
2. The applicant must have earned an acceptable master's degree from an institution accredited by a regional accrediting association and the national professional accrediting association, as applicable.
3. The applicant must have attained a cumulative grade point average of at least 3.0 in an acceptable master's degree program.
4. The applicant must maintain active licensure to practice as a registered nurse in the state in which practicum experiences will be completed.
5. The applicant must meet all requirements for credentialing or certification eligibility as appropriate to the nursing specialty area.
6. The applicant must demonstrate sufficient preparation and experience pertinent to advanced nursing practice.

Evidence considered in the admission process shall include, but not be limited to the following:

1. Three letters of recommendation from professional persons knowledgeable about the applicant's advanced nursing practice experience, as well as the potential for scholarship and leadership.
2. A written statement of purpose reflecting what the applicant expects to accomplish in the DNP program and how the DNP program will advance the applicant's nursing career and practice.

Program Requirements. Students in the DNP program move through the coursework as a cohort. A minimum of 37 units are required for completion of the degree. Students must maintain a 3.0 grade point average and demonstrate professional behavior to progress in the program. In order to achieve the DNP competencies, students must complete a minimum 1,000 hours of practice post-baccalaureate as part of a supervised academic program. Students shall be required to pass a qualifying assessment within two attempts in order to continue in the program and prior to advancing to candidacy. The qualifying examination will be administered at the end of the first year, when the student's mastery of essential elements of the core advanced nursing concepts can be fairly evaluated and when the student is considered ready to begin the doctoral project.

The Doctoral Project. The Doctoral Project consists of three interrelated scholarly manuscripts which are developed in conjunction with the student's Project Committee. The project will relate to advanced practice and focus on a potential or existing health problem or issue affecting a group or community, rather than an individual. The project is developed, implemented, and evaluated in the second year of the program with guidance from a Project Committee selected by the student. The project will be presented to the Project Committee in a public forum, and the final paper submitted for publication to an appropriate peer-reviewed journal.

COURSES
Nursing (NURS)

NURS 8T. Beginning Topics in Nursing (1-3; max total 6 if no topic repeated)
Not available for credit in the nursing major. Selected topics in nursing for prenursing and/or beginning nursing students. Explores topics not covered in regular nursing courses.

NURS 10. Basic Concepts and Care of Elderly Clients (3 units)
Prerequisites: admission to the major. Corequisites: NURS 10A, 10L, 111, 112. Overview of theoretical and scientific foundations of nursing practice. Introduction to physiological, psychological, sociocultural, and developmental variables affecting individuals throughout the life span. Emphasis on basic concepts of pharmacotherapeutics and wellness promotion throughout the life span. **FS**

NURS 10A. Basic Skills in Nursing (2 units)
Prerequisite: admission to the major. Corequisites: NURS 10, 10L, 111, 112. Application of concepts from NURS 10 in simulated client situations, emphasis on assessment and interventions required to assist individuals in meeting their common health needs. (6 lab hours/week; course fee, $40) **FS**

NURS 10L. Practicum: Basic Concepts and Care of Elderly Clients (1 unit)
Prerequisite: admission to the major. Corequisites: NURS 10, 10A , 111, 112. Utilization of concepts from NURS 10 in selected health wellness settings. Supervised practice of health assessment, communication skills, and noninvasive nursing procedures. (3 clinical hours/week) **FS**

NURS 50. Cooperative Education in Nursing (1-3; max total 12; 45 hours/unit)
Prerequisites: current CPR certification; health clearance; NURS 10, 10A, 10L, 110, 110A, 110L. Provides students enrolled in the nursing major an opportunity to obtain structured work-study experiences, under the supervision of registered nurses, in participating health care agencies. Opportunities for additional practice and development of confidence through application of previously learned knowledge and skills. ***CR/NC*** grading only; not applicable toward degree requirements. **FS**

NURS 110. Basic Concepts in Nursing (3 units)
Prerequisites: NURS 10, 10A, 10L, 111, 112; CFS 38. Corequisites: NURS 110A, 110L, 124. Application of basic pathophysiology, pharmacotherapeutics, and assessment of clients across life span with emphasis on primary and secondary interventions, utilization of nursing process in care of clients with common health deviations. **FS**

NURS 110A. Advanced Skills in Nursing (2 units)
Prerequisites: NURS 10, 10A, 10L, 111, 112. Corequisites: NURS 110, 110L, 124. Integration and application of knowledge necessary to perform specific nursing psychomotor skills. Emphasis placed on understanding the principles underlying the techniques, procedures, and activities required while caring for clients with common health conditions. (6 lab hours/week; course fee, $40) **FS**

NURS 110L. Practicum: Basic Concepts in Nursing (2 units)
Prerequisites: NURS 10, 10A, 10L, 111, 112. Corequisites: NURS 110, 110A, 124. Application of nursing process to clients with common health deviations. Identification of risk factors associated with stressors and provision of nursing care directed toward primary and secondary interventions. (6 clinical hours/week) **FS**

NURS 111. Integrated Health Assessment (1 unit)
Prerequisites: admission to the major. Corequisites: NURS 10, 10A, 10L, 112. Integration of health assessment techniques for clients at various stages of wellness, health, and disease. Principles of communication and history taking. Basic skills and arts necessary for conducting a physical and mental health examination. **FS**

NURS 112. Pathophysiology for Nurses (2 units)
Prerequisite: admission to the major. Corequisites: NURS 10, 10A, 10L, 111. Study of the inter-, intra-, and extra-personal stressors leading to alterations in cardiac function, comfort, coping, elimination, immune response, metabolism, mobility, nutrition, respiration, role performance, and the implications for nursing practice. **FS**

NURS 113. Problem-Based Clinical Case Studies for Nursing (2 units)
Using problem-based clinical cases, critically analyzes selected nursing practice issues. Application of nursing process, use of evidence-based practice concepts, and analysis of nursing interventions essential for preparation of the undergraduate nurse. (Formerly NURS 180T)

NURS 121. Psychosocial Nursing (3 units)
Prerequisites: NURS 110, 110A, 110L, 124. Corequisite: NURS 121L. Current theories and concepts in the nursing care of clients with psychosocial disorders. **FS**

NURS 121L. Practicum: Psychosocial Nursing (2 units)
Prerequisites: NURS 110, 110A, 110L, 124. Corequisite: NURS 121. Application of the nursing process to clients with psychosocial disorders. (6 clinical hours/week; course fee, $20) **FS**

NURS 123. Concepts of Acute Illness in Adults (3 units)
Prerequisites: NURS 110, 110A, 110L, 124. Corequisite: NURS 123L. Secondary prevention of the acutely ill adult client/family with alterations in structure, energy, and resources due to intra, inter, and extrapersonal stressors upon flexible and normal lines of defense. Emphasis on the nursing process for reconstitution. **FS**

NURS 123L. Practicum: Concepts of Acute Illness in Adults (2 units)
Prerequisites: NURS 110, 110A, 110L, 124. Corequisite: NURS 123. Application of nursing process in secondary prevention and care of acutely ill adults. (6 clinical hours/week) (Course fee, $20) **FS**

NURS 124. Pharmacology in Nursing (2 units)
Prerequisites: NURS 10, 10A, 10L, 111, 112; CFS 38. Corequisites: NURS 110, 110A, 110L. Pharmacological theory required for effective nursing practice. Principles of pharmacokinetics and pharmacodynamics. **FS**

NURS 131. Nursing of the Childrearing Family (3 units)
Prerequisites: NURS 121, 121L, 123, 123L. Corequisite: NURS 131L. Introduction to current theories and concepts in the care of the pediatric client/family with emphasis on wellness and illness. **FS**

NURS 131L. Practicum: Nursing of the Childrearing Family (2 units)
Prerequisites: NURS 121, 121L, 123, 123L. Corequisite: NURS 131. Application of specific skills, theories, and concepts in the care of the pediatric client/family with emphasis on wellness and illness. (6 clinical hours/week; course fee, $20) **FS**

NURS 132. Nursing the Childbearing Family (3 units)
Prerequisites: NURS 121, 121L, 123, 123L. Corequisite: NURS 132L. Theoretical base and clinical knowledge for application in primary and secondary prevention in the nursing of the childbearing family. Introduction to high risk perinatal nursing. **FS**

NURS 132L. Practicum: Nursing of the Childbearing Family (2 units)
Prerequisites: NURS 121, 121L, 123, 123L. Corequisite: NURS 132. Application of knowledge and technical skills in the nurs-

ing of the childbearing family during the intrapartum and postpartum periods with emphasis on the family as a unit. (6 clinical hours/week; course fee, $20) **FS**

NURS 134. Geriatric Nursing: Concepts in Health Aging (2 units)
Prerequisites: NURS 121, 121L, 123, 123L. Exploration of theories and concepts relative to healthy aging, the nurse's role as a case manager in developmental and situational crises, and resources available to the nurse. Appropriate for nursing elective or RNs preparing for ANCC certification in gerontology. **S**

NURS 135. Professional Transition (3 units)
Prerequisite: admission to the major with advanced standing. Introduction to theoretical and conceptual frameworks in nursing. Application to individual nursing practice. Opportunities for peer group support. Socialization into a B.S.N. program. **F**

NURS 136. Health Appraisal (3 units)
Prerequisite: admission to the major or RN license. Health appraisal integrates psychosocial and pathophysiological processes including techniques of history taking and health assessment in nursing practice and knowledge of normal findings as well as common deviations. (2 lecture, 2 lab hours) **FS**

NURS 137. Teaching Strategies for the Health Care Client (3 units)
Prerequisite: upper-division status. Exploration of nurses' role as a teacher in health care setting. Principles of teaching and learning applied to teaching of individuals and groups. Opportunities for micro-teaching are provided. (Laboratory optional) **S**

NURS 140. Concepts of Complex Clinical Nursing (2 units)
Prerequisites: NURS 131, 131L, 132, 132L. Corequisites: NURS 140L, 142. Theory and concepts relative to care of clients with complex health problems. Emphasis on synthesis of concepts and principles derived from nursing and other disciplines in implementation of primary, secondary, and tertiary prevention for clients and families. **FS**

NURS 140L. Practicum: Concepts of Complex Clinical Nursing (2 units)
Prerequisites: NURS 131, 131L, 132, 132L. Corequisite: NURS 140. Clinical application of concepts and nursing process in care of clients of all ages with complex health problems. (6 clinical hours/week) **FS**

NURS 141.Concepts of Community Health Nursing (3 units)
Prerequisites: G.E. Foundation and Area D; PLSI 2; NURS 131, 131L, 132, 132L, 145. Corequisite: NURS 141L. Community health nursing principles, practices, and services to benefit client systems at the primary, secondary, and tertiary levels of prevention; recognizes the interrelatedness of nursing, public health, epidemiological, developmental, learning, and economic theories and concepts. G.E. Multicultural/International MI. **FS**

NURS 141L. Practicum: Concepts of Community Health Nursing (2 units)
Prerequisites: G.E. Foundation and Area D; NURS 131, 131L, 132, 132L. Corequisite: NURS 141. Application of primary, secondary, and tertiary prevention in the community with individuals, families, and groups. (6 clinical hours/week; course fee, $20) G.E. Multicultural/International MI. **FS**

NURS 142. Assessment of Common Cardiac Dysrhythmias (1 unit)
Study of the electrocardiogram, common dysrhythmias, and implications for nursing practice. (Course fee, $20) **FS**

NURS 145. Nursing Theories and Research (3 units)
Prerequisites: statistics, NURS 121, 121L, 123, 123L, and upper-division writing skills requirement. Application of nursing theories and the research process to nursing practice are explored. Focus includes historical evolution of contemporary theories in nursing, critique of current research, and computer applications to research. **FS**

NURS 150. Leadership and Health Care Economics (3 units)
Prerequisites: NURS 140, 140L, 141, 141L, 142, 145. Corequisites: NURS 150L, 151. Development of the nurse as a leader in the health care delivery system. Development of negotiation, delegation, management, and critical thinking skills with recognition of the impact of a changing health care economics environment. **FS**

NURS 150L. Practicum: Leadership and Health Care Economics (2 units)
Prerequisites: NURS 140, 140L, 141, 141L, 142, 145. Corequisites: NURS 150, 151. Development and application of leadership skills in a variety of health care settings. Covers using negotiation, delegation, management, and critical thinking skills while managing a client caseload with interprofessional team members in a cost effective manner. (6 clinical hours/week; course fee, $40) **FS**

NURS 151. Senior Project (1 unit)
Prerequisites: senior standing or permission of instructor; NURS 140, 140L, 141, 141L, 142, 145. Corequisites: NURS 150, 150L. Opportunity for the students to build upon conceptual, theoretical, and research knowledge base. Students pursue in-depth study with practical application in areas of interest: management, conflict resolution, application of nursing theories, research, or community project. Satisfies the senior major requirement for the B.S. in Nursing. **FS**

NURS 153. Bridging Constructs for Professional Nursing (3 units)
Introduces the registered nurse (RN) to theoretical and conceptual frameworks supporting academic foundation for baccalaureate preparation. Students strengthen skills in development of case studies, research, theory application, critical thinking, complex patient and family analysis, and dimensions of multicultural health. **F**

NURS 180T. Topics in Nursing (1-3; max total 12 if no topic repeated)
Selected topics such as aging, holistic nursing, transcultural nursing, assertiveness training for nurses, psychosocial aspects of nursing, etc. Some topics may have clinical component.

NURS 184. Introduction to School Nursing (3 units)
Prerequisites: admission to School Nurse Services Credential Program, NURS 136, 137; SPED 120; COUN 174 or COUN 200. Corequisite: NURS 186. Role of the school nurse; parameters of school health practice, legal guidelines, professional accountability, coordinated health programs, health education, and health needs of complex multicultural school-aged population. (Available online.) **F**

NURS 185. School Nurse Seminar (3 units)
Prerequisites: admission to School Nurse Services Credential Program, NURS 136, 137; SPED 120; COUN 174 or COUN 200. Corequisite: NURS 187. Role of the school nurse; parameters of school health practice; emphasis on adolescent health issues, health education, legal parameters, interdisciplinary cooperation, legislative issues, research, and professional accountability. (Available online.) **S**

NURS 186. School Nurse Practicum I (3 units)
Prerequisites: admission to School Nurse Services Credential Program, NURS 136, 137; SPED 120; COUN 174 or COUN 200; NURS 183. Corequisite: NURS 184. Elementary level school nurse experience including special education. Direct supervision by a credentialed school nurse; scheduled preceptor/instructor conferences; class participation online. (9 clinical hours/week) **F**

NURS 187. School Nurse Practicum II (3 units)
Prerequisites: admission to School Nurse Services Credential Program, NURS 136, 137; SPED 120; COUN 174 or COUN

200; NURS 183, 184. Corequisite: NURS 185. Secondary level school nurse experience, including special and alternative education; direct supervision by credentialed school nurse required. Scheduled conferences with preceptor and faculty. Class participation will be online. (9 clinical hours/week) **S**

NURS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

GRADUATE COURSES

(See *Catalog Numbering System.*)

Nursing (NURS)

NURS 210. Health Assessment in Advanced Nursing Practice (3 units)
Prerequisites: NURS 136 or equivalent, pathophysiology, admission to the Graduate Program in Nursing. Refinement of history taking, physical diagnosis, psychosocial, and developmental evaluation of multicultural clients and families. Includes differential diagnosis, clinical decision making, and client management across the life span. Pharmacology and laboratory techniques incorporated. Includes clinical performance component. (2 lecture, 3 practicum hours) (Course fee, $40)

NURS 211. Advanced Pharmacology (3 units)
Prerequisite: admission to the graduate program in nursing. Concepts and theory relative to pharmacologic agents and devices utilized in health care by the advanced practice nurse. Content includes pharmacologic agents, physiologic/pathologic responses, and legal/ethical considerations for use with all age groups of clients.

NURS 212. Advanced Pathophysiology (2 units)
Prerequisite: admission to the graduate program in nursing. The relationship between normal physiology and pathological phenomena produced by altered states is analyzed. Physiologic responses to illness and treatment modalities across the life span are examined. Synthesis and application of current research regarding pathological changes are emphasized.

NURS 215. Obstetrics and Gynecology in Primary Care (3 units)
Prerequisite: successful completion of NURS 210 or nurse practitioner certification. Introduction to basic obstetric and gynecologic content and skills used in primary care. Explores diagnosis and management of common obstetric and gynecologic conditions. Discusses early indications of serious obstetrical complications and the nurse practitioner role.

NURS 216. Wound Management (2 units)
Prerequisite: successful completion of NURS 210 or nurse practitioner certification. Provides student nurse practitioners with the information, rationales, and hands-on acquisition of skills to assess and treat surgical, traumatic, and ulcerative wounds.

NURS 221. Theories Foundations of Nursing Practice (2 units)
Prerequisite: admission to the graduate program in nursing. Selected theories from nursing and related fields are examined and evaluated with emphasis on application in complex health care systems. The relationship between theory, research, and clinical practice is explored.

NURS 223. Advanced Research Methodology in Nursing (3 units)
Prerequisite: admission to the graduate program in nursing. In-depth study of research principles and techniques. Formulation of a comprehensive database, critical analysis of clinical issues, application of research in the treatment regimen, and thesis/project proposal development are incorporated.

NURS 225. Advanced Nursing Issues: Health Care Policy Ethics and Role Development (3 units)
Prerequisite: admission to the graduate program in nursing. The evolution of major issues relevant to advanced nursing practice is examined. Topics include: health care policy, organization, and financing; ethics; professional role development; and interdisciplinary communication and collaboration.

NURS 233. Integrating Technology into Nursing Education (3 units)
Corerequisite: NURS 240. Exploration, in partnership with educational experts and instructional designers, of existing and developing technologies utilized in nursing education and practice settings . (2 didactic and 3 lab hours weekly) (Formerly NURS 288T)

NURS 235. Adult/Gero Fundamental Topics for the CNS (3 units)
NACNS competencies examined within adult/geriatric population. Focus is on direct care emphasizing opportunities and challenges related to the unique development, the life progression, and wellness and illness across the adult/geriatric lifespan continuum. (Formerly NURS 288T)

NURS 236. Practicum: Advanced Clinical Nursing for the Adult/Gero CNS (5 units)
Supervised clinical practice with emphasis on NACNS competencies applied to health promotion, maintenance, and restoration of adult/geriatric patients in a complex health care system. (Formerly NURS 288T)

NURS 237. Fundamental Topics for the Pediatric Clinical Nursing Specialist (3 units)
Prerequisites: NURS 210, 211, 221, 225. Corequisite: NURS 238. Focuses on advanced and complex health concerns in the pediatric population. Integrates the role of the CNS as defined by state and national organizations within the study of health and illness in the target population (Formerly NURS 290)

NURS 238. Practicum in Advanced Clinical Nursing for the Pediatric Clinical Nursing Specialist (5 units)
Prerequisites: NURS 210 and 221. Corequisite: NURS 237. Supervised clinical practice with emphasis on NANCS competencies applied to common problems in health promotion, maintenance, and restoration of pediatric patients in a complex health care system. (One-hour clinical conference per week) (255 direct patient care clinical hours) (Formerly NURS 290)

NURS 240. Curriculum Development for the Nurse Educator (3 units)
Theories and models of curriculum development incorporating educational needs assessment and design. Students present educational program using instructional design methodology including objectives, learning characteristics, teaching methods, learning resources, and evaluation methods. Teaching practicum with a master teacher required. (2 lecture, 3 lab hours) (Formerly NURS 288T)

NURS 241. Instructional Methods for the Nurse Educator (3 units)
Instructional methods for nurse educators. Focuses on nursing and education theories, motivation, learning/teaching styles, designing measurable outcomes, reinforcement strategies, principles of evaluation, and effective feedback. Teaching practicum with a master teacher required. (2 lecture, 3 lab hours)

NURS 242. Evaluation and Testing for the Nurse Educator (3 units)
Prerequisites: NURS 240, 241. Evaluation methods for the nurse educator in classroom and clinical settings. Students will examine alternative assessment strategies, design and write test items, analyze test results, and develop classroom and clinical evaluation strategies. Teaching practicum with a master teacher required. (2 lecture, 3 lab hours)

NURS. 243. Psychiatric Disorders and Mental Health Problems in Primary Care (2 units)
Prerequisites: acceptance to PMHNP Advanced Certificate of Study Program or by permission of instructor. Theories and models of psychiatric disorders and mental health problems. Symptoms, causes, and management of common mental disorders

seen in primary care settings such as eating disorders, anxiety, substance abuse, and depression. Ethical issues. Focus is on patient as individual.

NURS 244. Psychopharmacology (2 units)
Prerequisites: acceptance to PMHNP Advanced Certificate of Study Program or by permission of instructor. Current scientific knowledge of psychotropic regimens and application to psychiatric disorders and mental health problems. Advanced concepts in neuroscience, pharmacokinetics, pharmacodynamics, and clinical management.

NURS 245. Management of Common Psychiatric Conditions in Primary Care (2 units)
Prerequisites: acceptance to PMHNP Advanced Certificate of Study Program or by permission of instructor. Corequisites: NURS 243 and NURS 244. Assessment, diagnosis, and management of common mental health disorders in primary care. Analysis of clinical strategies and interventions in health promotion. Maintenance and prevention of common psychiatric problems. Role of PMHNP in community mental health. Requires 103 precepted clinical hours. (Weekly one hour clinical conference.) (Course fee $40)

NURS 246. Methods of Psychotherapy (2 units)
Prerequisites: NURS 243, 244, 245 or by permission of instructor. Corequisite: NURS 247. Types and principles of family, adult and child psychotherapeutic interventions. Group psychotherapeutic processes and methods of facilitation. Models of crisis intervention, cognitive behavioral and motivational interventions.

NURS 247. Management and Care of Patients with Acute and Chronic Psychiatric Conditions (4 units)
Prerequisites: NURS 243, 244, and 245 or by permission of instructor. Corequisite: NURS 246. Assessment, diagnosis, and psychopharmacologic and psychotherapeutic management of common mental disorders, including psychotic conditions, uncommon presentations, acute exacerbations, and crises. Requires 206 precepted clinical hours. (Weekly one hour clinical conference.) (Course fee $40)

NURS 248. Psychiatric Disorders and Mental Health Problems in Special Populations (2 units)
Prerequisites: NURS 246 and 247 or by permission of instructor. Corequisite: NURS 249. Assessment, diagnosis, and management of common psychiatric conditions in older adults, children, adolescents, and diverse populations. Effect of culture on the expression of illness, help-seeking behaviors, and treatment. Addresses disparities in mental health care, legal, and ethical issues.

NURS 249. Management and Mental Health in Special Populations (4 units)
Prerequisites: NURS 246 and 247 or by permission of instructor. Corequisite: NURS 248. Assessment; diagnosis; and psychopharmacologic, psychosocial, and psychotherapeutic management of common mental disorders, with an emphasis on care of the elder adult, children, adolescents, and diverse populations. Requires 206 precepted clinical hours. (Weekly one hour clinical conference.) (Course fee $40)

NURS 253. Advanced Topics for the Adult-Gero Clinical Nurse Specialist (3 units)
Prerequisites: NURS 235 and 236. Corequisite: NURS 254. Focuses on advanced and complex health concerns in the adult/gerontologic population. Integrates the role of the CNS as defined by state and national organizations within the study of health and illness in the target population (Formerly NURS 288T)

NURS 254. Adult-Gero Clinical Nurse Specialist Practicum (5 units)
Prerequisites: NURS 235 and 236. Corequisite: NURS 253. Supervised clinical practice with emphasis on NACNS competencies applied to health promotion, maintenance, and restoration of adult-geriatric patients in a complex health care system. (One hour clinical conference per week) (255 direct patient care clinical hours) (Formerly NURS 288T)

NURS 255. Advanced Topics for the Pediatric Clinical Nurse Specialist (3 units)
Prerequisites: NURS 237 and 238. Corequisite: NURS 256. Focuses on advanced and complex health concerns in the pediatric population. Integrates the role of the CNS as defined by state and national organizations within the study of health and illness in the target population. (Formerly NURS 288T)

NURS 256. Pediatric Clinical Nurse Specialist Practicum (5 units)
Prerequisites: NURS 237 and 238. Corequisite: NURS 255. Supervised clinical practice with emphasis on complex and multi-system disease processes in the pediatric patient population in a variety of healthcare systems. Clinical nurse specialist roles and competencies, as defined by professional organizations, are utilized in the planning of care. (One hour clinical conference per week) (255 direct patient care clinical hours) (Formerly NURS 288T)

NURS 262. Pediatric Nurse Practitioner Role in Primary Prevention (2 units)
Prerequisites: NURS 210, 221. Theoretic base for primary prevention, health maintenance, health promotion, health screening, health teaching, and anticipatory guidance for pediatric nurse practitioners with an emphasis on case management techniques using algorithms and standardized procedures.

NURS 263. Primary Practicum Pediatric Nurse Practitioner (4 units)
Prerequisites: NURS 210, 221. Prepares pediatric nurse practitioners to deliver promotion and health maintenance services. Addresses application of individual, family, community, and nursing theories using transcultural and intergenerational factors in interdisciplinary practice settings.

NURS 264. Primary Practicum Family Nurse Practitioner (4 units)
Prerequisites: NURS 210, 221. Analysis of all aspects of the clinical specialist role in practice settings. Students work directly with assigned community preceptor to develop skills necessary for successful functioning in the clinical nurse specialist role. (Course fee, $40)

NURS 265. Family Nurse Practitioner Role in Primary Prevention (2 units)
Prerequisites: NURS 210, 221. Corequisite: NURS 264. Theoretical base for primary prevention: health maintenance, health promotion, health screening, health teaching, and anticipatory guidance for nurse practitioners. Case management techniques utilizing protocols/algorithms.

NURS 266. Family Nurse Practitioner Role in Secondary Prevention (2 units)
Prerequisites: NURS 264, 265. Theoretical base of secondary prevention in primary care settings. Assessment and management of acute self-limiting conditions. Use and development of algorithms/protocols for secondary prevention. Intensive pharmacology for nurse practitioners.

NURS 267. Practicum in Secondary Prevention, Family Nurse Practitioner (4 units)
Prerequisites: NURS 264, 265; NURS 266 prior to or concurrently. Supervised clinical practice in a primary care setting with emphasis on secondary prevention for clients of all ages. Students work directly with preceptor and faculty member. Complete assessment and case management. (One hour clinical conference per week.) (Course fee, $40)

NURS 268. Pediatric Nurse Practitioner Role in Secondary Prevention (2 units)
Prerequisites: NURS 262, 263. Theoretical base of secondary prevention in pediatric primary care settings. Assessment and management of acute self-limiting conditions. Use and development of algorithms/protocols for secondary prevention. Intensive pharmacology for nurse practitioners. (Course fee, $40)

NURS 269. Practicum in Secondary Prevention, Pediatric Nurse Practitioner (4 units)
Prerequisites: NURS 264, 265; NURS 266 prior to or concurrently. Supervised clinical practice in a pediatric primary care setting with emphasis on secondary prevention. Students work directly with a preceptor and faculty member. Complete assessment and case management. (One hour clinical conference per week.)

NURS 277. Family Nurse Practitioner Role in Tertiary Prevention (2 units)
Prerequisites: NURS 266, 267. Theoretical base for tertiary prevention for families in primary care settings. Assessment and management of chronic conditions requiring reconstitution. Development of protocols/algorithms for tertiary prevention. Integration of knowledge related to primary, secondary, and tertiary prevention. (Course fee, $40)

NURS 278. Practicum in Tertiary Prevention, Family Nurse Practitioner (4 units)
Prerequisites: NURS 266, 267; NURS 277 prior to or concurrently. Supervised clinical practice in a primary care setting with emphasis on care of clients of all ages requiring tertiary prevention. Students work directly with a nurse practitioner and/or physician preceptor in a primary care setting. (One hour clinical conference per week.)

NURS 279. Pediatric Nurse Practitioner Role in Tertiary Prevention (2 units)
Prerequisites: NURS 266, 269. Theoretical base for tertiary prevention for children in primary care settings. Assessment and management of chronic conditions requiring reconstitution. Development of protocols/algorithms for tertiary prevention. Integration of knowledge related to primary, secondary, and tertiary prevention.

NURS 280. Practicum in Tertiary Prevention, Pediatric Nurse Practitioner (4 units)
Prerequisites: NURS 266, 269; NURS 279 prior to or concurrently. Supervised clinical practice in a primary care setting with emphasis on care of children requiring tertiary prevention. Students work directly with a nurse practitioner and/or physician preceptor in a primary care setting. (One hour clinical conference per week.)

NURS 288T. Seminar Topics in Advanced Clinical Nursing (1-7; max total 16 units)
Prerequisite: permission of instructor. Selected topics in specialized practice domains such as home health, cardiovascular, oncology, gerontology, and rehabilitation nursing. Analysis and integration of research-based knowledge into the nursing process characterizing the specific practice domain are emphasized.

NURS 290. Independent Study (1-3; max total 3 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

NURS 295. DNP Practicum (1-6 units; max total 23; 45 hours/unit)
Prerequisites: admission to DNP program. Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations. (45-270 supervised clinical hours). May be repeated. ***CR/NC*** grading only. (Formerly NURS 590) **FS SU**

NURS 298. Project (3 units)*
See *Criteria for Thesis and Project.* A project is defined as a systematic development of a plan for, or critical evaluation of, a significant undertaking or a creative work in nursing such as modularized curriculum and clinical protocols. Abstract required. Approved for ***RP*** grading.

NURS 299. Thesis (3 units)*
Prerequisite: NURS 223. See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis, based on an approved proposal, for the master's degree. Approved for ***RP*** grading.

*For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Nursing (NURS)

NURS 302T. Selected Topics in Nursing (1-6; repeatable with different topics)
Selected topics related to recent developments and advances in the knowledge and techniques of nursing. The purpose is to offer nurses, health personnel, and others the opportunity to study in-depth the selected topics related to specific clinical areas of nursing.

DOCTORAL PROGRAM COURSES

(See *Catalog Numbering System.*)

Nursing (NURS)

NURS 574. The Role of Diversity and Social Issues in Healthcare (2 units)
Prerequisite: admission to the DNP program. 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.

NURS 575. Application of Theories in Advanced Nursing Practice (2 units)
Prerequisite: admission to the DNP program. Application of theories of nursing, ethics, and teaching-learning to advanced nursing practice and healthcare leadership.

NURS 576. Application of Biostatistics to Populations (3 units)
Prerequisite: admission to the DNP program. Examination of methods to generate and analyze biostatistical data to design, implement, and evaluate programs and policies for the healthcare of populations.

NURS 583. Leadership and Professional Responsibilty in Complex Healthcare Systems (2 units)
Prerequisites: NURS 574, 575, 576. 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 responsibilties.

NURS 584. Technology, Informatics, and Data Management in the Transformation of Healthcare (3 units)
Prerequisites: NURS 574, 575, 576. 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.

NURS 585. Foundations of Evidence-Based Practice (2 units)
Prerequisites: NURS 574, 575, 576. Exploration of issues related to evidence-based practice. Development of skills needed to identify, critically appraise, and utilize best evidence.

NURS 586. Transformation of Health Care Systems: Health Policy and Economics (2 units)
Prerequisites: NURS 583, 584, 585. Healthcare policies and economics and the political forces that shape them. Role of the DNP in the analysis, formulation, and implementation of healthcare policies.

NURS 587. Principles of Epidemiology (3 units)
Prerequisites: NURS 583, 584, 585. 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.

NURS 591. Curriculum Development (3 units)
Prerequisites: NURS 586, 587. 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.

NURS 592. Evaluation in Nursing Education (3 units)
Prerequisites: NURS 591, 593, 595. 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.

NURS 593. Financial Aspects of Projects and Practice (2 units)
Prerequisites: NURS 586, 587. 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.

NURS 594. Application of Evidence-Based Teaching in Nursing (2 units)
Prerequisites: NURS 591, 593, 595. 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.

NURS 595. Translating Evidence into Reflective Practice I (2 units)
Prerequisites: NURS 586, 587. Integration of clinical practice, theory, and research. Development of clinical expertise in management qf 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)

NURS 596. Translating Evidence into Reflective Practice II (2 units)
Prerequisites: NURS 591, 593, 595. 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)

NURS 597. Doctoral Project (2 units)
Prerequisites: NURS 592, 594, 596. Evaluation of data and completion of doctoral project. Dissemination of results through an oral defense and manuscript submission to a peer-reviewed journal

Physical Therapy

Physical Therapy

Physical therapists, or PTs, are health care professionals who evaluate and treat people with health problems resulting from injury, disease, or biomechanical dysfunction. Physical therapists are integral members of the primary care team and are involved in prevention of disability and promotion of positive health. They are also acting consultants in restorative care.

Physical therapy includes the following:

1. Examining and evaluating patients with health-related conditions, impairments, functional limitations, and disability in order to determine diagnosis, prognosis, and intervention;
2. Alleviating impairments and functional limitations by designing, implementing, and modifying therapeutic interventions;
3. Preventing injury, impairments, functional limitations, and disability while promoting and maintaining fitness, health, and quality of life in all age populations; and
4. Engaging in consultation, education, and research.

Career Opportunities

Physical therapists practice in acute care or subacute care hospitals, private physical therapy offices, community health centers, industrial health centers, sports facilities, rehabilitation centers, nursing homes, home health agencies, schools, or pediatric centers. Others work in research institutions or teach in colleges and universities.

Faculty and Facilities

The faculty is composed of physical therapists that collectively have advanced preparation in all major areas of physical therapy. Most have earned doctorates or advanced specialty certification. Together they represent extensive years of clinical experience. Many faculty members continue to engage in practice in tandem with their faculty responsibilities. Several have held significant positions of leadership in professional associations and have authored textbooks used nationally; several also publish regularly in professional journals. Their efforts have been recognized frequently with prestigious awards from the profession and the community.

Clinical laboratory experiences are conducted in a variety of health care facilities throughout the state of California and out of state on a limited basis.

Faculty

Peggy R. Trueblood, *Chair*
Harshavardhan Deoghare
Cheryl Hickey
Gary L. Lentell
Robert K. Martin
Debra Nervik
Jenna Sawden-Bea
Marcia J. Thompson
Toni Tyner

Physical Therapy Education

The Department of Physical Therapy offers an entry-level postbaccaulareate Doctor of Physical Therapy which meets professional education requirements to become a licensed physical therapist in all 50 states. In addition, until 2014, the Department of Physical Therapy will continue to offer its self-support joint post-professional Doctor of Physical Therapy program with the University of California, San Francisco. This D.P.T. is available for experienced, licensed physical therapists with a master's degree in physical therapy.

Entry-Level Doctor of Physical Therapy and Post-Professional Doctor of Physical Therapy Program

The doctorate in Physical Therapy (D.P.T.) is the educational standard for the field and required for physical therapy licensure. Physical Therapy is a profession dedicated to the improvement of the quality of life. It serves humanity, which is holistic in nature and provides services to persons of all ages, gender and cultures. In concert with the mission of the university and to meet the needs of the community, the physical therapy department faculty has developed the following mission statement.

Mission Statement:

The mission of the department is to graduate a diverse physical therapy practitioner of the highest quality, committed to life-long learning, self-development, and critical inquiry, with the ability to apply researched data and physical evidence in order to function autonomously in current and future culturally sensitive healthcare environments. The professional physical therapy education at Fresno State seeks to stimulate scholarly inquiry and critical thinking, while supporting and encouraging research and its dissemination, to develop future leaders of the profession engaged in the community who will enhance the economic vitality and quality of life for all. In concert with the American Physical Therapy Association 2020 Vision Statement, we will prepare graduates to examine, evaluate, and establish a diagnosis and prognosis within the scope of physical therapy practice; implement and manage a physical therapy plan of care; and provide a sound rationale for evaluation and treatment procedures, based on a theoretical framework for practice including evidence-based practice.

Departmental/Program Goals: The department seeks to (1) attract high quality applicants from a variety of academic, ethnic, and cultural backgrounds, (2) develop a diverse faculty engaged in high quality teaching, research and, service to the department, university, career, and community, 3) develop clinical partnerships and professional alliances to enhance the quality of the graduate program and delivery of health care services by our graduates, and (4) prepare graduates to meet the D.P.T. program student learning outcomes listed below, in accordance with current Commission on Accreditation in Physical Therapy Education criteria and the American Physical Therapy Association's 2020 Vision statement.

D.P.T. Program Student Learning Outcomes: The graduate will be a competent physical therapy practitioner who can function safely and effectively. Upon successful

College of Health
and Human Services

Department of Physical Therapy
Peggy R. Trueblood, *Chair*
Pahoua (Pea) Vang,
Administrative Support Coordinator
Debra Pichardo,
Administrative Support Assistant
McLane Hall, Room 186A
559.278.2625
www.fresnostate.edu/physicaltherapy

D.P.T., Doctor of Physical Therapy

- Entry-level D.P.T. (for becoming a practicing clinician)
- Post-professional Joint D.P.T. (for experienced and licensed clinicians)*

* The post-professional D.P.T. is jointly conferred with UC San Francisco.

completion of the DPT program, students will be prepared for the following:

1. Demonstrate comprehension and integration of the foundational, applied and clinical sciences of anatomy, physiology, neurology, and pathology for application to the physical therapy clinical setting.
2. Expressively and receptively communicate in a professional and ethical manner to a culturally diverse population in classroom activities and in clinical settings including patients/clients, families, care givers, practitioners, consumers, payers, and policy makers utilizing terminology appropriate to the context of the communication.
3. Demonstrate competent professional practice independently and interdependently while providing patient centered care services, including wellness/prevention, to patients whether referred or self-referring. And, to know federal and state regulations, professional practice and association history and regulations, payer requirements and state practice acts.
4. Demonstrate appropriate clinical decision-making skills, including clinical reasoning, clinical judgment, differential diagnosis, reflective practice, and self-reflection/assessment.
5. Critically review existing research and expand their clinical research skills in order to build the evidence of practice for clinical decision making skills and innovative physical therapy interventions based on solid theoretical constructs.

Admissions to the Entry-Level Doctor of Physical Therapy Graduate Program. Individuals must possess a baccalaureate degree from a regionally accredited college or university and complete all prerequisite requirements prior to beginning the professional major. Students are only admitted for the fall semester. Students should apply to the program in the fall prior to anticipated entry into the Physical Therapy Program. Admission to the entry-level three-year D.P.T. program requires a two-part application. The department application is submitted through the Physical Therapist Centralized Application Service (PTCAS) (*www.ptcas.org*). Applications are typically available in July the year prior to the fall semester of the D.P.T program. The CSU Graduate/Postbaccalaureate application is submitted online through CSU Mentor (*www.csumentor.edu*). Please refer to the department website for appropriate deadlines for these two applications.

Physical Therapy Program Application Filing Period: Please see *www.fresnostate.edu/physicaltherapy* for specific dates.

In addition to the PTCAS CSU Graduate/Postbaccalaureate application, transcripts are required from all prior institutions attended by the applicant, official GRE test scores, physical therapy observation hours verification, and letters of reference. GRE scores are considered during program admissions; however, there is no minimum GRE requirement. Late transcripts or documentation will result in not being considered. Please review the Graduate Studies section in this catalog for additional graduate admissions information.

Prerequisite requirements for entry-level D.P.T. program

Human Physiology
Fresno State: BIOL 65
Transfer: Human physiology with lab

Human Anatomy
Fresno State: BIOL 64
Transfer: Human anatomy with lab

Chemistry
Fresno State: CHEM 1A or 3A , and CHEM 3B with labs
Transfer: Inorganic and organic or biochemistry with labs

Psychology
Fresno State: PSYCH 10
Transfer: General psychology

Physics
Fresno State: PHYS 2A, 2B
Transfer: Physics with lab including mechanics, heat, light, sound, and electricity

Statistics
Fresno State: PH 92 or MATH 11
Transfer: Introduction to basic statistics

Psychology
Fresno State: PSYCH 166 or 169
Transfer: Upper-division psychology course (psychological aspects of aging or abnormal psychology preferred)

All science courses must include laboratories and cannot be at an introductory level. Human anatomy and physiology must be taken from an anatomy, physiology, anatomy and physiology, biology, or zoology department. Combined human anatomy and physiology courses will be considered only if a combined course sequence (two semesters or two quarters) is completed.

In addition, the following courses are recommended to enhance success in the program:

- Oral communication skills
- Computer literacy
- General biology
- Microbiology
- Neurophysiology
- Neuroanatomy
- Kinesiology/biomechanics
- Exercise physiology
- Gerontology/Geriatrics
- Medical Terminology

The screening committee reviews admission criteria. Prior to admission to the program, the applicant must meet the following requirements:

1. Hold or be eligible to receive a bachelor's degree from a regionally accredited college or university by the end of the spring semester prior to admission to the program.
2. Have completed or be currently enrolled in a minimum of 7/9 of the specified prerequisite courses at time of application. No more than one science (if semester-based course; two if the course is quarter-based) and one non-science prerequisite courses can be in progress after the fall term prior to matriculation (spring).
3. Submit GRE test scores by the end of the fall semester prior to admission to the program. Students are encouraged to take the GRE early to avoid delays in acceptance for graduate work.
4. Receive a grade of ***C*** or better in each prerequisite course and maintain a total prerequisite GPA of 3.0. No course may be repeated more than one time and no more than three prerequisite courses may be repeated. AP credit, ***CR/NC*** grades, or independent study courses cannot be used for prerequisite requirements. All prerequisite courses must be taken for a letter grade. Only those prerequisite courses completed by the end of the fall semester in which application is made will be counted toward ranking of candidates for selection into the graduate program.

5. Provide evidence of knowledge of physical therapy through employment, volunteer work, or observation in a physical therapy department for a minimum of 100 hours (with at least 20/100 hours in a general inpatient setting). All observation hours must be under the supervision of a licensed physical therapist.
6. Submit three letters of recommendation, as specified in application instructions.
7. Participate in a personal interview.
8. Submit grades and final transcripts from institutions other than Fresno State as soon as grades are posted. Transcripts should be requested prior to the end of the term.

Meeting the foregoing criteria does not guarantee acceptance into the three-year entry-level D.P.T. program. Students transferring from community colleges and other colleges or universities who meet the foregoing criteria are considered on the same basis as California State University, Fresno students applying for admission to the program.

Criteria for Departmental Retention and Progression

Criteria for retention in the three-year entry-level D.P.T. program and progression to the next semester in the program:

1. Maintaining a minimum 3.0 GPA each semester in the program
2. Maintaining a minimum cumulative 3.0 GPA in D.P.T. degree requirements
3. Achieving a minimum grade of ***C*** (or ***CR***) in each PHTH course.*
4. Enrolling in and completing all required courses in sequence.

Students must carry malpractice insurance, must purchase an appropriate laboratory coat, and must provide their own transportation to hospitals and clinics for off-campus classes and clinical laboratories. Additional laboratory fees may be required. Students must also provide for all expenses while enrolled in clinical internships. Expenses include student fees, housing, meals, and travel.

* Any student receiving a grade less than C will not be able to continue in the program, regardless of semester or overall GPA. Please note that grade substitution is not permitted at the graduate level. A student must receive a grade of ***CR*** in all clinical education courses (PHTH 554-559). A student receiving a grade of less than a ***C*** or ***NC*** in a PHTH course will have one opportunity to repeat the course. A second grade of less than a ***C*** or ***NC*** in a repeated PHTH course will result in disqualification from the program. Any student who repeats a course will be dropped back into a previous cohort of students since all coursework is sequential. A student cannot drop back to a previous cohort more than one time throughout the three-year program.

Requirements for the Doctor of Physical Therapy

	Units
Core Requirements	**96**
PHTH 506, 507, 508, 509, 510, 511, 512, 517, 518, 526, 527, 528, 529, 533, 534, 535, 536, 537, 538, 539, 554, 555, 556, 560, 561, 563, 564, 565, 591, 592, 593, 594, 595, 596, 597, 598	
Clinic Course Requirements	**14**
PHTH 557, 558, 559 (see *Advising Note*)	
Total	**110**

Advising Note

PHTH 557, 558, and 559 clinical experiences are conducted in a variety of clinical facilities throughout the state or out of state. Students must provide for all expenses including housing, meals, and travel. These are offered ***CR/NC*** only. A certification of clinical completion plus the D.P.T. must be completed to be eligible to take the state examination for licensure.

Advancement to Candidacy Requirements. Students usually advance to candidacy in the fall semester of their third year of the D.P.T. Students must meet the following criteria:

1. Classified graduate student standing.
2. A minimum GPA of 3.0 (overall, program, and California State University, Fresno) on all coursework completed after the date of the first course to be included in the doctor of physical therapy degree program, with no grade below ***C***.
3. Successful completion of their qualifying exam given in the spring semester of the second year. The qualifying exam consists of a written and oral Patient Case Report.
4. Demonstrated required competency in clinical coursework (PHTH 554-559) with grade of ***CR*** or a letter grade of ***B*** or better.
5. Demonstrated graduate level writing proficiency (assessment of a portfolio of writings is used). This requirement must be met within one semester of classified graduate standing. Contact the Department of Physical Therapy for detailed requirements.
6. Approval from the faculty to enroll in PHTH 598 as the doctoral project.

A culminating event is required of all Fresno State doctor of physical therapy degree candidates. Students in physical therapy satisfy the requirement through an oral and written presentation of an evidence-based review of a clinical practice question or clinical research project.

Post-Professional Doctorate in Physical Therapy

The Doctorate in Physical Therapy (D.P.T.) is the new educational standard for the field and therefore licensed physical therapists can also return to Fresno State to receive a post-professional doctor of physical therapy. At Fresno State, the post-professional D.P.T. is a joint program with the University of California, San Francisco and is designed to expand the foundation of knowledge developed in the Master's of Physical Therapy Program and better prepare graduates to function autonomously in current and future healthcare environments. This final year of learning is dynamic and interactive with a strong evidence-based approach. Learning activities are centered on active student involvement through seminars, case studies, clinical investigations, grand rounds, and patient care. It is only open to licensed physical therapists already holding a M.P.T. degree.

Admissions to the post-professional joint D.P.T. Graduate Program. Students who successfully completed the M.P.T. (final GPA of 3.0 or better, passed the culmination for the M.P.T., satisfactory completion of all clinical clerkships including PHTH 275, and demonstrated acceptable record of professional behavior) are automatically eligible for the D.P.T. year of study. Students must submit a graduate application to UCSF for fall admission (check UCSF catalog for deadlines).

The D.P.T. year is an additional 9 months of advanced study (34 semester units).

The joint D.P.T. year is offered as a self-support year and therefore, additional fees apply. Please contact the physical therapy program office for updated information.

Culminating Experience for the joint post-professional D.P.T. Students research and write an in-depth patient case report (PHTH 295; PHTH 296) and an evidence based review of a clinical problem (PHTH 209; PHTH 297) following the criteria established in case reports and evidence-based practice courses. The manuscripts

must be prepared in a journal-ready format as well as presented orally to an audience of faculty and peers.

COURSES

Physical Therapy (PHTH)

PHTH 102. Rehabilitation Professions (3 units)
(Same as COUN 102.) Overview of various rehabilitation professions, the development of an interdisciplinary rehabilitation service, and principles and philosophies of rehabilitation. Responsibilities, educational requirements, practice parameters, and job locations of rehabilitation professionals. Taught in the classroom in the fall semester and online in the spring semester. **FS**

PHTH 105. Medical Terminology for Health Professionals (3 units)
Study of word parts, definitions, spelling, analysis, synthesis, and use of medical vocabulary. This course is taught in classroom sections or may be taken entirely online. **FS**

PHTH 106. Patient Practitioner Interaction (3 units)
Prerequisites: PSYCH 169 with a grade of *C* or better. Patient-practitioner interaction in health care, with an emphasis on the development of effective patient/therapist communication skills for a variety of healthcare situations, including patient education. **FS**

PHTH 107. Health Care Issues (3 units)
Analysis of the health care system and its influence on access to and delivery of health care services. Special focus on needs and mechanisms for integrated service delivery for prevention and care of acute and chronic illnesses and disabilities. **FS**

PHTH 119. Anatomy of the Appendicular Skeleton (3 units)
Prerequisite: BIOL 64 with a grade of *C* or better. An in-depth study of the structure and function of the musculoskeletal system. Includes cadavers and prosected material. (2 lecture, 3 lab hours) (Instructional materials fee, $35) **FS**

PHTH 125. Anatomy of the Axial Skeleton (4 units)
Prerequisite: BIOL 64 with a grade of *C* or better. Study of the structure, function and biomechanics of the neuro-musculoskeletal systems. Includes dissection lab and prosected material. (3 lecture, 3 dissection lab hours) (Instructional materials fee, $35) **FS**

PHTH 126. Applied Pathophysiology (3 units)
Prerequisite: BIOL 65 with a grade of *C* or better. Advanced study of physiology of body systems and responses to normal aging, environmental influences, and pathological dysfunction. **F**

PHTH 127. Neuromuscular Processes in Human Development and Aging (3 units)
The study of human development from birth to senescence with focus on concepts of motor and neurological development processes integral to evaluation and treatment intervention in neurological disability. **FS**

PHTH 180T. Topics in Physical Therapy (1-3; max total 12 units if no topic repeated)
Prerequisite: permission of instructor. Advanced techniques in physical therapy and new trends relating to the care of patients. **FS**

PHTH 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for *RP* grading. **FS**

GRADUATE COURSES

Physical Therapy (PHTH)

PHTH 218. Orthopedic Management in Physical Therapy II (4 units)
Prerequisite: PHTH 218. Analysis of musculoskeletal disabilities with emphasis on physical assessment, methods of therapeutic intervention, clinical decision making and program planning. Selected lectures by medical practitioners on medical-surgical management of orthopedic conditions. Focus of course dysfunction involving the spine and pelvic girdle.

PHTH 219. Advanced Therapeutic Technology (3 units)
Study of work station and ergonomic analysis as related to posture and gait. The theory and application of prosthetic and orthotic devices as applied to standing, sitting, and walking.

PHTH 226. Electrophysiologic Approaches to Patient Care (3 units)
Prerequisites: PHTH 126; BIOL 166. Exploration of advanced theories and principles related to the clinical use of electrophysiologic modalities. Includes electroneuromuscular stimulation for motor performance, nerve function, pain management and tissue repair. (2 lecture, 3 lab hours)

PHTH 229. Management of Neurological Disorders in Physical Therapy II (3 units)
Advanced evaluation and treatment approaches to neurological disabilities in adults with emphasis on therapeutic intervention, program planning, and outcome measurements for the patient with neurological problems such as spinal cord injury, multiple sclerosis, and traumatic head injury.

PHTH 237. Physical Therapy Management in Pediatrics (3 units)
Prerequisites: PHTH 207, 208. Advanced study of diagnosis and physical therapy problems found in pediatrics. Evaluation and intervention principles are used to discuss and explore clinical manifestations associated with diseases and functional impairments. Emphasis will be placed on therapeutic intervention and program planning.

PHTH 238. Physical Therapy Management in Geriatrics (2 units)
A synthesis of biology of aging with common orthopedic and neurological problems special to the older patient. This course emphasizes analysis of clinical problems and issues facing the physical therapist in utilizing functional testing and community resources with the elderly.

PHTH 255. Clinical Learning II (2 units)
Prerequisite: PHTH 254; satisfactory completion of academic courses to date. Using an experimental model for clinical decision analysis, this class requires the student to consider the appropriateness of various evaluation and treatment techniques by evaluating and treating clients enrolled in "Fall Prevention and Balance Disorder" class.

PHTH 257. Clinical Experience II (6 units)
Prerequisite: PHTH 256. This externship provides guidance to the student in applying academic knowledge in a clinical setting. Students will have the opportunity to complete a comprehensive examination, evaluation and treatment intervention, and implement complex decision making analysis in physical therapy patient management. Approved for RP grading and *CR/NC* grading only.

PHTH 258. Clinical Learning III (2 units)
Prerequisite: PHTH 256; successful completion of the first year of the Master of Physical Therapy Program. Application of evidence-based practice principles in physical therapy. Integration of diagnostic findings, patient history and resource constraints to establish a physical therapy plan of care. Emphasis on appropriate communication and case management.

PHTH 259. Case-Based Learning (2 units)
Prerequisite: PHTH 256, 258; successful completion of the first year of the Master of Physical Therapy Program. Integration of diagnostic findings, patient history, and resource constraints to establish a physical therapy plan of care. Emphasis on management of patients with multi-system involvement and justification of service delivery in regard to outcomes and resource limitations.

PHTH 260. Administration of Physical Therapy Services (2 units)
Prerequisite: PHTH 206. Application of administration and organization of a physical

therapy service, including supervision issues, fiscal considerations, marketing and public relations, outcomes management, utilization and quality management.

PHTH 261. Pharmacology for Physical Therapists (2 units)
Students develop skills required of the physical therapist, including understanding and using radiological diagnosis and diagnostic imaging procedures. Students also learn the important elements of pharmacological mechanisms and drug interactions that are essential for physical therapy practice.

PHTH 275. Postgraduate Clinical Internship (12)
Prerequisite: PHTH 259. Final experience for majors. The internship is 18 weeks of clinical experience at selected facilities throughout the state. Certification of internship completion is required before the graduate is eligible to take the state examination for licensure. *CR/NC* grading only.

PHTH 298. Doctoral Project (3 units)*
Prerequisite: advancement to candidacy for MPT degree. See Criteria for Thesis and Project. Requires completion of a project appropriate to the profession of physical therapy that demonstrates critical inquiry, independent thinking, and rationale. Requires an abstract, written manuscript, and oral defense. Limited enrollment. Student must have department's approval. Approved for *RP* grading. (Formerly PHTH 292A-B)

PHTH 298A. Mentored Clinical Research Clerkship I (4 units)*
Prerequisite: admission into D.P.T. program. Provides supervised time for students to complete a clinical research project. Project could be one started in the M.S. program, a new question, or data analysis and preparation of a manuscript. Approved for *RP* grading.

PHTH 298B. Mentored Clinical Research Clerkship II (2 units)*
Prerequisite: admission into D.P.T. program; completion of PHTH 298A. Culmination of the mentored clinical research experience. Students must have completed PHTH 298A with a *B* or better.

* For 298C courses, see *Graduate Studies*.

CAMPUS JOINT DOCTORAL GRADUATE COURSES
Physical Therapy (PHTH)

PHTH 239 Physical Diagnosis (3 units)
Prerequisite: admission into joint DPT program. Functional profiles of clients integrating all parts of patient/client management-examination, evaluation, diagnosis, prognosis, and intervention -- in a manner to maximize patient outcome.

PHTH 280. Mentored Clinical Clerkship (6 units)
Prerequisite: admission into joint DPT program. In a community or university setting, students see patients and supervise support staff with experienced clinicians, providing mentoring and consultation in terms of case reviews, physical therapy techniques, team practice, and review of specialty. *CR/NC* grading only.

PHTH 293. Professional Colloqium I (1 unit)
Prerequisite: admission into joint DPT program. Taken each quarter/semester the DPT student is enrolled in the program. Covers important topics relative to professional practice and current practice issues.

PHTH 294. Professional Colloqium II (1 unit)
Prerequisites: admission into joint DPT program; completion of PHTH 293. Taken each quarter/semester the DPT student is enrolled in the program. Covers important topics relative to professional practice and current practice issues.

PHTH 295. Case Reports I (2 units)
Prerequisite: admission into joint DPT program. During the first of a two-course sequence, students develop case reporting skills. Each student is responsible for presenting a unique case study that includes a review of the literature on diagnosis and treatment of the case.

PHTH 296. Case Reports II (3 units)
Prerequisites: admission into joint DPT program; completion of PHTH 295. During the second of a two-course sequence, the student develops case(s) on an issue that is relevant to physical therapy in a manuscript format acceptable for publication.

PHTH 297. Evidence-Based Practice II (3 units)
Prerequisites: admission into joint DPT program; completion of PT 209 (UCSF). Students learn the principles of evidence-based practice. Requires each student to critique current literature and journals relevant to physical therapy with an expectation to enter articles into a physical therapy database. (2 semester units)

JOINT DOCTORAL GRADUATE COURSES
Physical Therapy (PT)

PT 209. Evidence Based Practice I (3 units)
First of a two-part course series. Students learn the principles of evidence-based practice. Requires each student to critique current literature and journals that are relevant to physical therapy with an expectation to enter articles into a physical therapy database.

PT 212. Muscle and Nerve Biology (2 units)
Covers biology of muscle and nerve, including the effects of exercise, modalities, drugs, and manual techniques on repair and regeneration. (3 quarter units UCSF/ 2 semester units Fresno State) (Winter Session UCSF only)

PT 213. Movement Science (2 units)
Students must take this course at UCSF. Covers broad topics on the biomechanics of movement and motor control in normal and pathological conditions. (3 quarter units UCSF/2 semester units Fresno State) (Fall semester at UCSF)

PT 400. Grand Rounds (2 units)
The student will attend and participate in weekly grand rounds or seminars in an area appropriate to their specialization but outside physical therapy (e.g. neurology, orthopedic surgery, pediatrics, medicine, neuroscience, cancer, pain). (3 qtr units UCSF/ 2 semester units Fresno State) ***Note***: Fresno State students will enroll at UCSF each quarter for PT 400 but will complete this course in Fresno at various health care facilities.

DOCTORAL GRADUATE COURSES
Physical Therapy (PHTH)

PHTH 506. Motor Development through the Lifespan (2 units)
Covers human motor development, integrating physiological, psychological, sociological, and spiritual domains while emphasizing the interaction between the systems. PHTH 506 prepares students for PHTH 537.

PHTH 507. Foundations of Patient Assessment and Clinical Management in Physical Therapy I (4 units)
Selected theory and clinical application of essential evaluation, treatment procedures, and interventions used in physical therapy practice, including examination procedures, physical agents, massage, therapeutic exercise, and transfer and mobility training. (Formerly PHTH 207)

PHTH 508. Foundations of Patient Assessment and Clinical Management in Physical Therapy II (4 units)
Selected theory and clinical application of essential evaluation, treatment procedures, and interventions used in physical therapy practice, including examination procedures, physical agents, massage, therapeutic exercise, and transfer and mobility training. (Formerly PHTH 208)

PHTH 509. Clinical Pathokinesiology (3 units)
Focuses on management of musculoskeletal impairments involving complex multisystems in persons across the life span. Emphasis is on developing clinical reasoning, critical thinking, and decision-making applied to various patient populations with impairments and functional limitations. (Formerly PHTH 209)

PHTH 510. Anatomy of the Appendicular Skeleton (3 units)
Advanced study of the structure and function of the human body as a basis for understanding normal extremity human movement. Emphasizes the extremities of the human body. (Instructional materials fee, $35) (Formerly PHTH 210)

PHTH 511. Anatomy of the Axial Skeleton (3 units)
Advanced study of the structure and function of the human body as a basis for understanding normal human movement. Emphasizes the trunk and spine. (Instructional materials fee, $35) (Formerly PHTH 211)

PHTH 512. Applied Pathophysiology for Physical Therapists (3 units)
Advanced study of physiology of body systems and the responses to normal aging, environmental influences, and pathological dysfunction. Includes cardiovascular, pulmonary, endocrine, neurological, musculoskeletal, and integumentary systems. (Formerly PHTH 212)

PHTH 517. Orthopedic Management in Physical Therapy I (4 units)
Analysis of musculoskeletal disabilities with emphasis on physical assessment, methods of therapeutic intervention, clinical decision making and program planning. Selected lectures by medical practitioners on medical-surgical management of orthopedic conditions. Focus is on dysfunction involving the extremities. (Formerly PHTH 217)

PHTH 518. Orthopedic Management in Physical Therapy II (4 units)
Analysis of musculoskeletal disabilities with emphasis on physical assessment, methods of therapeutic intervention, clinical decision making and program planning. Focus is on dysfunction involving the spine and pelvic girdle. (Formerly PHTH 218)

PHTH 526. Electrophysiologic Approaches to Patient Care (3 units)
Exploration of advanced theories and principles related to the clinical use of electrophysiologic modalities. Includes electroneuromuscular stimulation for motor performance, nerve function, pain management and tissue repair. (Formerly PHTH 226)

PHTH 527. Applied Neurosciences in Physical Therapy (4 units)
Advanced study of normal structure and function of the peripheral and central nervous system as a basis for understanding the clinical manifestations seen in neurological disorders. Prepares students for evaluating and treating patients with neurological disorders. (Formerly PHTH 227)

PHTH 528. Management of Neurological Disorders in Physical Therapy I (3 units)
Advanced evaluation and treatment approaches to neurological disabilities in adults with emphasis on therapeutic intervention, program planning, and outcome measurements for the patient with neurological problems such as balance disorders, stroke, and Parkinson's disease. (Formerly PHTH 228)

PHTH 529. Management of Neurological Disorders in Physical Therapy II (3 units)
Advanced evaluation and treatment approaches to neurological disabilities in adults with emphasis on therapeutic intervention, program planning, and outcome measurements for the patient with neurological problems such as spinal cord injury, multiple sclerosis, and traumatic head injury. (Formerly PHTH 229)

PHTH 533. Functional Kinesiology for Physical Therapists (2 units)
Presents basic principles, theories, and applications of biomechanics. Discussion of kinesiology and pathokinesiology of the extremities, thorax, vertebra column, and temporomandubular joint. (Formerly PHTH 233)

PHTH 534. Gait and Movement (3 units)
Presents a study of normal and abnormal gait, the principles of ergonomics, biomechanics of posture, and functional capacity evaluations. (Formerly PHTH 234)

PHTH 535. Exercise Physiology for Physical Therapists (3 units)
Provides theoretical basis for understanding the body's physiological responses to exercise. Investigates how the support systems of the body (respiratory, cardiovascular, neuromuscular, metabolic, and hormonal) function in cooperation with human energy production to ensure that energy is provided for exercise. (Formerly PHTH 235)

PHTH 536. Physical Therapy Management of Body Systems (3 units)
Evaluation and therapeutic intervention in the clinical management of normal and pathological conditions of the cardiovascular, pulmonary, endocrine, and integumentary systems. A focus on the development of advanced knowledge and skills in patient evaluation, program planning, and treatment procedures. (Formerly PHTH 236)

PHTH 537. Physical Therapy Management in Pediatrics (3 units)
Advanced study of diagnosis and physical therapy problems found in pediatrics. Evaluation and intervention principles are used to discuss and explore clinical manifestations associated with diseases and functional impairments. Emphasis will be placed on therapeutic intervention and program planning. (Formerly PHTH 237)

PHTH 538. Physical Therapy Management in Geriatrics (2 units)
A synthesis of biology of aging with common orthopedic and neurological problems special to the older patient. This course emphasizes analysis of clinical problems and issues facing the physical therapist in utilizing functional testing and community resources with the elderly. (Formerly PHTH 238)

PHTH 539. Physical Diagnosis (3 units)
Presents functional profiles of clients integrating all parts of patient/client management-examination, evaluation, diagnosis, prognosis, and intervention — in a manner to maximize patient outcome. (Formerly PHTH 239)

PHTH 554. Clinical Learning I (2 units)
Uses an experiential model for clinical decisions and reflection. Requires students to consider appropriate tests, assessments, and interventions by examining and providing treatments for clients through participation in the Department and Health Center sponsored Musculoskeletal Care Clinic (MSC). (Formerly PHTH 254)

PHTH 555. Clinical Learning II (2 units)
Uses Gait, Balance, and Mobility Clinic as an experiential model for clinical decision analysis. With faculty supervision, students are responsible for evaluation and treatment of clients. Students communicate their assessment findings and intervention through documentation. (Formerly PHTH 255)

PHTH 556. Clinical Learning III (2 units)
Designed as a continuation from PHTH 254, this course is designed to progress the development of student clinical competencies needed in the outpatient orthopedic setting. (Formerly PHTH 258)

PHTH 557. Clinical Experience I (4 units)
This nine-week externship during summer allows the student to apply academic knowledge in a clinical setting. Comprehensive examination, evaluation, and intervention are used to manage the physical therapy patient. ***CR/NC*** grading only. (Professional Liability Insurance fee, $8) (Formerly PHTH 256)

PHTH 558. Clinical Experience II (6 units)
This 12-week externship during summer allows the student to apply academic knowledge related to examination, evaluation, and intervention in managing the physical therapy patient. ***CR/NC*** grading only. (Professional Liability Insurance fee, $8) (Formerly PHTH 257)

PHTH 559. Clinical Experience III (4 units)
This final nine-week externship during the spring semester allows the student to apply academic knowledge in a clinical setting. Upon completion of the course, the student must demonstrate mastery of physical therapy skills considered appropriate for entry-level practice. ***CR/NC*** grading only. (Professional Liability Insurance fee, $8) (Formerly PHTH 280)

PHTH 560. Administration of Physical Therapy Services (2 units)
Application of administration and organization of a physical therapy service, including supervision issues, fiscal considerations, marketing and public relations, outcomes management, utilization and quality management. (Formerly PHTH 260)

PHTH 561. Pharmacology for Physical Therapists (2 units)
Students develop skills required for the physical therapist to understand and utilize important elements of pharmacological mechanisms and drug interactions that are essential for clinical decision-making in physical therapy practice. (Formerly PHTH 261)

PHTH 563. Radiology for Physical Therapists (2 units)
Students develop skills required for the physical therapist to understand and utilize radiological diagnosis and diagnostic imaging procedures as needed for clinical decision making in physical therapy practice. (Formerly PHTH 263)

PHTH 564. Prosthetics (1 unit)
Provides the student with didactic knowledge and clinical skills necessary to successfully provide physical therapy evaluation and management of the patient following extremity amputation, with an emphasis on lower extremity. (Formerly PHTH 264)

PHTH 565S. Community Outreach and Wellness (1)
Service-learning course that presents essential concepts related to the roles of physical therapists in prevention and in the promotion of health, wellness, and fitness. Includes application of concepts through service learning in selected community agencies. (Formerly PHTH 265)

PHTH 591. Research Methods (3 units)
Study and application of research design and critical research reading skills. The student gains important insights into the research process and becomes a discriminating consumer of published research. (Formerly PHTH 291)

PHTH 592. Clinical Teaching and Mentoring (1 unit)
Prepares students to integrate their role as educators in many areas of practice, including patient education, clinical instruction, and mentoring as a community/public educator using educational theory that affects learning.

PHTH 593. Professional Colloquium I (2 units)
Addresses professional behavior standards in relation to patient care interactions and relationships with colleagues and community, including documentation and professional service learning. (Formerly PHTH 293)

PHTH 594. Professional Colloquium II (2 units)
Presents topics relative to global healthcare deliver models focusing on the healthcare system in the United States. Reviews community health services, prevention, health policy, reimbursement, and referral and legal issues related to profession. (Formerly PHTH 294)

PHTH 595. Case-Based Learning (2 units)
Seminar course with case-based problem-solving and clinical decision-making discussions in a Grand Round format. (Formerly PHTH 259)

PHTH 596. Case Reports (3 units)
Involves development of case reporting skills, with a presentation of unique case study that includes a review of the literature on diagnosis and treatment of the case. Approved for ***RP*** grading. (Formerly PHTH 296)

PHTH 597. Evidence-Based Practice in Physical Therapy (3 units)
Prepares students to apply the principles of evidence-based practice to clinical decision making. (Formerly PHTH 297)

PHTH 598. Doctoral Project (3 units)*
Doctoral project appropriate to the profession of physical therapy that demonstrates critical inquiry, independent thinking, and rationale. An abstract, written manuscript and oral defense are required. ***CR/NC*** grading only. (Formerly PHTH 298)

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Physical Therapy (PHTH)

PHTH 302T. Topics in Physical Therapy (1-6; repeatable with different topics)
Selected topics in physical therapy for practicing clinicians in the health fields.

Public Health

College of Health
and Human Services

Department of Public Health
Miguel A. Perez, *Chair*
Carmen Chapman, *Administrative Support Coordinator*
McLane Hall, Room 184
559.278.4014
www.fresnostate.edu/publichealth

B.S. in Health Science
Options:
- Community Health
- Environmental/Occupational Health and Safety
- Health Administration

Master of Public Health (MPH)
Options:
- Health Policy and Management
- Health Promotion

Minor in Health Science

Minor in Public Health

Certificate in Alcohol/Drug Studies

Health Science

The Bachelor of Science in Health Science and the Master of Public Health (MPH) are designed to prepare students for careers with official and voluntary health agencies at the federal, state, or local levels of government as well as the private sector.

The Master of Public Health degree is designed for individuals seeking a professional degree in public health. This degree is recognized throughout the world and is fully accredited by the Council of Education for Public Health (CEPH). The MPH program is under probationary accreditation until 2012.

Bachelor of Science Degree

The Department of Public Health offers curricula based on principles of public health practices leading to a Bachelor of Science degree, including a major and minor in health science with options in community health, environmental/occupational health and safety, and health administration.

Master's Program

The mission of the program is to prepare public health professionals for leadership roles in the fields of health policy and management and health promotion so that they may contribute to the process of improving the health of communities located within the San Joaquin Valley, California, and the southwest. This mission is fulfilled by attaining several program goals which address on a partnership basis the health needs of the ethnically and socioeconomically diverse populations living in the San Joaquin Valley and the southwest. Coursework for Master of Public Health (MPH) is varied and designed to provide the maximum opportunity for problem-solving approaches to the complex issues in the operation, environment, and human factors confronting the health care systems.

Career Opportunities

The options are designed to provide basic education for careers in environmental health, industrial hygiene, community health, public health, occupational health, and the allied health professions. Individuals may be employed by voluntary health agencies, hospitals, public health agencies, and in the private sector including industry and insurance companies. Career titles and specializations include environmental control officer, risk control specialist, health industry sales, hazardous materials management, loss control specialist, health educator, health care administration, registered environmental health specialist, university teaching, safety products sales, substance abuse, industrial hygienist, health promotion, environmental analyst, and disease control officer.

Faculty

Miguel A. Perez, *Chair*
Health Administration:
Mohammed Rahman, *Coordinator*
Suzanne Kotkin-Jaszi
John A. Capitman
Donald Matlosz
Community Health:
Cassandra Joubert
Vicki D. Krenz
Miguel A. Perez
Helda L. Pinzon-Perez, *Director*
Greg Thatcher
Kara Zografos
Environmental Health Science/Industrial Hygiene: Michael J. Waite, *Director*
Sandra Donohue
Christopher J. Tennant
Jaymin Kwon
MPH Director: Vickie Krenz

Bachelor of Science in Health Science

The Health Science Bachelor of Science curriculum consists of a core of five courses providing a foundation of knowledge and skills critical to the theory and practice of the health professional. In addition, students complete a specialized cluster of courses in an option that provides the depth and breadth for the area. A variety of combinations between and within options is possible to meet professional goals. However, university policy allows only one option to appear on the transcript and diploma.

To complete the health science major for the B.S., students must complete General Education requirements (51 units), the health science core (15 units), one of three options (21-27 units), and any additional requirements to the option selected (11-33 units), the upper-division writing skills requirement, and additional electives. Students are encouraged to complete the additional requirements prior to the major courses as the courses may meet General Education requirements, and they provide a foundation for the courses in health science. Elective units also may be used toward earning a certificate.

Health science students are advised to obtain the advising booklet from the department office. The booklet includes the list of required courses. It is strongly recommended that students follow the coursework shown in the booklet. Students need to consult with their advisers for decisions regarding major and minor courses. All substitutions must be approved by the department chair. Classes offered in the Health Science Department may require field assignments.

Bachelor of Science Degree Requirements

Health Science Major	*Units*
Health Science Core	**15**
PH 92, 100, 109, 161, 163	
Options	**42-63**
Select one option from below.	
General Education requirements	**51**
Electives	**0-12**
Total	**120***

*This total indicates that 9 units for BIOL 1A, CHEM 1A or PHYS 2A, and DS 71 are used to satisfy the G.E. requirement in the Environmental/Occupational Health and Safety Option.

The curriculum is designed to permit admission to master's and doctoral degree programs in health science and public health at major universities throughout the country.

Community Health Option

Due to the increasing number of opportunities in the area of health, we have structured courses in epidemiology, community and environmental health to complement basic courses in health behavior, health education methods, contemporary health issues, disease, drugs, and human sexuality. The curriculum is designed to prepare individuals not only to be competent instructors in the health areas, but to be health educators in many segments of our society. Upon completion of the degree, students would be eligible to take the certified test to become a Certified Health Education Specialist (CHES).

Industry, business, labor, and the military all seek knowledgeable individuals to plan and direct health delivery and information services. Advanced study in health systems and evaluation techniques of health systems is available to qualified undergraduate and graduate students.

Community Health Option	*Units*
Requirements	**27**
Option requirements: PH 90, 91, 110, 114, 131, 133, 135	(21)
Option elective requirements (select from): PH 48, 104, 105, 111, 112, 115, 126, 129, 130, 152T, 182; NUTR 53, 54	(6)
Additional requirements	**15**
BIOL 10 or 110; CHEM 3A, 3B; BIOL 33	
Total for option	**42**

- A minimum GPA of 2.75 is required for acceptance into the Community Health Option.
- A minimum grade of *C* is required in all Health Science core courses (PH 92, 100, 109, 161, 163) and core option courses (PH 90, 91, 110, 114, 131, 133, 135).

Environmental/Occupational Health and Safety Option

This degree program provides a balanced approach between the theoretical concepts and applied principles of environmental health, occupational health, and safety. The curriculum builds on a scientific base (biology, chemistry, physics) and includes core courses in health science, foundation courses in environmental and occupational health, and elective courses that allow for specialization. Students are academically prepared to make significant contributions to society by anticipating, evaluating, and controlling environmental and occupational health hazards. Career opportunities abound in government agencies, private industry, consulting, and research organizations. The program also provides preparation for graduate studies and acceptance into professional schools (medicine, dentistry, pharmacy, optometry, veterinary medicine).

The option is approved by the California Department of Health Services. Students in the major are eligible for the following:

1. paid internships with federal agencies such as the U.S. Public Health Service,
2. national and state scholarships, and
3. entrance to the Registered Environmental Health Specialist (REHS) exam immediately following graduation (without having to serve an 18-month traineeship).

Environmental/Occupational Health and Safety Option	*Units*
Requirements	**21**
Option requirements: PH 160, 143, 162A, 168A	(12)
Option elective requirements (select a minimum of three courses): PH 105, 135, 141, 143, 145, 151, 162B, 166T, 168B, 170	(9)
Additional requirements	**38-42**
Basic Sciences: BIOL 1A and 1B, 1BL (or BIOL 33 or 65); CHEM 1A, 1B, and CHEM 8 (or 128A); MATH 6 or 70 or 75 or DS 71, 71L; BIOL 20 (or 120); PHYS 2A, 2B	(34-38)
Internship: PH 175	(4)
Total for option	**59-63**

Health Administration Option

The health administration option provides a broad based program to prepare the student for positions within the health care system. The curriculum is designed with an emphasis on exposing the student to the principles of health administration and the application of these principles. For more information, see the departmental adviser.

Health Administration Option	*Units*
Requirements	**31-32**
Option requirements: PH 90, 151; PH 154 or PLSI 181 or MGT 104; ECON 162; MKTG 100S	(16)
Option elective requirements (select from): PH 104, 114, 115, 129, 143, 168A, 185F; HRM 150; MKTG 132; SOC 147	(15-16)
Additional requirements	**12**
ACCT 3; ECON 40 and 50; IS 52 and 52L	
Total for option	**43-44**

Advising Note

Health science majors may not apply *CR/NC* grading toward major requirements for a baccalaureate degree, except for PH 175, PH 185F, and PH 188, which are mandatory *CR/NC* courses.

Occupational Safety and Health Option Suspended

As of fall 2004, the Occupational Safety and Health Option has been suspended and is no longer taking admissions. Students with substantial coursework in this area should consult with the Department of Public Health if they wish to pursue this option.

Health Science Minor

The Minor in Health Science consists of 20 units composed of the health science core requirement and 5 units from the courses required in any one option. Consult the department adviser for assistance in program planning.

Note: The Health Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Public Health Minor

The Public Health Minor allows science, nursing, and other majors to receive coursework that complements their major courses and prepares them for career opportunities in environmental and occupational health. In conjunction with a minimum of 30 units of basic science and math, the minor also

prepares graduates to take the Registered Environmental Health Specialist (REHS) Exam.

	Units
Requirements	**15**
PH 92, 109, 160, 162A, 163	
Additional requirements	**9**
Select three: PH 105, 135, 141, 143, 145, 151, 162B, 166T, 168A, 168B, 170	
Total	**24**

Certificate in Alcohol/Drug Studies

The Department of Public Health is participating in a certificate of special study awarded to those students who successfully complete a minimum of 12 units of interdisciplinary academic coursework in the area of alcohol and drug abuse. (For complete details, see *Health and Human Services Interdisciplinary Courses*.)

Master of Public Health Degree Program

This program is designed to prepare students in the broad area of public health. It includes preparation in the public health core and in the following options: Health Promotion or Health Policy and Management. Each option includes a field experience and a culminating experience.

Admission to the MPH program is a two-phase process. The first phase requires that a candidate meet the graduate divisions requirements for admission to the university, and the second phase is the admission to the MPH program. Applicants are required to complete the department application.

A. Admission to the university: A candidate must have achieved an undergraduate GPA of 2.5 on the last 60 units and submit official copies of university transcripts, and scores on the GRE.

B. Admission to the MPH program: Candidates for admission to the program will be selected based on the following:
   1. Academic ability and preparation as demonstrated by:
      a. 3.0 GPA in the major
      b. scores on the GRE
      c. official transcripts, and
      d. satisfactory completion of all prerequisites.
   2. Professional capabilities as demonstrated through:
      a. three letters of recommendation (from employers and at least one from a former faculty member)
      b. a statement of intent, and
      c. an oral interview.

Once admitted to the program the student will be assigned to a faculty adviser in the option selected, and under the adviser's direction the student will follow a pattern of study designed to be completed in three years of late afternoon and evening study. Admission commences during the fall semester, and each student is admitted for a specific term. If a student is admitted and is unable to start the program, he or she will have to reapply for admission to another term.

Graduate-Level Writing Competence. The university requires that students have graduate-level writing abilities before being advanced to candidacy for the master's degree. Students must demonstrate these abilities by passing the writing requirements in PH 280. Check the program's website for the most current copy of the policy.

Culminating Experience. A culminating experience is required of all California State University, Fresno students earning master's degrees. This requirement is met by completing a thesis, project, or comprehensive exam. A limited number of students may be permitted to undertake a thesis or project, depending on the availability of faculty or committee members.

Students considering a thesis or project need to consult with the faculty very early in their graduate program to assure completion of the assignment prior to graduation. Selecting a thesis or project is recommended for students who may at some point consider working toward a doctoral degree. Students who do not participate in a thesis or project must complete a comprehensive written examination. Further information about this options is available from the graduate program adviser.

The MPH program is designed around the following framework:

Thesis or Project	*Units*
Public Health Core	**19**
Option	**12**
Elective	**3**
Field Experience	**4**
Thesis or Project	**4**
Total	**42**

Comprehensive Examination	*Units*
Public Health Core	**19**
Option	**12**
Elective	**6**
Field Experience	**5**
Total	**42**

For additional information, please contact the Department of Public Health at California State University, Fresno; 2345 E. San Ramon Avenue M/S MH30; Fresno, CA 93740-8031; 559.278.8324.

COURSES

Public Health (PH)

PH 48. First Responder and Emergency Care (3 units)
National Safety Council First Responder and Emergency Care course. Priorities of care, injuries, medical emergencies, crisis intervention, and casualty incidents. Includes bleeding, shock, fractures, poisoning, emergency childbirth, CPR Certification for meeting requirements. (2 lecture, 2 lab hours) (Formerly HS 48) **FS**

PH 49. Emergency Medical Technical Training (3 units)
Prepares individuals to render pre-hospital basic life support during transport or within a hospital. Upon completion, students will receive a certificate allowing them to take the National Registry test. Upon passing this test, EMT certification is granted. (Formerly HS 152T)

PH 90. Contemporary Health Issues (3 units)
Significance of basic health problems applicable to the young adult and to society. G.E. Breadth E1. (Formerly HS 90) **FS**

PH 91. Introduction to Human Sexuality (3 units)
Physiological, psychological, social, cultural, and developmental considerations for lifelong understanding related to sexuality. G.E. Breadth E1. (Formerly HS 91) **FS**

PH 92. Public Health Statistics (3 units)
Prerequisites: Students must take the ELM exam; students who do not pass the exam must record a grade of *C* or better in a college-taught intermediate algebra course. Introduction to descriptive and inferential statistics as applied to evaluation and research in allied health. Central tendency and dispersion; central limit theorem; hypothesis testing; ANOVA; correlation, nonparametric methods. Interpretations of public health statistics. (3 lecture hours) (Formerly HS 92) **FS**

PH 100. Community Health (3 units)
Public health services as they affect the community; investigation and analysis of community health problems. (Formerly HS 100) **FS**

PH 104. Global and Cultural Issues in Health (3 units)
Prerequisite: G.E. Foundation and Area D. Prerequisite: PH 90. Influence of culture on health and disease; relevant health issues of cultural and ethnic groups; alternative healing and holistic health; role of international health organizations; health problems on a world scale. G.E. Multicultural/International MI. (Formerly HS 104) **FS**

PH 105. Risk Assessment and Analysis (3 units)
Human and environmental risks as they relate to injuries and illnesses; includes incident causation analysis and assessment. Areas of study encompass occupational safety, consumer products, human factors, environmental health, and human and property costs. (Formerly HS 105)

PH 109. Epidemiology of Disease (3 units)
Prerequisite: PH 92 or equivalent. Modern concepts and principles of epidemiology; interaction of all agents, host, and environmental factors of communicable and noncommunicable diseases. (Formerly HS 109) **FS**

PH 110. Drugs, Society, and Health (3 units)
Examination of physical, neurological, emotional, social, and political factors affecting the use, misuse, and abuse of illicit substances in contemporary American society. Applies models of addiction and compulsive behaviors to gambling, food consumption, and sexual behavior. G.E. Breadth E1. (Formerly HS 110) **FS**

PH 111. Alcohol and Alcoholism (3 units)
Physical, mental, and social factors related to the consumption of alcoholic beverages; the development of alcohol dependence. (Formerly HS 111) **FS**

PH 112. Consumer Health (3 units)
Consumer health as it relates to selection of health care products and services; how to differentiate fact from fiction in health matters. (Formerly HS 112)

PH 114. Health Behavior (3 units)
An introduction to the theory and practice of health behavior change. Covers individual behavior change methodologies and the effects of public and environmental change on individual health. (Formerly HS 114) **FS**

PH 115. Health Issues of Aging (3 units)
(Same as GERON 115.) Basic principles and concepts of the aging process; includes the physical, social, emotional, and mental components of health. Benefits of health promotion and preventive action for the aging are also explored. (Formerly HS 115) **FS**

PH 126. Female Sexuality (3 units)
(Same as WS 127.) Studies on female sexuality which include past and present sexual roles, female sexual response patterns, and discussion of common problems encountered by women functioning as sexual beings. (Formerly HS 126) **S**

PH 128. Holistic Health and Alternative Medicine (3 units)
Prerequisite: G.E. Foundation and Area D. Explores concepts related to holistic health and alternative medicine within a cross-cultural framework. Includes a description of the physical and psychosocial effects of alternative healing; addresses the benefits and risks associated with these therapies. G.E. Multicultural/International MI. (Formerly HS 128)

PH 129. Rural Health (3 units)
Health problems of rural areas including community medical services, medical facilities, federal, state, and local legislation and administrative problems. (Formerly HS 129)

PH 130. Women's Health (3 units)
(Same as WS 130.) Examines current crises/controversies in women's health care. Includes conventional/alternative approaches to treatment, management, and prevention with emphasis on self-care and promotion of optimum health. (Formerly HS 130) **F**

PH 131. Principles of Health Education (3 units)
Study of the foundations, theories, systems, and principles of health education. Includes an analysis of social, medical, and environmental factors on health-related behaviors. (Formerly HS 131) **FS**

PH 133S. Health Education Methods (3 units)
It is strongly recommended that students complete PH 114 and PH 131 prior to enrollment in PH 133. Health education program planning, implementation, and evaluation. Provides needs assessment, health education curriculum development, and presenting and evaluating a health education intervention with a client group. (Formerly HS 133, PH 133) **FS**

PH 135. Introduction to Human Disease (3 units)
Concepts and principles of disease and dysfunction of the human body. Detection, diagnosis, treatment, etiology, pathogenesis, and prevention. (Formerly HS 135) **FS**

PH 141. Applied Ergonomics (3 units)
Studies the science of ergonomics as it relates to injury/illness prevention and the promotion of a quality work environment. Ergonomics is the evaluation of people and their tools, materials, and equipment in a work setting. (Formerly HS 141)

PH 143. Occupational and Industrial Safety (3 units)
Application of safety and accident prevention measures that provide a basis for insight into the hazards of occupational and industrial situations. (Formerly HS 143)

PH 145. Occupational Safety and Environmental Health Management (3 units)
Concepts and principles dealing with the problems, processes, evaluation, and solutions in the development, implementation, and management of an effective environmental health and occupational safety program. (Formerly HS 145)

PH 151. Health Law and Legislation (3 units)
The theory and practice of managing inspection-based enforcement programs in health care and environmental health areas, with emphasis on legislation, procedure, and cases relating to public health. (Formerly HS 151) **F**

PH 152T. Topics in Health (1-3; max total 12 units)
Analysis and investigation of selected areas in school and community health, public health, and health and safety with some topics including laboratory experiences. (Formerly HS 152T)

PH 154. Health Care Administration (3 units)
Organizational design and managerial principles as they apply to the private sector of health care. (Formerly HS 154) **S**

PH 160. Principles of Toxicology (3 units)
Basic principles and concepts of toxicology with a particular emphasis on the regulation of environmental and industrial toxicants for man/woman. (Formerly HS 160) **S**

PH 161. Environment and Human Health (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Focuses on prevention and control of disease and injury caused by chemicals, physical hazards and microbes in our environment. Topics include toxic chemicals, food protection, air/water quality radiation, hazardous waste, etcetera. G.E. Integration IB. (Formerly HS 161) **FS**

PH 162A. Environmental Health Concepts (3 units)
Basic principles and concepts of environmental health with a particular emphasis on health hazards, communicable disease control, contamination control, food protection, rodent control, managing special environments, planned environments, and environmental health organizations. (Formerly HS 162A)

PH 162B. Environmental Health Application (3 units)
Prerequisites: PH 162A or concurrently. Problems of environmental health studied through field trips, observations, demonstrations, and seminars. (2 lecture, 2 lab hours) (Formerly HS 162B)

PH 163. Public Health Administration (3 units)
Principles of public health administration, fundamentals of organization, and administration in public health. (Formerly HS 163) **FS**

PH 166T. Topics in Environmental Health (1-3; max total 12 units)
Analysis and investigation of selected areas in environmental health with some topics including laboratory experiences. (Formerly HS 166T)

PH 167. Public Health Laboratory Techniques (3 units)
Designed to provide training in the use of laboratory procedures and techniques of adjusting and operating monitoring equipment used in water quality, air pollution, noise pollution, food sanitation, radiological health, and toxic substances. (2 lecture, 2 lab hours) (Lab fee, $25) (Formerly HS 167)

PH 168A. Occupational Health Concepts (3 units)
Concepts of occupational health as they pertain to appraising and controlling environmental health hazards; occupational diseases, chemical, biological, and physical agents that produce organic or systemic damage. Problems in toxicology, measurement instruments, and evaluating health hazards. (Formerly HS 168A)

PH 168B. Occupational Health Evaluation (3 units)
Prerequisite: PH 168A. General principles of investigation for chemical and physical hazards commonly encountered in the occupational environment. Sampling strategies, quantitative analysis, combustible gases, organic vapors, and nonionizing radiation. (2 lecture, 2 lab hours) (Formerly HS 168B)

PH 170. Health Effects of Indoor Pollution (3 units)
A descriptive analysis of environments encountered at home and in the workplace with an emphasis on assessment of risk, health effects, and a review of federal regulations that apply to these environments. (Formerly HS 170)

PH 175. Environmental Internship (1-4; max total 6 units)
Prerequisites: completion of 24 units of the health science major (Core and Environmental Option courses). Provides practical experience in environmental health. Requires a 3.0 GPA in health science coursework or permission of the instructor. Permission numbers required. ***CR/NC*** grading only. (Formerly HS 175) **FS**

PH 182. Computers for the Health Professions (3 units)
Introduction to the basic use and practical application of personal and mainframe computers in health-related professions. Laboratory use of computers covers word processing, SPSS, data entry, data management, principles of programming, and use of on-line databases. (2 lecture, 2 lab hours) (Formerly HS 182)

PH 185F. Fieldwork in Health (1-3; max total 6 units)
Prerequisite: completion of 24 units of the health science major (Core and Administration Option courses). Provides practical experience in a community work setting. Requires a 3.0 GPA in health science coursework or permission of the instructor. Permission numbers required. ***CR/NC*** grading only. (Formerly HS 185F) **FS**

PH 188. Health Education Internship (1-3; max total 6 units)
Prerequisite: completion of 24 units of the health science major (Core and Community Health Option courses). Provides practical experience in a community work setting. Requires a 3.0 GPA in health science coursework or permission of the instructor. Permission numbers required. ***CR/NC*** grading only. (Formerly HS 188) **FS**

PH 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly HS 190) **FS**

Public Health (PH)

(Only students who are formally admitted in the Master's of Public Health Program may enroll in the following courses.)

PH 202. Advanced Public Health Statistics (3 units)
Prerequisite: PH 92 or equivalent. Theories and limitations of parametric testing: ANOVA, MANOVA, and regression. Focus on nonparametric testing and small samples including Kruskal Wallis, Median and Fischer tests. Preparation of data for computer analysis and interpretation of results. Resource issues related to data collection.

PH 203. Seminar in Community Health Organization (3 units)
Prerequisite: PH 100. Individual research, analysis, and evaluation in relation to educational aspects of community health programs; group procedures; community organizations; selection, development, and use of media. Field assignments are required.

PH 206. Environment and Occupational Health (3 units)
Application and evaluation of environmental health principles to air, land, water, waste, and occupational health with emphasis on contemporary issues.

PH 208. Health Promotion (3 units)
Focuses on behavioral change techniques derived from many areas of applied research including behavior modification and social interaction theory. Information emphasizes the health relevant principles in each domain and shows how they can be used to understand or change public health problems.

PH 209. Advanced Concepts in Epidemiology (3 units)
Prerequisites: PH 92, 109 or equivalents; computer statistics program competency. Advanced principles and methods of epidemiology. Includes methods of organizing surveillance data, defining cases, testing hypotheses, analyzing effectiveness of methods, summarizing studies. Advanced statistical methods will be utilized with emphasis on interpretation of results.

PH 210. Introduction to Health Policy (3 units)
Prerequisite: PH 163 or equivalent. In-depth analysis of public health programs and policies with emphasis on skill development in health policy analysis. Group work will be required.

PH 213. Health Planning and Program Evaluation (3 units)
In-depth analysis of the principles and practices in comprehensive health planning and program evaluation. Field assignments are required.

PH 222T. Seminar in School and Community Health (1-3; max total 15)
Individual research, analysis, and evaluation of current topics in school health education and community health education programs such as family life education, consumer health problems, substance abuse, and chronic disease. Field assignments may be required.

PH 223. Health Promotion and Policy Advocacy (1 unit)
Introduction to the fundamentals of the legislative process. Includes visits to and from local and state officials. Major focus is on the political process as related to health promotion and policy. Fieldwork assignments and travel may be required.

PH 225A. Foundations of Health Promotion I (3 units)
Prerequisite: PH 208. History and philosophy of health education. Psychological, sociological, economic, and political theories relevant to the mission and process of health education with special reference to schools and colleges. (Formerly PH 225)

PH 225B. Foundations of Health Promotion II (3 units)
Prerequisite: PH 208 and 225A. Application of theories, practices, and technology to health promotion programs. (Formerly PH 225)

PH 250. Social Factors in Public Health (3 units)
Prerequisites: PH 202, 209, or equivalent. Advanced principles and methods of social epidemiology. Includes methods of describing how a range of social factors influence health outcomes, utilization, and disparities. Expectation is that students will apply epidemiological methods to study designs for policy analyses and research.

PH 251. Health Care Economics (3 units)
Prerequisites: ECON 162 or equivalent. Topics include demand and supply in health services sector; implications of public and private financing alternatives; constraints on manpower training and entry; equity and distribution competition and regulation; issues of productivity measurements and utilization; and political economy of health care.

PH 252. Health Policy Development: Analysis and Process (3 units)
Prerequisite: PH 210. Individual research, analysis, and evaluation of health policy issues using skills in evidence-based policy analysis. Special emphasis on assessing the efficacy and effectiveness of health program proposals, understanding the policy development process, and developing strategies to influence policy outcomes.

PH 253. Management of Health Services (3 units)
Prerequisites: PH 210, 250, 252. Focuses on the application of relevant management theory to diverse health care settings, with special emphasis on refining management skills. Taught as a seminar using case methods to illustrate and practice critical management theories and skills.

PH 262T. Seminar in Environmental Health (1-3; max total 15)
Individual research, analysis, and evaluation of current topics: air, water, housing, vector control, and other selected environmental health problems. Field assignments may be required.

PH 280. Seminar in Techniques of Health Research (3 units)
Research methodology, identification of health research problems, use of library resources, data gathering, and processing; writing a research report.

PH 285F. Fieldwork in Health (1-4; max total 10 units)
Planning, implementation, participation, evaluation in selected areas: safety, school health, community health, physical handicaps, occupational health, and environmental health. Approved for ***RP*** grading. ***CR/NC*** grading only.

PH 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

PH 298. Project (2-4; max total 4 units)*
Prerequisite: advancement to candidacy for MPH degree in Health Science. See *Criteria for Thesis and Project*. A significant endeavor in health science that may include an educational booklet, audiovisual presentation, evaluation of a health agency, or the development of an experimental device or piece of equipment. A narrative component is required which will follow a formal format and shall include a written abstract. Approved for ***RP*** grading.

PH 299. Thesis (2-4; max total 4 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Public Health (PH)

PH 302. Selected Topics in Health (1-3 units; repeatable with different topics)
Topics in community health, environmental health, health services, and occupational safety and health for teachers, health professionals, and others. (Formerly HS 302)

Recreation Administration

College of Health
and Human Services

Department of Recreation Administration
Nancy Nisbett, *Chair*
Juanita Chong, *Administrative Support Coordinator*
Professional and Human Services Bldg., Room 121
559.278.2838
FAX: 559.278.5267
www.fresnostate.edu/recadmin/

B.S. in Recreation Administration
Emphases:

- Adventure Recreation and Tourism
- Commercial Recreation and Event Planning
- Community Recreation and Youth Services
- Sports and Entertainment Facility Management
- Therapeutic Recreation

Minor in Recreation Administration

Certificate in Adventure-Based Programming

Certificate in Sports and Entertainment Facility Management

Certificate in Serving At-Risk Youth

Certificate in Special Event Planning

Recreation Administration

The department offers a Bachelor of Science degree in Recreation Administration for individuals who are committed to the recreation and leisure services profession. The major in Recreation Administration prepares students with the knowledge, understanding, ability, and skill necessary to successfully function in professional positions related to the major.

Faculty are committed to providing a high quality professional preparation program in recreation and leisure services, founded on a competency based curriculum. Our graduates acquire specific skills as identified by practitioners, faculty, and the Council on Accreditation of Parks, Recreation, Tourism, and Related Professions. These competencies are related to leadership, program planning, recreation and leisure oriented activities, budgeting, evaluation of programs and personnel, history, professional ethics, philosophy, research techniques, marketing and public relations, communication skills, organizational systems, laws and legislation, facility management and administration, and therapeutic techniques. Students may elect to study: (1) community recreation and youth services, (2) commercial recreation and event planning, (3) adventure recreation and tourism, (4) sports and entertainment facility management, (5) therapeutic recreation.

Curriculum

Accredited by the Council on Accreditation of Parks, Recreation, Tourism, and Related Professions, the department offers a B.S. and a Minor in Recreation Administration.

Students in the recreation administration major complete a core of courses. These courses are designed to assist students in acquiring competencies related to the principles of recreation, leadership, group dynamics, and leisure behavior. Courses also cover legal and financial aspects of recreation service, advanced program planning, organization and administration of leisure services, evaluation, and professionalism.

Students develop specific skills in the areas of communication, human behavior, youth services, entrepreneurism, and adventure-based recreation and tourism, finance, management, marketing, funding, resources, program planning and supervision, and facility management.

Under the guidance of a practitioner, students in recreation administration are encouraged to acquire 1,000 hours of paid or voluntary hands-on experience in a variety of recreation, clinical, or leisure services agencies. In addition, they complete full-time internships with commercial recreation and tourism enterprises, public recreation agencies, nonprofit organizations, park-oriented agencies, hospitals, rehabilitation centers, and other service organizations.

Students may apply for an out-of-state internship if they achieve a major GPA of 3.3 and a cumulative GPA of 3.0. Additional requirements must also be met.

Career Opportunities

Recreation and leisure comprise the second largest industry in the United States. Fresno State graduates have been very successful in securing professional positions in city and county recreation departments, state and federal government agencies, non-profit agencies, convention and event centers, resorts and commercial recreation business, schools, membership clubs, tourism services, youth agencies, special events, therapeutic recreation agencies, and many others.

Faculty

Nancy Nisbett, *Chair*
L. Jay Fine
Jody Hironaka-Juteau
Andrew Hoff
Michael Mahoney

Bachelor of Science Degree Requirements

Recreation Administration Major

	Units
Major requirements	**65-69**
The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.	
• **Courses**	
RA 55, 73S, 77S, 80, 101, 125, 128, 128L, 179, 180	27
• **Emphases**	38-42
Adventure Recreation and Tourism Emphasis Area	
Complete RA 131, 133, 135 or MKTG 100S, RA 139, 146, and 184	(27-28)
Select 11 units from the following: COUN 174; ENTR 81; GEOG 135, 139T; EES 3; PH 48; KINES 122; RA 106, 113, 130, 192T (192T repeatable up to 2 units); REC 74, 75, 82, 83, 84, 86, 87, 88	(11)
Commercial Recreation and Event Planning Emphasis Area	
Complete RA 117, 131, 133, 135 or MKTG 100S, RA 139, 184, and ACCT 3 or 4A	(30-31)
Select from the following: BA 18; COMM 103; ENTR 81; MCJ 106, 142, 152S; RA 119, 146, 150, 192T (192T repeatable up to 2 units); REC 74	(8)
Community Recreation and Youth Services Emphasis Area	
Complete RA 113, 117, 121, 133, 135 or MKTG 100S, RA 139 and 184	(30-31)
Select from the following: RA 106, 146; REC 74, 75; CFS 39, 136; CRIM 120; EHD 107; GERON 10S, 140; KINES 32; MCJ 106, 152S; MGT 133S; PLSI 163; PSYCH 102; SSCI 150T (150T repeatable up to 2 units)	(8-9)
Sports and Entertainment Facility Management Emphasis Area	
Complete RA 117, 133, 135 or MKTG 100S; RA 139, 150, 152, 154, and 184; ACCT 3 or ACCT 4A	(37-38)
Select from the following: BA 18; COMM 103; PH 143; MCJ 106, 152S; MKTG 150; RA 119	(3-4)
Therapeutic Recreation Emphasis Area	
RA 142, 144A, 144B, 148, 149, 187; BIOL 33; PSYCH 166; CFS 38	(38)
Select from the following: RA 106, 113, 146; PSYCH 101, 102; COUN 174; CFS 131, 136; CRIM 100, 120; SOC 143, 147, 168; GERON 103, 132, 161; PHTH 105	(3)
General Education requirements	**51**
Electives and remaining degree requirements	**1-7**
Total	**120***

* This total indicates that a maximum of 3 units in General Education also may be applied to 3 units of electives in the RA major as follows: RA 80 or GERON 10S in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details.

Advising Notes

1. ***CR/NC*** grading is not permitted in the recreation administration major with the exceptions of REC 74, 75, 82, 84, 86, 88; RA 115, and 192T.
2. General Education and elective units may be used toward a minor (see *departmental minor*). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students who must complete a course to fulfill the Upper-Division Writing Skills requirement are advised to take BA 105W.
4. All Recreation Administration courses used in the major must be completed with a grade of ***C*** or higher.

Recreation Administration Minor

The Minor in Recreation Administration consists of 24 units. Students completing the minor develop a basic knowledge of leisure services management that has application in many diverse fields.

	Units
RA 55, 73S, 77S, 125, 80 or 101	15
Select from RA 113, 117, 121, 131, 133, 135, 142, 146, or 150	9
Total	**24**

Note: The Recreation Administration Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Certificate in Serving At-Risk Youth

The Certificate in Serving At-Risk Youth is awarded to students who successfully complete 12 units of upper-division coursework selected to provide an overview of the critical issues that face youth and the service concerns associated with meeting their needs. All coursework to be applied to this certificate must be completed with a minimum grade of ***C*** to be counted.

	Units
Required courses	**6**
RA 113	(3)*
RA 115	(3)*
Elective courses	**6**
Select 6 units from the following: CFS 133S, 136; COMM 164; CRIM 120; COUN 150; EHD 107; PH 110; MGT 133S; PSYCH 101, 102; RA 106, 117, 121, 146; SOC 143, 165; SWRK 128, 136	
Total	**12**

* RA 115 must be taken concurrently with RA 113.

Certificate in Special Event Planning

The Certificate in Special Event Planning is designed to prepare students to plan large community events such as street fairs, community festivals, convention center events, major fund-raising events, corporate events, and joint sponsorship events. Students must complete a minimum of 12 units of upper-division coursework. All coursework to be applied to this certificate ***must*** be completed with a minimum grade of ***C***.

The certificate is appropriate for those students seeking employment in community-based recreation agencies, corporate recreation, community nonprofit organizations, convention centers, and any business dealing with special event planning.

	Units
Required courses	**9**
RA 115	(3)*
RA 117	(3)*
RA 135 or MKT 100S	(3)
Elective courses	**3**
Select one class from the following:	
FSM 131	(3)
MCJ 106	(3)
MCJ 142	(3)
MCJ 152S	(3)
MGT 133S	(3)
RA 119	(3)
SOC 183	(3)
Total	**12**

*RA 115 and 117 must be taken concurrently.

Certificate in Adventure-Based Programming

The Certificate in Adventure-Based Programming is designed for students pursuing a professional interest in experiential education and wilderness activities within settings such as youth organizations, church groups, travel and tourism, and schools and colleges. Adventure education is explored through courses using group initiative and perceived risk activities to foster personal development. The certificate centers on preparing students to facilitate ropes courses, climbing walls, mobile initiative courses, and natural resource-based pursuits such as rock climbing, backpacking, cross-country skiing, and other outdoor activities.

All coursework to be applied to this certificate must be completed with a minimum grade of *C* to be counted.

	Units
Required courses	**12**
RA 80	(3)
RA 106	(3)
RA 146	(3)
RA 115	(3)
Elective courses	**3**
Select 3 units from the following:	
COUN 174	(3)
RA 113	(3)
RA 121	(3)
Total	**15**

*RA 115 and 146 must be taken concurrently.

Certificate in Sports and Entertainment Facility Management

The certificate in Sports and Entertainment Facility Management is awarded to students who successfully complete 16 units of upper-division coursework selected to provide students a foundation in this area. The certificate is appropriate for students with interest in stadiums, arenas, convention centers, performing arts centers, and other public assembly facilities. Students will learn about the operations, marketing, and management of these facilities, as well as gain related practical experience. All coursework to be applied to this certificate ***must*** be completed with a minimum grade of *C*.

	Units
Required courses	
RA 115	3
RA 117	3
RA 150	3
RA 152	3
RA 154	4
Total	**16**

RA 55 is recommended for RA majors prior to RA 150. RA 115 must be taken concurrently with RA 150, or RA 152 and 154. RA 150 and 135 or MKTG 100S are prerequisites for RA 152. RA 152 and 154 must be taken concurrently.

COURSES

Recreation Activity (REC)

REC 74. Games for All Ages (1 unit)
Planning, design, and leadership techniques for a variety of games appropriate for diverse populations and age groups. *CR/NC* grading only. (Formerly RLS 74)

REC 75. Adventure Ropes Course Experience (1 unit)
An experiential journey of self-awareness, esteem building, and group processing through initiative games and high ropes elements. *CR/NC* grading only. (Course fee, $30) (Formerly RLS 75) **FS**

REC 82. Wilderness Survival Skills (1 unit)
Back country skills for preventing or responding to emergency situations in the wilderness, such as fire and shelter building, signaling, and land navigation. Explores interpersonal and intrapersonal reactions to crisis situations. *CR/NC* grading only. (Formerly RLS 82)

REC 84. Orienteering (1 unit)
Fundamental skills and knowledge for travelling outdoors by map and compass, and by knowledge of natural features. *CR/NC* grading only. (Formerly RLS 84)

REC 86. Backpacking in the Sierra Mountains (1 unit)
Fundamental skills and knowledge for backpacking, car camping, and hiking in the Sierra Mountains or similar settings. Includes skills for camping, hiking, basic navigation, trip planning, and outdoor cooking, plus safety and environmental issues. *CR/NC* grading only. (Formerly RLS 86)

REC 87. Yosemite Experience (1 unit)
A multidimensional Yosemite National Park experience including history, park planning, recreation uses, and natural resources and tourism management issues. Includes an overnight field trip with recreation activities. (Course fee, $35) (Formerly RLS 192T, RLS 87)

REC 88. Rock Climbing (1 unit)
Basic skills and knowledge of rock climbing including history, trends, equipment, climbing technique, top roping, knot tying, rappelling, training, safety, and environmental issues. *CR/NC* grading only. (Formerly RLS 88)

REC 92. Discount Travel (1 unit)
Covers the travel industry and how to get discounts for airfare, hotels, rental cars, tours, and other travel services for both domestic and international travel. (Formerly RLS 192T, RLS 92)

COURSES

Recreation Administration (RA)

RA 55. Introduction to Recreation, Parks, and Tourism (3 units)
Philosophical, theoretical, and historical basis for recreation service in contemporary American society; exploration of the various facets of recreation, parks, and tourism including public, nonprofit, therapeutic, and commercial recreation. (Formerly RLS 55) **FS**

RA 70. Residential Life and Student Involvement Leadership (2 units)
Exploration into principles and theories of leadership within residential life and student involvement. Focus is on personal decision-making, diversity, and human and group development. Outcomes will be achieved through discussion, self-assessment, experiential exercises, and observation of leadership practice. (Formerly RA 192T)

RA 73S. Leadership in Recreation, Parks, and Tourism (3 units)
Addresses leadership as a field of study and personal development with a focus on theory, technique, and direct service

application in a recreation setting. A service-learning component is integrated to foster reflection and growth. (Formerly RLS 73, RA 73) **FS**

RA 77S. Recreation, Parks, and Tourism Programming (3 units)
Covers the recreation program process for leisure delivery systems including an introduction to activity plans, program design, delivery, and evaluation. Students design and implement two recreation programs through service-learning projects to foster skill application and practice. (Formerly RLS 77, RA 77) **FS**

RA 80. Lifelong Learning in the Natural Environment (3 units)
Exploration of the social, psychological, and physiological implications of experiential learning and personal growth using experiences based in the natural environment. Dynamics of identifying personal interests and skills. Discovering resource-based learning opportunities in leisure-appropriate areas across the life stages. G.E. Breadth E1. (Formerly RLS 80) **FS**

RA 101. Leisure and Human Behavior (3 units)
Prerequisite: RA 55. Exploration of leisure as related to the individual and society. Forces and factors affecting its role on human behavior are examined within the context of current social issues. (Students may incur minimal expenses related to field trips.) (Formerly RLS 101) **F**

RA 106. Challenge Course Facilitation (3 units)
Facility-based adventure programming (e.g., ropes courses and climbing walls) taught on the E.D.G.E. Challenge course. Students will learn specific sequencing, processing, debriefing, and leadership techniques for adventure education. Covers competencies established by the Association for Challenge Course Technology. (Formerly RLS 106) **S**

RA 113. Serving At-Risk Youth (3 units)
Examination of the forces and factors that place youth at risk. Review of service models and leadership styles that affect outcomes for at-risk youths with emphasis on agencies that have developed successful program approaches. (Formerly RLS 113) **S**

RA 115. Community Placements in Leisure Settings (1-3; max total 6 units)
Prerequisite: concurrent enrollment with RA 113 or 117 or 146 or 150. Service-oriented course providing opportunities to observe, interact, and learn from community placements in leisure services. Hour requirements are supported through writing and discussion on issues and solutions. *CR/NC* grading only. (Formerly RLS 115) **FS**

RA 117. Special Event Planning (3 units)
Special techniques and requirements for planning and conducting large community functions such as street fairs, community festivals, major fund-raisers, corporate events, and joint sponsorship. Emphasis on community laws and regulations, activity selection and planning, advertising, and funding. Field trips and/or other off-campus experiences will be required. (Students may incur minimal expenses related to field trips.)(Formerly RLS 117) **FS**

RA 119. Conference, Convention, and Meeting Planning (3 units)
An examination of the conference, convention, and meeting industry, inclusive of the design, budgeting, and programming principles used within the industry. Provides an essential understanding of the components involved in the operation of successful meetings, conventions, and conferences. (Formerly RLS 119) **S**

RA 121. Community and Non-Profit Recreation Services (3 units)
Prerequisite: RA 55 or concurrently (for RA majors only). Philosophical foundations and future outlook of non-profit and municipal recreation programs. Review of service providers including organization, service provision, legal base, funding profiles, and current trends analysis. (Field trips may be required.) (Formerly RLS 121) **F**

RA 125. Diversity and Inclusive Practices in Recreation (3 units)
Prerequisite: RA 55 for RA majors. Introduction to diverse populations including terminology, etiology, legislation, facilities, trends, barriers, and relationship to leisure. Understanding alternative views of exceptionality and appreciating similarities and differences. Awareness of adaptations/strategies to maximize participation opportunities. (Formerly RLS 125) **FS**

RA 128. Legal and Financial Aspects of Recreation, Parks, and Tourism (3 units)
Prerequisite: RA 55 and 77S. Legal and financial aspects of recreation, parks, and tourism; funding sources, budget development and administration, legal issues, and risk management and their role in recreation administration. (Formerly RLS 128) **F**

RA 128L. Legal and Financial Aspects of Recreation, Parks, and Tourism Lab (2 units)
Prerequisites: concurrent enrollment with RA 128. The lab emphasizes the development of budgets and data analysis methods for park, recreation, and tourism agencies through the use of a variety of computer programs. (Formerly RLS 128L) **F**

RA 130. International Tourism: Multicultural Issues and Impacts (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Prepares students to live in an international multicultural world as responsible tourists or gracious hosts who appreciate cultural differences, respect the environment, and understand the impacts of international tourism. G.E. Multicultural/International MI. **FS**

RA 131. Foundations of Commercial Recreation and Tourism (3 units)
Prerequisite: RA 55. Historical and philosophical foundations of leisure service provisions by commercial recreation and tourism agencies. Review of selected service providers including organization, assessment, service provision, legal base, funding profiles, and current trends analysis. (Field trips may be required.) (Formerly RLS 131) **F**

RA 133. Recreation and Parks Facilities Planning and Operations (3 units)
Prerequisite: RA 77S. Emphasis will be on the planning, management, and operations of recreation and parks facilities. Facility layout for use in activity presentation, safety procedures, staffing, risk management, and maintenance. (Field trips may be required.) (Formerly RLS 133) **S**

RA 135. Recreation, Parks, and Tourism Marketing (3 units)
Prerequisite: RA 77S or concurrent enrollment. Analysis and development of marketing and promotion strategies for recreation, parks, and tourism programs and services, and an in-depth analysis of recreation feasibility plans. (Formerly RLS 135) **F**

RA 139. Research and Evaluation in Recreation, Parks, and Tourism (3 units)
Prerequisites: RA 128 and 128L, and completion of Upper-Division Writing Requirement. Overview of research and evaluation methods as applied to recreation, parks, and tourism services. (Formerly RLS 139) **S**

RA 142. Foundations of Therapeutic Recreation Service (3 units)
Prerequisites: RA 55 and RA 125 or permission of instructor. Historical review and future outlook of therapeutic recreation. Identification of interventions used for specific population groups. Review etiology characteristics, terminology and support systems. Facility design, use, and adaptation. Practical experience required. (Formerly RLS 142)

RA 144A. Assessment and Documentation in Therapeutic Recreation (3 units)
Prerequisite: RA 142. Application of therapeutic recreation methods including assessment, program design, documentation, and evaluation. (Formerly RLS 144A)

RA 144B. Facilitation Techniques in Therapeutic Recreation (3 units)
Prerequisites: RA 142; RA 144A. Practical experiences in applying therapeutic recreation intervention techniques. (Formerly RLS 144B)

RA 146. Adventure Based Programming (3 units)
Prerequisites: RA 55 and 80 for RA majors. Explores adventure based programming skills through outdoor pursuits and experiential activities on the E.D.G.E. Challenge Course. (2 lecture, 2 lab hours) (Students will incur expenses related to required field trip.) (Formerly RLS 146) **F**

RA 148. Process and Principles in Therapeutic Recreation (3 units)
Prerequisites: RA 144A, 144B. Designing and executing therapeutic recreation programs for healthcare and community settings. Practical program experiences required. (Formerly RLS 148)

RA 149. Trends and Issues in Therapeutic Recreation (3 units)
Prerequisites: RA 148. In-depth examination of contemporary professional issues and their relationship to current and future development of therapeutic recreation services.

RA 150. Sports and Entertainment Facility Management (3 units)
Prerequisite: RA 55 is recommended for RA majors. Examination of the ownership and governance, function, programming, and management of sports and entertainment facilities, including arenas, performing arts centers, stadiums, and convention and conference centers. Covers economic impacts, professional associations, and career development in this industry. (Formerly RLS 150) **F**

RA 152. Sports and Entertainment Facility Booking, Promotion, and Box Office Operations (3 units)
Prerequisites: RA 150; RA 135 or MKTG 100S, plus concurrent enrollment in RA 154. Booking, promotion, and box office operations techniques for sports and entertainment facilities and their events. (Formerly RLS 152) **S**

RA 154. Sports and Entertainment Facility Operations (4 units)
Prerequisites: RA 150; RA 135 or MKTG 100S, plus concurrent enrollment in RA 152. Operations of sport and entertainment facilities including set-up configurations, event staffing, event production, security and crowd control, merchandise, food and beverage, ADA, risk management, housekeeping, and maintenance. Includes field trips. (3 lecture, 2 lab hours) (Formerly RLS 154) **S**

RA 179. Supervision and Administration in Recreation, Parks, and Tourism (3 units)
Prerequisite: RA 73S. Preparation for a supervisory role in recreation, parks, and tourism agencies. Recruitment, motivation, performance evaluation training and development, and other supervisory and management practices. (Formerly RLS 179) **S**

RA 180. Professional Placement in Recreation, Parks, and Tourism (1 unit)
Prerequisite: may only be taken the semester prior to internship. Professionalism and internship search procedures in recreation, parks, and tourism. (Formerly RLS 180) **FS**

RA 184. Internship in Recreation, Parks, and Tourism (12)
Prerequisites: completion of all major, General Education, and university graduation requirements. Honors internship requires placement approval in RA 180. Directed supervisory experience with a nonprofit, public, or commercial recreation agency. Individual development in administration, supervision, program planning, and public relations. Reports and conferences required. (It is recommended before registering for internship that students have the equivalent of 1,000 hours of recreation related experience, either paid or volunteer, in a recreation service agency.) (Formerly RLS 184) **FS SU**

RA 187. Internship in Therapeutic Recreation (12)
Prerequisites: completion of all major, General Education, and university graduation requirements. Honors internship requires placement approval in RA 180. Supervised, directed full-time experience in the field of therapeutic recreation; reports and conferences required. (It is recommended before internship registration that students have the equivalent of 1,000 hours of recreation related experience, either paid or volunteer, in the field of recreation service.) **FS** (Formerly RLS 187)

RA 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly RLS 190) **FS**

RA 192T. Topics in Recreation, Parks, and Tourism (1-3; max total 8; repeatable with different topics)
Investigation of selected topics related to administration, supervision and leadership in parks, recreation, leisure, and tourism settings. Workshops related to skills in leisure oriented activities. ***CR/NC*** grading only. (Formerly RLS 192T) **FS**

Social Work Education

Social Work Education

The profession of social work is dedicated to meeting the diverse social service needs of special populations of individuals, families, groups, organizations, and communities. As a practice-oriented profession, social work deals with social concerns that range from societal oppression to people's emotional/behavioral problems. The social work practitioner helps at-risk populations which typically include people of color; women; people who are recent refugees; those who are older adults, poor, and/or homeless; children and adults who are abused/neglected; people who have chronic mental illness; those who are developmentally disabled; those who have physical illnesses or disabilities; and those who abuse substances or engage in criminal activities.

In focusing on disadvantaged groups, social workers use a range of traditional and nontraditional methods to promote well-being, personal growth, and social justice. These methods include client and systems policy advocacy, brokering, and consulting, as well as individual, family, and group counseling/psychotherapy. Other methods include education, research, and professional supervision.

While the discipline of social work is deeply rooted in a rich, 100-year history of service, what social workers "do" is no longer traditionally defined. The role of the social worker is constantly expanding into innovative service fields wherever a compassionate response to human need is indicated.

The Department of Social Work Education offers two degree programs to educate beginning and advanced social work practitioners who can meet complex client needs in a broad range of public and private human service settings and who can perform in a variety of roles using a multisystems approach. The Bachelor of Arts (B.A.) degree program prepares students for beginning generalist social work practice as well as for graduate study in the human service field, including social work. The Master of Social Work (M.S.W.) prepares the learner for advanced multisystems social work practice as well as for doctoral study in social work and related human service arenas. Both the B.A. and the M.S.W. programs are accredited by the Council on Social Work Education.

Faculty and Facilities

The faculty members of the department represent a wide spectrum of theoretical orientations and approaches to professional social work practice. All have substantive practice experience and many engage in active research programs and social policy interests. In addition to the on-campus facilities of the university, the department uses the San Joaquin Valley's unique urban-rural configuration of people, agribusiness and social-political institutions, and the accompanying host of social service needs as the setting for field internships. Numerous public and private social service agencies in our region make their facilities and professional social work staff available for the internship element of the department's programs. Internship experiences are available in the schools and mental health, probation, and social services departments in the counties of Fresno, Kings, Madera, Tulare, and San Luis Obispo. A representative sample of other settings include Community Regional Medical Centers of Central California, the Fresno County Board of Supervisors, Children's Hospital of Central California, Fresno Unified School District, and Kings County Human Services Agency.

Career Opportunities

Graduates from the B.A. program typically find employment as social workers in county or state departments of social services; private agencies offering individual, group, or community services; and programs addressing issues such as poverty, mental health, social rehabilitation, and human resources development. Graduates work with diverse groups of people, including those who are disabled or elderly and those who have special needs. Graduates also work with those who may be involved with major systems and institutions such as public social services and government assistance, health care, corrections, or education.

M.S.W. graduates continue to work with the above groups. They can expect to assume additional responsibilities and engage in more advanced clinical practice, case management, training, administration, program development, or policy making/administrative practice in a broad spectrum of human service organizations.

The U.S. Department of Labor *Occupational Outlook Handbook 2012-2013* projects the employment of social workers to increase by 25% during the 2010-2020 decade. Special mention must be made regarding increased job opportunities in child welfare, mental health, substance abuse programs, school systems, and services for elders, as well as increased opportunities in serving rural areas.

College of Health
and Human Services

Department of
Social Work Education
Virginia Rondero Hernandez, *Chair*
Christine Smith, *Administrative Support Coordinator*
Professional and Human Services
Building, Room 128
559.278.3992
www.fresnostate.edu/socialwork

B.A. in Social Work*

M.S.W., Master of Social Work

Certificate in Alcohol/Drug Studies

Certificate in Cross-Cultural Competency

Faculty

Virginia Rondero Hernandez, *Chair*
Salvador Montana,
Undergraduate Coordinator
Martha Vungkhanching,
Graduate Coordinator
Andrea Carlin, *Field Coordinator*

Kris I. Clarke
Benjamin Cuellar
Betty J. Garcia
Donna L. Hardina
Debra M. Harris
Mitzi Lowe
E. Jane Middleton
Anne S. Petrovich

Richard O. Salsgiver
Roger A. Simpson
Martha Vungkhanching

The Bachelor of Arts Program*

The bachelor's degree program prepares students to enter supervised professional social work practice and/or pursue admission to a range of graduate study programs and professional schools. This includes graduate study in social work leading to a master's in social work.

* ***Note***: The social work major will be closed to new admits for fall 2013 because it does not have capacity to accommodate new students. This decision is a moratorium for fall 2013 only. Students interested in pursing a social work major are encouraged to consider applying to other CSU campuses for fall 2013. Fresno State students admitted for fall 2013 will not be able to change their major to social work after enrollment.

The bachelor's degree program in social work is a sequenced program that requires four consecutive semesters to complete. All prerequisites must be completed prior to entry into the social work program. A cohort of social work students begins the program in the fall semester of an academic year. No social work students are permitted to begin the program in the spring semester. Students majoring in social work must complete the following prerequisites, including successful completion of the pre-social work major, before being permitted to enroll in restricted and sequenced 100-level social work courses.

a. Complete all lower-division General Education courses.

b. Earn a cumulative grade point average of at least 2.5.

c. Formally apply for upper-division social work major status.

d. The following eight prerequisite courses in the pre-social work major must be completed prior to entry into the social work program:

G.E. Area A1 (COMM 3, 7, or 8) (3 units)
G.E. Area A2 (ENGL 10/ENGL 5B) (3 units)
G.E. Area A3* Critical Thinking (3 units)
G.E. Area B4* Quantitative Reasoning (3 units)
G.E. Area D2 American Government (PLSI 2) (3 units)
G.E. Area D3 Social Science (ECON 25, 40 or 50) (3 units)
G.E. Area E Life-long Understanding (PH 90) (3 units)
SWRK 20 (3 units)
Total (24 units)

*See lower-division General Education list for university approved courses. Each prerequisite must be completed with a minimum ***C*** grade – ***CR/NC*** grades are not acceptable. A GPA of 2.7 or above is required in the eight prerequisite courses.

Students may apply for upper-division social work major status in the Social Work Education Department office during the semester in which they expect to successfully complete the above prerequisite requirements. Approval will be contingent upon satisfactory fulfillment of these requirements.

Bachelor of Arts Degree Requirements

Social Work Major *Units*

Major requirements 42
SWRK 20, 123, 135, 136, 160, 161 (or 161S), 170, 171, 180, 181, 182, 183

Note: Students must attain a minimum grade of ***C*** in each required course in the social work major. Students who receive a grade of less than ***C*** in any of the above courses must meet with their Department of Social Work Education academic adviser and develop a plan for repeating the course and continuing the major. Refer to the *Undergraduate Advising Booklet* for complete information on policies. See *Advising Notes.*

Additional requirements 18
May also count toward General Education
Select one: GERON 100, 103; PHIL 1, 20 .....(3)
Select one: GERON 134, 139; PHIL 120, 131, 150.....(3)
Approved upper-division electives (see list in department office) ..... (9)
Cultural Diversity — Ethnic Studies including Africana Studies and American Indian Studies; Chicano and Latin American Studies, Asian American Studies, or Women's Studies..... (3)
Six units from two of the following areas: Anthropology, Criminology, Psychology, or Sociology ..... (6)
Select three units from the following: SWRK 124, 125, 128, 129, 137, or 152..... (3)

General Education requirements.....51
Electives and remaining degree requirements 9-24*
(See *Degree Requirements*); may include a double major or minor.
Total 120

*This figure takes into consideration that, with proper selection, 15 units of additional requirements for the social work major also may be applied toward fulfilling General Education requirements (see *General Education*). Consult the social work department chair, program coordinator, or faculty adviser for details.

Advising Notes

1. Foundational social work major courses must be taken in the sequence specified below:
   - Junior year (semester 1): SWRK 123, 135, and 160
   - Junior year (semester 2): SWRK 136, 161/161S, and 170
   - Senior year (semester 1): SWRK 171, 180, 181
   - Senior year (semester 2): SWRK 182, 183, and SWRK elective
2. Approved course listings are available in the department office and on the Web. Consult your faculty adviser for assistance in selecting a pattern of courses to fit your particular interests and goals.
3. ***CR/NC*** grading is not permitted in the social work major with the exception of SWRK 181 and 182.
4. General Education, additional requirements, and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. No General Education Multicultural/International course offered by the Social Work Education Department may be used to satisfy the General Education requirements for majors in the department.
6. Senior year internships are arranged by the field coordinator. Applications must be filed and interviews with the field coordinator and interviews for agency selection must be completed in the semester *prior* to entering the field.
7. Students who have prior knowledge of Spanish or Southeast Asian languages but lack fluency are encouraged to take additional coursework in the languages.
8. A booklet describing the program more fully is available in the department office and on the Web.

Certificate in Alcohol/Drug Studies

The Department of Social Work Education participates in a certificate of special study awarded to those students who successfully complete a minimum of 12 units of interdisciplinary academic coursework in the area of alcohol and drug abuse. (For complete details, see *Health and Human Services Interdisciplinary Courses*, page 377.)

Certificate in Cross-Cultural Competency

The College of Health and Human Services and the Department of Social Work Education jointly offer a certificate of special study in cultural competency. Twelve units of selective study are required that include two core courses and two related interdisciplinary electives. The certificate is designed to prepare students for professional practice in culturally diverse settings in the fields of business, education, health care, and human service. All coursework must be taken for a letter grade and completed with a grade of *C* or better in each of the six required units and six units of electives.

	Units
Required courses	**6**
SWRK 136, 137	
Elective courses	**6**
Take two 3-unit courses, each from different categories.	
Language and Culture: ANTH 118, 123, 124; CLAS 116; CDDS 139; CI 140ECE; SPAN 125; GERON 111, 161; HUM 130; LING 120, 130; PHIL 135, 138; COMM 120, 164	
Health/Mental Health: ANTH 117; PH 90, 100, 104; PSYCH 169; RA 125	
Ethnicity: AFRS 56, 100, 101, 103, 135, 142, 144, 148; ANTH 115, 116W, ASAM 110, 138, 140; CLAS 128, 152; CRIM 174; AFRS 104W; SOC 111	
Women: AFRS 137; CLAS 162; GERON 18; PH 126, 130; HIST 101; SOC 132; WS 120, 125, 135	
Total	**12**

For more information, call the Department of Social Work Education at 559.278.3992.

COURSES

Social Work (SWRK)

Note: Courses offered only fall semester are designated with **F**. Courses offered only spring semester are designated with **S**. Courses offered fall and spring semester are designated with **FS**.

SWRK 20. Introduction to Social Work (3 units)
Social, economic, political, historical, and philosophic components in development of social welfare and social work in western society. **FS**

SWRK 122T. Topics in Social Work (1-3; max total 15 units)
Topics in fields of social work practice, basic social work theories, and social work methods. **FS**

SWRK 123. Social Welfare Policies and Programs (3 units)
Prerequisite: SWRK 20 or by permission of instructor. Basic policies and major programs in contemporary social welfare; consumption, income supports, job provision, housing, health, civil rights, consumer advocacy, population control, environmental standards; principles of social security, administration of social services, roles of government and citizen participation. **F**

SWRK 124. Social Welfare Policy Advocacy (1 unit)
A two-day course offered in March of the spring semester in the state capital of Sacramento, California. Provides beginning skill-building in advocacy and political action on current social welfare policy issues. **S**

SWRK 125. Social Services for the Aging (3 units)
(Same as GERON 125.) Students will be acquainted with the common bio-psycho-social needs of the aging in the United States and the social services available to meet those needs. Within the context of social work values and problem-solving methods, attention will be given to issues of ethnicity, gender, and gaps in services. **S**

SWRK 128. Child Welfare (3 units)
History, development, and provision of child welfare services in the United States. Meets state of California prelicensure requirements for child abuse assessment and reporting content. **FS**

SWRK 129. Treatment of Chemical Dependency (3 units)
Intervention and treatment of the chemically dependent and of family members. Meets state of California requirements for licensed Master of Social Work through the California Board of Behavioral Sciences. **FS**

SWRK 135. Human Behavior and the Social Environment (3 units)
Prerequisite: SWRK 20 or by permission of instructor. A general systems approach focused on the interaction of biological, psychological, and cultural phenomena with individuals, small groups, complex organizations, and communities. **F**

SWRK 136. Cultural Diversity and Oppression (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Cultural, economic, ethnic, social, and psychological considerations for helping members of groups who suffer oppressed status in heterogeneous society. Required for Cross-Cultural Competency Certificate. G.E. Multicultural/International MI (except for social work majors). **FS**

SWRK 137. Principles in Cross-Cultural Competence (3 units)
Prerequisite: SWRK 136. Theoretical framework for skill-based cultural competency in educational, business, and public/private human services settings. Problem formulation and interaction skills with diverse populations. Required for Cross-Cultural Competency Certificate. **FS**

SWRK 152. Introduction to Mediation and Conflict Resolution for Human Service Professionals (3 units)
Provides students with a knowledge base in mediation as a method of conflict resolution. Develops beginning level skills in mediating conflicts as part of social work practice.

SWRK 160. Introduction to Social Work Practice: Professional Identity (3 units)
Prerequisite: SWRK 20 or by permission of instructor. The development of professional identity in generalist social work practice. **F**

SWRK 161/161S. Social Work Processes (3 units)
Prerequisites: SWRK 20, 123, 135, and 160. Foundation for generalist social work practice. SWRK 161S integrates a service-learning component for further reflection and professional growth. (Formerly SWRK 130, SWRK 161) **S**

SWRK 170. Quantitative Research in Social Work: Theory and Application (3 units)
Prerequisites: SWRK 20, 123, 135, and 160. Introduction to social work research and quantitative methods. Focuses on the scientific method, research design, sampling strategies, quantitative methods, data analysis, and presentation. (Formerly SWRK 175) **S**

SWRK 171. Qualitative Research in Social Work: Theory and Application (3 units)
Prerequisite: SWRK 170. Introduction to the use of qualitative research methods. Focuses on an inductive approach to building knowledge for practice. Content includes development of research questions, study design, sampling, data collection, and data analysis. (Formerly SWRK 176) **F**

SWRK 180. Seminar in Macro Practice (3 units)
Prerequisites: SWRK 20, 123, 135, 136, 160, 161/161S, and UDWS requirement. Must be taken concurrently with SWRK 181. Analysis of interventive strategies in large groups, organizations, and the community. In conjunction with field experience, this class represents the macro culminating experience in the social work major. (Formerly SWRK 141, SWRK 139) **F**

SWRK 181. Field Instruction A (6 units)
First semester field internship. Prerequisites: senior standing, minimum 2.0 GPA, completion of UDWS requirement, G.E. Foundation and Breadth, and SWRK 20, 123, 135, 136, 160, 161/161S. Concurrent enrollment in SWRK 180. Guided social work practice experience with individuals, groups, families, and organizations. Liability insurance required during internships. ***CR/NC*** grading only. **F**

SWRK 182. Field Instruction B (6 units)
Second semester field internship. Prerequisites: senior standing, minimum 2.0 GPA, SWRK 181, and concurrent enrollment in SWRK 183. Guided social work practice experience with individuals, groups, families, and organizations. Liability insurance required. ***CR/NC*** grading only. **S**

SWRK 183. Seminar in Micro Practice (3 units)
Prerequisite: SWRK 180 and 181. Must be taken concurrently with SWRK 182. Acquisition of micro social work practice skills integrating human behavior and social environment theories, research, and social policy in interventions with individuals, families, and small groups. With field experience, seminar represents the culminating experience in micro practice in the social work major. (Formerly SWRK 140) **S**

SWRK 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

Master of Social Work

This program is designed to prepare students for advanced social work practice — as social work practitioners who are capable of intervening at individual, family, small group, organization, and community levels. Students achieve competence in problem identification, assessment, development of intervention plans, and evaluation of practice. Students build cross-cultural awareness and learn to use empowerment and social justice perspectives when making interventions with client systems of various sizes.

Students complete a total of 60 units of graduate work, including 10 units of supervised internship with participating agencies in the community. They will prepare an acceptable master's project or thesis which investigates social problems and appropriate intervention strategies for the purpose of building upon the profession's knowledge base.

The program prepares students for practice and advancement in the social work profession. Students develop the knowledge and skills necessary to provide direct services, consultation, training, program development, practice evaluation, and social service research on behalf of clients and community and contribute to the advancement of the profession.

Students accepted to the program must maintain an average GPA of 3.0 in all coursework. They must also complete a project or thesis under faculty supervision. In addition, all students complete two (year-long) internship experiences in participating community agencies. A limited extended degree program option is available. Consult the graduate coordinator in department office.

The M.S.W. program is accredited by the Council on Social Work Education.

Master of Social Work Degree Requirements

In the 60-unit program, all students are required to take the following courses: SWRK 200, 203, 212, 213, 220, 221, 224, 225, 227, 246, 247, 260, 261, 280, 281, 282, 283, and 292, in addition to completing a project (298) or a thesis (299), for a total of 54 units. The remaining 6 units may be selected from social work electives. Electives from other departments must be approved by the graduate coordinator.

Master of Social Work Writing Requirement

The graduate writing requirement for the Master of Social Work is satisfied by passing a writing exam administered in SWRK 200 during the first semester of graduate coursework. The student must pass the writing exam as a prerequisite to advancement to candidacy. For more information about the writing requirement and the appeals process, refer to the *Graduate Handbook.* The *Graduate Handbook* is available on the Department of Social Work Education website.

Credential Programs

As part of the M.S.W., the Department of Social Work Education offers a program which satisfies the requirements for the California Pupil Personnel Services Credential with Specializations in School Social Work and Child Welfare and Attendance Services. Advising and admissions information are available through the P.P.S. coordinator in the Department of Social Work Education.

GRADUATE COURSES
Social Work (SWRK)

Note: Admission to the M.S.W. program is prerequisite to all graduate courses. Exceptions may be authorized by the department chair.

SWRK 200. Social Welfare Policy I (3 units)
Philosophical and historical foundations of the profession of social work and the domain of social welfare. Includes review of major federally sponsored social policies and programs in the United States and the relationship between social problems, and programmatic professional responses.

SWRK 203. Social Welfare Policy II (3 units)
Prerequisite: SWRK 200. Concurrent enrollment in SWRK 272T is recommended. Analysis of social welfare policies, including social, economic, cultural, political, legislative, administrative and legal dimensions. Comparison of various policy analysis frameworks. The role of social workers in the policy-making process.

SWRK 204. Social Welfare Policy Advocacy I (1 unit)
A two-day course offered in March of the spring semester in the state capital of Sacramento, California, providing advanced skill-building in advocacy and political action on current social welfare policy issues. It is suggested, but not required, that students be currently enrolled in SWRK 203. (Formerly SWRK 272T)

SWRK 212. Human Behavior in the Social Environment: A Multisystems Approach (3 units)
Provides knowledge of the theories that attempt to bring understanding to the behavior of people as individuals, members of families, groups, organizations, and communities.

SWRK 213. Human Behavior and Social Environment: Cultural Diversity and Oppression (3 units)
Prerequisite: SWRK 212. Theoretical knowledge-based implications for advanced social work practice with culturally diverse and oppressed populations. (Formerly SWRK 216)

SWRK 220. Seminar in Foundations for Social Work Practice I (4 units)
Concurrent enrollment in SWRK 280 required. Seminar about the development of social work practice, with an emphasis upon intervention with individuals, families, small groups, organizations, and communities.

SWRK 221. Seminar in Foundations for Social Work Practice II (4 units)
Prerequisite: SWRK 220 and concurrent enrollment in SWRK 281. Analysis and application of the theories, principles, and techniques of social work practice with individuals, families, groups, organizations, and communities.

SWRK 224. Seminar in Advanced Social Work Practice with Individuals (3 units)
Prerequisites: SWRK 203, 213, 221, 261, 281, and concurrent enrollment in SWRK 282. Analysis and application of the theories, principles, and techniques of social work practice with individuals from a strength-based, empowerment perspective.

SWRK 225. Seminar in Advanced Social Work Practice with Task and Treatment Groups (3 units)
Prerequisites: SWRK 200, 203, 212, 213, 220, 221, 260, 261, 280, and 281. Concurrent enrollment in SWRK 224, 246, 282, and 292. Analysis and application of the theories, principles, and techniques of skills used in task and treatment groups.

SWRK 227. Seminar in Advanced Social Work Practice with Couples and Families (3 units)
Prerequisites: SWRK 224, 225, 246, 282, and concurrent enrollment in SWRK 247 and 283. Analysis and application of theories, principles, and techniques of social work practice with couples and families from a strength-based, empowerment perspective.

SWRK 246. Seminar in Advanced Social Work Practice with Formal Organizations (2 units)
Prerequisites: SWRK 203, 213, 221, 261, 281, and concurrent enrollment in SWRK 224, 225, and 282. Theory and practice of the administration of formal social service organizations.

SWRK 247. Seminar in Advanced Social Work Practice with Communities (3 units)
Prerequisites: SWRK 203, 213, 221, 261, 282, and concurrent enrollment in SWRK 227 and 283. Theory and practice of social work intervention with communities.

SWRK 260. Quantitative Social Work Research (3 units)
Concurrent enrollment: SWRK 200, 212, 220, 280. Foundation course on social work research and evaluation using quantitative methods that prepare students for the master's project/thesis. Covers the nature of inquiry, scientific method, ethics, research designs, sampling strategies, and data analysis and presentation.

SWRK 261. Qualitative Social Work Research (3 units)
Prerequisite: SWRK 200, 212, 220, 260, 280. Concurrent enrollment: SWRK 203, 221, 281. Foundation course on social work research and evaluation using qualitative methods that prepare students for the master's project/thesis. Covers the nature of inquiry, scientific method, ethics, topic selection, research approaches, methods of observation and data collection, and data analysis and presentation.

SWRK 269. Advanced Practice Public Mental Health Services I (3 units)
Prerequisite: completion of foundation year coursework. Knowledge and skills for advanced graduate social work practice in public mental health. Content covers values/ethics, diversity, public policies, practice interventions, services organization, and delivery. Required for CalSWEC Public Mental Health Stipend students. (Formerly SWRK 271T)

SWRK 270. Advanced Practice Public Mental Health Services II (3 units)
Prerequisites: Completion of foundation year coursework and SWRK 269 or permission of instructor. Advanced public mental health practice. Recovery model, skills, and evidence-based practice. Required for CalSWEC Public Mental Health stipend students. (Formerly SWRK 271T)

SWRK 271T. Seminar in Social Work Specializations (1-3; max total 9 units)
In-depth study of specific treatment modalities or methods, e.g., community organization, community development, crisis intervention, personality adjustment.

SWRK 272T. Seminar in Areas of Social Work (1-3; max total 9 units)
Theories and developments in the areas of mental health, public health, administration of justice, child welfare, family welfare, income maintenance, schools, international social work, social gerontology, social rehabilitation.

SWRK 273. Advanced Social Work Practice and Sexuality (3 units)
Multi-systems assessment and treatment of sexual disorders from a culturally competent, empowering perspective. Current conceptualization of gender, sexual orientation, and varieties of sexual expression. Covers AIDS/HIV and other sexually transmitted diseases. Looks at effects of global trafficking on vulnerable populations. Meets state of California prelicensure requirements for human sexuality content.

SWRK 274. Advanced Social Work Practice in Schools (3 units)
Addresses the specific knowledge and skills required for advanced social work practice in school settings. Required for the Pupil Personnel Services credential in school social work and child welfare and attendance services.

SWRK 275. Advanced Social Work Practice in Schools II (3 units)
Prerequisite: SWRK 274. Addresses specific target populations, strategies for intervention, and evaluation of advanced social work practice in school settings. Required for the Pupil Personnel Services credential in school social work and child welfare and attendance services.

SWRK 276. Psychosocial Assessment and Treatment Planning for Clinical Social Work (3 units)
Develops competence in clinical assessment. Helps students identify a collaborative treatment plan and understand the part various mental, behavioral, and emotional problems play in assessment and treatment planning in clinical social work practice.

SWRK 277. Advanced Seminar on Trauma and Abuse (3 units)
Prerequisite: SWRK 220. Analysis of the effects of trauma and abuse on victims. Historical context of trauma and post-traumatic stress reactions. Effects of trauma and abuse on child and adult development and on individuals and families across cultures and nations.

SWRK 278. Advanced Child Welfare Practice (3 units)
Designed to assist students in development of practice skills (assessment, treatment, and intervention planning) in work with children and families involved within the child welfare system. Required for Title IV-E Child Welfare Program students. Meets state of California prelicensure requirements for child abuse assessment and reporting content.

SWRK 279. Seminar in Advanced Social Work Practice with Elders (3 units)
Recommended prerequisite: SWRK 125. Advanced multi-systems practice course focused on assessment and intervention with older adults and their families. May be used to meet requirements for gerontology certification. Meets state of California requirements for licensure and continuing education. (Formerly SWRK 271T)

SWRK 280. Field Instructed Practice I (2 units)
Prerequisites: permission of field coordinator and concurrent enrollment in SWRK 220. First of two semesters applying foundation theories and concepts in field-instructed practice with individuals, groups, families, formal organizations, and communities. Approved for ***RP*** grading. ***CR/NC*** grading only. (Formerly SWRK 250)

SWRK 281. Field Instructed Practice II (2 units)
Prerequisites: SWRK 280, concurrent enrollment in SWRK 221, and permission of field coordinator. Second of two semesters applying foundation theories and concepts in field-instructed practice with individuals, groups, families, formal organizations, and communities. Approved for ***RP*** grading. ***CR/NC*** grading only. (Formerly SWRK 250)

SWRK 282. Advanced Field Instructed Practice I (3 units)
Prerequisites: SWRK 281; concurrent enrollment in SWRK 224, 225, and 246; and permission of field coordinator. First of two semesters applying advanced theories and concepts in field-instructed practice with individuals, groups, families, formal organizations, and communities. Approved for ***RP*** grading. Final grade ***CR/NC*** grading only. (Formerly SWRK 251)

SWRK 283. Advanced Field Instructed Practice II (3 units)
Prerequisites: SWRK 282; concurrent enrollment in SWRK 227 and 247; and permission of field coordinator. Second of two semesters applying advanced theories and concepts in field-instructed practice with individuals, groups, families, formal organizations, and communities. Approved for ***RP*** grading. ***CR/NC*** grading only. (Formerly SWRK 251)

SWRK 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

SWRK 292. Seminar in Thesis/Project (2 units)
Prerequisites: SWRK 203, 213, 221, 261, and 281. Concurrent enrollment in SWRK 224, 225, 246, and 282. Seminar for developing and implementing thesis or project research that adds to social work practice and knowledge.

SWRK 298. Project (2 units)*
Prerequisites: SWRK 292 and advancement to candidacy. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable project for the master's degree. Approved for ***RP*** grading.

SWRK 299. Thesis (2 units)*
Prerequisites: SWRK 292 and advancement to candidacy. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Social Work (SWRK)

SWRK 301. Seminar in Social Work Topics (1-3; max total 15)

Health and Human Services
Interdisciplinary Courses

Health and Human Services

The College of Health and Human Services offers the following interdisciplinary certificate programs open to all students. These programs provide students with an opportunity to interact with various university disciplines that have a common purpose and with professionals who are working cooperatively in an interdisciplinary setting.

Additional interdisciplinary courses offer students from any discipline both basic and continuing professional education.

Certificate in Alcohol/Drug Studies

A certificate of special study is awarded to those students who successfully complete a minimum of 12 units of interdisciplinary academic coursework in the area of alcohol and drug abuse. Students seeking the certificate:

1. must have completed two years of college or two years of experience related to the field of alcohol/drug abuse
2. must be regularly enrolled in the university

All coursework must be taken for a letter grade and completed with a grade of *C* or better in each of the 9 required units and the 3 units of electives. The following list includes the course requirements for the certificate:

	Units
Requirements	**9**
PH 110: Drugs, Society, and Health	
PH 111: Alcohol and Alcoholism	
SWRK 129: Treatment of Chemical Dependency	
Elective(s)	**3**
Select 3 units from the following listings:	
CRIM 141: Alcohol, Drugs, and Criminality	(3)
WS 115: Women, Children, and Alcohol	(1)
WS 150T: Women and Alcohol	(1)
CRIM 190, PH 190, SWRK 190, or WS 190: Independent Study on selected aspects of alcohol/drug abuse	(1)
Total	**12**

For more information, call the Department of Public Health at 559.278.4014.

Certificate of Advanced Study in Interprofessional Collaboration*

This 15-unit program consisting of five courses is offered through the College of Health and Human Services and the Kremen School of Education and Human Development. The program provides graduate students and practicing professionals a convenient way to gain essential skills in the area of interprofessional collaboration while earning university credit and an academic certificate at the completion of the program.

*Admission to the Certificate of Advanced Study in Interprofessional Collaboration is currently suspended.

College of Health and Human Services
Jody Hironaka-Juteau, *Interim Dean*
McLane Hall, Room 178
559.278.4004

Certificate in Alcohol/Drug Studies

Certificate of Advanced Study in Interprofessional Collaboration*

COURSES

Health and Human Services (HHS)

HHS 10. Exploring Health Careers (2 units)
Explores various career choices available in the fields of health and human services. Used in conjunction with preprofessional preparation advisement program in the area of prehealth careers. (See *Preprofessional Preparation*.) (1 lecture, 2 lab hours) *CR/NC* grading only. FS

HHS 100T. Selected Topics in the Health and Human Services Professions (1-3; max total 6 if no topic repeated)
Interdisciplinary topics of current interest covering subject matter that is appropriate for all health and human services professional disciplines. Topics are rotated each semester. Field assignments may be required. FS

GRADUATE COURSE

(See *Catalog Numbering System*.)

Health and Human Services (HHS)

HHS 200T. Advanced Topics in the Health and Human Services (1-3; max total 6 units)
Advanced study of current issues in health and human services professions. Application of discipline specific theory and best practices to interdisciplinary and collaborative topics. Topics are rotated each semester.

The College of Science and Mathematics

Science II Building, Room 301, 559.278.3936
Andrew Hoff, *Interim Dean;* Jim Prince, *Interim Associate Dean*
www.fresnostate.edu/csm

The College of Science and Mathematics houses the departments of Biology, Chemistry, Computer Science, Earth and Environmental Sciences, Mathematics, Physics and Psychology. The college is also home to the Institute of Climate Change, Oceans and Atmosphere, the Central California Autism Center, the Science and Mathematics Education Center, the Central California Analytical Center and the Forensic Biotechnology Institute of California. Special facilities and programs include the Downing Planetarium, a biomedical research facility, the Health Careers Opportunity Program, new professional science master's degrees in biotechnology and forensic science and an undergraduate degree in biomedical physics.

The Mission of the College

The College of Science and Mathematics (CSM) provides undergraduate and graduate programs of study for students in the areas of biology, chemistry, computer science, environmental science, geology, mathematics, physics, and psychology. The CSM seeks to provide both majors and non-majors with a science foundation that is appropriate to their career goals and to provide them with knowledge and skills that will allow them to function as responsible and contributing members of society. Our primary goals are to provide professional training and student-centered research experiences that involve significant collaboration with professors to (1) serve as a foundation for a career in the sciences; (2) provide preprofessional training in preparation for careers in medicine, dentistry, pharmacy, veterinary medicine, and other professions; (3) prepare students for careers as science and mathematics teachers; and (4) provide for continued study at the graduate level.

The CSM is guided by the principles of student success, strategic partnerships within the university and community, and interdisciplinary inquiry. Students and faculty in the college conduct research and scholarly activities in their academic fields and in solving scientific problems of the region and beyond. At that same time, we ensure "science literacy" for our non-science majors to ensure they gain critical scientific knowledge and experience that will be valuable no matter what career they pursue. We are committed to ensuring student success and equipping them with the necessary technical and critical thinking skills to be marketable for the workplace and competitive for graduate schools.

Biology

The Department of Biology offers a diversified undergraduate program that matches the breadth and excitement of modern biology and prepares students for the hundreds of career opportunities that use biology as a foundation. The Bachelor of Science degree is awarded to those students who successfully complete the biology core and additional requirements and electives.

The biology major we offer has three programmatic goals:

1. To provide students with a solid foundation in all aspects of modern biology and also the intellectual skills that will serve as the basis for a lifetime of future achievement.
2. To provide students with the specialized educational opportunities that will allow them to compete successfully for careers in the biological sciences or for advanced studies in major doctoral programs.
3. To provide preprofessional students with the knowledge needed for advanced study in the many fields that build upon a biological foundation.

Our undergraduate biology major is excellent preparation for graduate programs in medicine, dentistry, pharmacy, veterinary medicine, optometry, doctoral programs, and many others.

The department offers a Master of Science in biology for qualified students who wish to explore some part of biology in greater depth. It can be integrated with a postbaccalaureate certificate in biotechnology.

Faculty and Facilities

Faculty expertise spans the range of biology from the molecular to the ecological, with a broad representation of taxonomic specialties. Laboratories in upper-division majors' courses are taught by faculty, and individualized student/faculty research participation through independent study is strongly encouraged.

Faculty members have garnered independent research funding from various agencies including the National Institutes of Health, National Science Foundation, U.S. Department of Agriculture, Environmental Protection Agency, and National Sea Grant. Faculty and students also participate in collaborative studies on, for example, medical and clinical topics with local physicians and hospitals; agricultural topics with University of California Kearney Agricultural Research and Extension Center and the U.S.D.A.-Agricultural Research Service San Joaquin Valley Agricultural Sciences Center in Fresno/Parlier; ecological and environmental topics with California Department of Fish and Wildlife, U.S. Forest Service and Endangered Species Recovery Project; and science educational topics with regional school districts and state and national credentialing agencies.

The department is housed in a well-equipped, modern science building. Among the specialized equipment and technologies available for students are DNA sequencers; Polymerase Chain Reaction (PCR) thermocyclers; apparati for conducting molecular and immunological analysis of nucleic acids and proteins; genetic recombination, including use of electroporation and gene guns; a bioinformatics computing laboratory; a proteomics work station; cell and tissue culture facilities; fermenters and bioreactors; fluorescence, confocal and 4-D microscopes; ultracentrifugation; radioactive materials methodologies; and metabolic studies on all types of life forms. Excellent greenhouse and animal care facilities, as well as media/reagent production complexes, support the instructional and research programs.

Fresno's proximity to both the Sierra Nevada and the Pacific coast provides a natural laboratory with numerous field trip opportunities that are rarely equaled at other institutions. High Sierra, Mediterranean, desert, foothill, coastal, and forest environments are all within a three-hour drive of the campus. The department maintains a wealth of field equipment to observe and collect wild organisms. A self-contained pond ecosystem offers a unique, on-campus study resource. The department also maintains extensive collections of museum specimens of insects, vertebrates and a herbarium. The department is a member of a consortium that manages and operates the Moss Landing Marine Laboratory (MLML). Students can study and conduct research at MLML, located on the Monterey Bay.

College of Science and Mathematics

Department of Biology
Alejandro Calderón-Urrea, *Chair*
Science Building, Room 106
559.278.2001
FAX: 559.278.3963
www.fresnostate.edu/biology

B.S. in Biology

B.A. in Natural Sciences Teaching Credential
Option: Biology

M.S. in Biology

M.S. in Marine Science

Minor in Biology

Preprofessional advising in

- Clinical Lab Science
- Dentistry
- Medicine
- Pharmacy
- Veterinary Medicine

Faculty

Alejandro Calderón-Urrea, *Chair*
Mamta Rawat, *Graduate Coordinator*
Larry Riley, *Marine Science Coordinator, Moss Landing Marine Laboratories Coordinator*
David M. Andrews, *Credential Adviser*
Fred Schreiber, *Undergraduate Coordinator*
Steven C. Blumenshine
Jason Bush
Paul R. Crosbie
Karine Gousett
Ethelynda E. Harding
Madhusudan Katti
Ruth A. Kern
Shirley Kovacs
David Lent
Quinn McFrederick
Ulrike Müller
James P. Prince
Mamta Rawat
Larry Riley
Joseph Ross
Brian Tsukimura
Alice D. Wright
Hwan Youn

Bachelor of Science Degree Requirements

Biology Major

The Bachelor of Science in Biology is a 120-unit program. Of the total, 51 units are required to satisfy the university's General Education Program and 22 units are required by the Department of Biology to satisfy the biology core. The core curriculum is a sequence of courses required for all biology majors. The core curriculum builds the foundation upon which further learning in biology will be based. Additional requirements are listed below.

The biology degree program prepares students for entry into a wide range of careers, for further academic study at the graduate level, including the department's own M.S. in Biology, and for entrance into professional degree programs. Within the scope of the major requirements and electives, students may focus their studies in areas that best meet their future career needs. Students must consult an adviser for help in selecting courses appropriate to their interests and career objectives.

Students may also obtain an emphasis in marine science by selecting electives offered at the Moss Landing Marine Laboratories. An emphasis on cellular and molecular processes prepares students for the department's Master of Biotechnology and the Certificate of Advanced Studies in Biotechnology. Students preparing for the biotechnology certificate program should select a general microbiology course with laboratory and a general biochemistry laboratory course among their elective courses.

Students planning for graduate and professional schools should be aware that entrance requirements for those programs will often exceed the minimal requirements for a Biology B.S., particularly in the ancillary fields of chemistry, physics, and mathematics. An adviser should be consulted for specific information on graduate and professional school requirements.

Students should meet with an adviser a minimum of once a semester so the adviser can review the student's program and progress.

	Units
Major requirements	**42**
• *Biology Core*	*(22)*
• *Other major requirements*	*(20)*

Biology Core (22 units)

The biology core is required of all majors (see *Advising Notes*.)

	Units
BIOL 1A, 1B and 1BL, 101, 102, 103, 104, 105	22

Other Major Requirements (20 units)

In addition to the core, all majors must complete major and additional requirements described as follows:

All students must take a minimum of three upper-division biology (BIOL) laboratory courses. Of these, at least one must be designated as a diversity course, and one must be designated as a physiology course, both identified below. The third course may be any other laboratory course, also identified below. All other courses taken as part of the major requirements are the choice of the student. One of these additional courses may be either BIOL 64 or BIOL 65, but no other lower-division course may be used.

1. *Diversity Courses*: BIOL 120, 122, 123, 124, 125, 130, 131, 132, 133, 134, 135, 136, 140, 143, 178; MSCI 112, 113, 124, 125, 131
2. *Physiology Courses:* BIOL 155, 156, 157 and 157L, 160, 161, 162 and 162L; MSCI 135
3. *Third Laboratory Course:* BIOL 120, 122, 123, 124, 125, 130, 131, 132, 133, 134, 135, 136, 140, 141, 142, 143, 144, 151, 152, 153, 155, 156, 157 and 157L, 160, 161, 162 and 162L, 170, 171, 172S, 174, 176, 178; MSCI 112, 113, 124, 125, 131, 135

Options for Completing the 20-unit requirement: You may take additional laboratory courses from line 3 above, BIOL 64 or 65, 121, 150, 163, 164, 165, 166, 173, 175, 189T, up to 6 units of 190.

Additional requirements	**30**
1. CHEM 1A, 1B, 8 or 128A, 129A, and 150** or 155	(18)
2. MATH 70 or 75	(4)
3. MATH 101 or PSYCH 42	(4)
4. PHYS 2A	(4)
General Education requirements	**51**
Electives and remaining degree requirements	**6**
(See *Degree Requirements*); may be used toward a double major or minor.	
Total	**120***

* See *Advising Note 1.*
** See *Advising Note 3.*

Advising Notes for B.S. in Biology

1. The total of 120 units assumes biology majors will maximize the 9 units of General Education requirements that also may be applied to major and additional required courses as follows: 3 units of CHEM 1A in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; and 3 units of MATH 75 in G.E. Foundation B4. Consult your major academic adviser for details.
2. B.S. biology majors who have taken introductory sequences other than BIOL 1A and 1B and 1BL must consult with their faculty adviser or department chair for equivalency evaluation prior to beginning their upper-division coursework.
3. Please note that CHEM 128B is a prerequisite for CHEM 150 and 155.
4. Premedical, prepharmacy, preveterinary, and preclinical laboratory sciences stu-

dents are required to take CHEM 128B in addition to CHEM 128A, and PHYS 2B in addition to PHYS 2A. Prepharmacy students are required to take, and most premedical and preveterinary students should take, CHEM 129B. Preclinical laboratory sciences students are required to take CHEM 105. Some prepharmacy and premedical students should take MATH 76.

5. No BIOL courses meeting General Education Integration course requirements may be used to satisfy the General Education requirements for biology majors.
6. *CR/NC* grading is not permitted in the biology major.
7. General Education, additional, and elective requirements may be used toward a double major or minor (see *Double Major* or departmental *minor*). Consult the appropriate department chair, program coordinator, or faculty adviser for additional information.

Suggested Sequence of Courses for B.S. in Biology

The following comments on timing and sequence are intended for full-time students who plan to complete the B.S. in four years. Students with extensive extracurricular obligations should make appropriate timing adjustments to avoid overloads. See your adviser for assistance.

A total of 120 units must be completed for the B.S. in Biology. In addition to courses required for the major, full-time students should add General Education requirements and electives to bring semester totals to 15-17 units.

During the first two years, resident students should complete some General Education requirements, BIOL 1A and 1B and 1BL, all lower-division additional requirements, and any lower-division electives that might be selected. Students are advised to keep some General Education coursework for their junior and senior years. BIOL 101, 102, 103, and statistics should be completed as early as possible and preferably no later than the end of the third year. The remainder of the third and fourth years should be spent completing requirements for the major, for General Education, and for the electives in biology and other fields. BIOL 105 must be taken after the other core courses.

Biology Minor

The Minor in Biology may be earned by completing the 22-unit biology core: BIOL 1A, 1B and 1BL, 101, 102, 103, 104, 105.

Note: The Biology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Bachelor of Arts in Natural Sciences

Teaching Credential — Biology Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. This degree program is designed for students who wish to become high school science teachers. Students may also complete the credential requirements while obtaining a B.S. in biology. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 278-5173. The B.A. in Natural Sciences with the Biology Option is as follows:

	Units
Core requirements	**36**
Biology	(12)
BIOL 1A, 1B and 1BL, 101	
Chemistry	(10)
CHEM 1A, 1B	
Geology	(7)
EES 1 and 168	
Natural Science	(3)
NSCI 106	
Physical Science	(4)
PSCI 21	
Biology Option	**39-41**
CHEM 8 or 128A	(3)
PHYS 2A, 2B[1]	(8)
MATH 75	(4)
MATH 101 or PSYCH 42	(4)
BIOL 102, 103, 104, 105	(10)
BIOL 120	(4)
Select one course: BIOL 122, 124, 125, 130, 131, 132, 133, 134, 135, 136, 171, 172S	(3-4)
Select one course: BIOL 160, 161, 162 and 162L, 163	(3-4)
General Education requirements[2]	**51**
Electives and remaining degree requirements[2,3]	**4-6**
Total	**120**

Advising Notes for the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well-prepared for physics.
2. This total assumes that students in this option will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units), and 3 units if MATH 75 is selected. Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and upper-division writing skills.

Graduate Programs

The Biology Department offers a research-intensive Master of Science in Biology with the opportunity for specialization in several areas of study. Among these areas are ecologically oriented field studies in fresh water, terrestrial, and marine environments; molecular, cellular, and developmental biology of plants, animals, and microbes; physiology of microbes, plants, and animals; entomology; microbiology; parasitology; botany; zoology; systematics; and animal behavior. The program also prepares candidates for teaching biological science disciplines at the secondary and community college education levels. The master's program provides a strong foundation for those seeking advanced education at universities offering the research doctorate (Ph.D.) or other professional degrees. The Biology Department has further informational materials available on request.

Master of Science Degree Requirements

The Master of Science program in Biology assumes preparation equivalent to a California State University, Fresno undergraduate major in biology. Students having undergraduate majors in fields other than the biological sciences may enter the program, but may reasonably expect additional requirements to produce equivalent preparation.

A master's candidate interested in pursuing marine science studies must meet California State University, Fresno Biology Department master's candidate requirements as well as those

of MLML. Such candidates are encouraged to consult the Biology Department's MLML coordinator for information and to read the MLML information presented at the end of the graduate information.

There are five steps that must be completed for the Master of Science degree in Biology:

1. Admission to the university as a postbaccalaureate student
2. Admission to classified graduate standing (constitutes admission to the department program)
3. Advancement to candidacy (formalizes thesis committee and research project)
4. Completion of a thesis and associated requirements
5. Completion of all additional requirements for award of master's degree

Normal progress toward the Master of Science degree in Biology requires that classified graduate standing be achieved in the first semester of graduate study and that advancement to candidacy be granted the following semester. Completion of the thesis and all other program requirements will normally require two additional semesters of study. Procedures for completing these steps are outlined in the following sections. Students should meet with the departmental graduate coordinator at the earliest possible date. **Students are personally responsible for ensuring that all graduate degree requirements have been met in sequence; therefore, each student should read the procedures thoroughly to be sure all requirements are understood.**

Admission to Graduate Standing

Admission to the university is handled through the Graduate Admissions Office of California State University, Fresno. For admission as a postbaccalaureate student to the university, a student must have completed a four-year college program and hold an acceptable baccalaureate degree from an accredited institution with a minimum grade point average of 2.5 in the last 60 units.

To be considered for graduate classified standing in biology, the following additional steps are required of students planning to enter the biology graduate program.

1. Submit current scores (within the last five years) for the General Graduate Record Exam.
2. Contact the graduate coordinator in the Biology Department prior to registration for assignment of a temporary faculty adviser who will assist in the planning of initial courses. Students may request the assignment of any biology faculty member to serve in this capacity.
3. Meet with the temporary adviser prior to registration and develop an approved initial program of at least 9 units that is mutually agreeable to the student and the adviser. These courses are to be entered on the "Approved Preliminary Program" form (available from the Biology Office) and signed by the student, temporary adviser, and departmental graduate coordinator. This will constitute the Approved Initial Graduate Program. These courses may or may not be included on your Advancement to Candidacy Application; make-up classes, for example, are not included. All students are required to have the "Approved Preliminary Program" form approved and on file prior to registration. Upon completion of all prerequisites, the student must file for classified standing.

Admission to Classified Graduate Standing

Admission to classified graduate standing constitutes official admission into the graduate program in the Department of Biology and requires the approval of the Biology Department. Classified standing must be attained no later than the semester in which a student completes 10 units, including transfer and postbaccalaureate credit, to be used toward the master's degree; students should attempt to obtain classified graduate standing as early as possible in their graduate careers to avoid possible loss of units. Normal progress toward the degree requires that this be accomplished in the first semester of graduate work.

Students applying for classified standing should be sure they have submitted an "Approved Preliminary Program" form to the departmental graduate coordinator.

Admission to classified graduate standing must be recommended by the graduate coordinator in consultation with the Graduate Committee of the Biology Department. To be recommended, the student must demonstrate competency in verbal or written communication, quantitative analytical skills and disciplinary knowledge.

Competencies may be demonstrated in the following manner:

1. For verbal or written communication, students must achieve one of the following: (1) 60th percentile or better on the verbal portion of the general GRE, (2) a grade of ***B*** or better in an upper-division writing course, (3) a score of 4.5 or better on the writing portion of the General GRE, or (4) 80% or better on the Upper-Division Writing Exam. In exceptional cases the Graduate Committee may consider alternative evidence of verbal or writing skills.
2. For quantitative analytical skills, students must achieve either (1) a quantitative GRE score of 60th percentile or better or (2) a ***B*** or better in a mathematics class at least at the level of MATH 70 (introductory calculus).
3. For disciplinary knowledge, students must achieve at least one of the following:
   a. A score on the subject Biology test of the GRE of 60th percentile or better.
   b. No less than a grade of ***B*** in the following upper-division core courses or their equivalents: genetics, evolution, either cell biology or ecology, and one other upper-division or graduate course appropriate to the student's specialty. Evaluation of coursework will be conducted by the graduate coordinator in consultation with faculty teaching the core courses at California State University, Fresno.
   c. No less than a grade of ***C*** in each of the courses listed in (b) above, as well as an overall GPA of 3.0 or better for at least 25 semester units of upper-division lecture or lecture/laboratory courses in natural science.

On recommendation, students will be assigned to one of the following two categories:

1. Classified graduate standing will be assigned to students meeting the standards in verbal written communication, quantitative analytical skills, and disciplinary knowledge.
2. Conditional classified standing will be assigned to students meeting a majority of the classification standards yet having specific identifiable deficiencies that may be easily corrected within two semesters. While this classification gives students the opportunity to remedy identified deficiencies, those remedial courses taken to correct deficiencies may not be applied to the graduate program.

Students recommended for classified graduate standing may proceed with the completion of requirements for advancement to candidacy, the next step in the graduate program. Students granted conditional classified status will not have been admitted to the graduate program in biology and must remedy their deficiencies in order to be recommended for classified standing. The graduate coordinator will provide further information on how this may be accomplished.

When any requirements for a change in graduate standing have been completed, the student must see the graduate coordinator and file appropriate forms with the graduate division.

Advancement to Candidacy

Acceptance to **classified graduate standing** indicates that the student's academic background and perceived ability are sufficiently high to merit admission into the biology graduate program. **Advancement to candidacy** signifies that the student has developed a coherent program of study for the Master of Science degree that meets with the approval of the Biology Department. Advancement to candidacy requires passing the Graduate Student Writing Requirement, the establishment of the Thesis Committee, identification of the thesis topic, and the approval of all coursework that must fit within the following framework:

	Units
Courses in 200-series	**17**
Electives (May be 100- or 200-series)	**9**
Thesis (BIOL 299)	**4**
Total	**30**

No less than 18 units of the approved coursework must be in the biological sciences. Nine units must be completed prior to advancement to candidacy. The Biology Department also requires that at least 10 units of approved coursework be completed after advancement to candidacy.

Units completed during the semester that advancement is achieved will be considered to have been completed after advancement to candidacy. Before students may advance to candidacy, they must satisfactorily complete the Biology Department Graduate Student Writing Requirement. Students must submit a formal paper demonstrating writing skill at the graduate level. This graduate-level paper may be a research proposal, a literature review in their field, a paper from a graduate directed research project, or another paper. Detailed writing requirement regulations are available from the departmental graduate coordinator. Normal degree progress requires that advancement to candidacy be achieved in the semester following admission to classified standing. A student must be advanced to candidacy, possess a GPA of 3.0 or better, and file a Thesis Committee Assignment Form before enrolling in thesis (BIOL 299).

A complete list of the steps required for advancement to candidacy is available from the departmental graduate coordinator or at *www.fresnostate.edu/biology/Graduate/default.htm*.

Completion of a Thesis

The Master of Science in Biology requires completion of a research thesis (BIOL 299). The thesis must show originality, appropriate organization, clarity of purpose, critical analysis, and accuracy and completeness of documentation where needed. Critical and independent thinking are required. The finished thesis must meet standards appropriate for publication in the scholarly journals of the field. A colloquium is required of all students at least seven days prior to the last day of instruction of the spring or fall semester, or by June 30 of the summer session. Additional information and regulations on the colloquium and on thesis completion are available from the department's graduate coordinator.

Completion of All Requirements for Award of Master of Science in Biology

In addition to the aforementioned requirements, in order to receive the Master of Science in Biology the student must:

1. Maintain a GPA of 3.0 or better in all graduate coursework undertaken from the date of embarking on the first course of the approved program. Students wishing to explore other academic areas without jeopardizing this grade point average should attempt to use the *CR/NC* grade option for this purpose.
2. File an application for the granting of the Master of Science degree and pay the diploma fee. Applications should be submitted during the first two weeks of the semester (or the first week of a summer session) in which the degree is to be completed and are available from the Division of Graduate Studies, Haak Center, Library 4140, West Wing.

Master of Science in Marine Science Degree Requirements

This degree program — to be offered as an interdepartmental degree in cooperation with Moss Landing Marine Laboratories (MLML) — provides the opportunity for students to acquire a practical and theoretical education in the marine sciences to prepare them for careers as marine specialists, scientists, and teachers. The program at Moss Landing provides extensive field and laboratory work for advanced study in the marine sciences, which is not duplicated on individual CSU campuses.

The Master of Science in Marine Science degree program is administered through MLML and a consortium campus with emphasis on biology, geology, or other departments, depending on the choice of the student. Application to Moss Landing Marine Laboratory (MLML) requires separate applications to both MLML and a consortium campus. The deadlines for each application may differ. The prospective student must meet the entrance requirements for the home campus department and will be accepted into classified or conditionally classified status by normal procedures at that campus (see previous information for biology procedures summary). Conditionally classified students must become classified by home campus procedures. MLML may impose additional requirements for classification.

The graduate writing requirement will be fulfilled according to the regulations set by the host campus, and must be met prior to advancement to candidacy. Please contact the Biology Department graduate coordinator for details.

The Thesis Committee will be composed of at least three members, including one faculty member from MLML (who is ordinarily the thesis adviser) and, at the discretion of the home campus, a representative of that campus. The other member or members of the Thesis Committee may be from MLML, the home campus, or elsewhere with the approval of the thesis adviser.

Additional MLML Degree Requirements Including Coursework. A student becomes eligible for the master's degree in marine science after the following requirements have been satisfied:

	Units
Courses in 100-series (requires any three of the following five courses: MSCI 103, MSCI 141, MSCI 142, MSCI 143, MSCI 144)	**12**
Courses in 200-series (including 2 units of MSCI 285T and 4 units of MSCI 299)	**15**
Electives (course[s] in the 100- and/or 200-series) approved by Thesis Committee	**3**
Total	**30**

Note: Quantitative Marine Science, MSCI 104, does not count toward the degree.

COURSES
Biology (BIOL)

BIOL 1A. Introductory Biology (4 units)
Course one of a two-semester sequence required of all biology majors. Thematic introduction to the unifying concepts of life science: chemical basis of life; cellular processes; energy metabolism; genetics; evolution. G.E. Breadth B2. (3 lecture, 3 lab hours) (Course fee, $15) (Formerly BIOSC 1A)

BIOL 1B. Introductory Biology (3 units)
First-time enrollees must take BIOL 1BL concurrently. Course two of a two-semester sequence required of all biology majors. Continuation of thematic introduction to the unifying concepts of life science: classification and diversity of life; survey of the living organisms; physiology; ecology and environmental biology. (3 lecture) (Formerly BIOSC 1B)

BIOL 1BL. Introductory Biology Laboratory (2 units)
First-time enrollees must take BIOL 1B concurrently. Required of all biology majors. Continuation of thematic introduction to the unifying concepts of life science: laboratory exercises in evolution, classification and diversity of life; survey of the living organisms; physiology; ecology and environmental biology. (6 lab hours)* (Course fee, $15) (Formerly BIOSC 1B, BIOL 1B)

BIOL 10. Life Science (3 units)
Not open to students with credit in BIOL 1A. How living things work and why they work that way. Biology from chemical and physical foundations to ecological and evolutionary processes. Biology and its relationship to human affairs. G.E. Breadth B2. (2 lecture, 2 lab hours) (Course fee, $5)

BIOL 11. Plant Biology (3 units)
Not open to students with credit in BIOL 1B. Structure, function, and development of plants. G.E. Breadth B2. (2 lecture, 2 lab hours) (Course fee, $15) (Formerly BOT 10)

BIOL 12. Animal Biology (3 units)
Not open to students with credit in BIOL 1B. Structural and functional comparison of animals; principles and human implications of inheritance, evolution, and ecology; physiology as applied to man. G.E. Breadth B2. (2 lecture, 2 lab hours) (Course fee, $15) (Formerly ZOOL 10)

BIOL 20. Introductory Microbiology (4 units)
Not open to students with credit in BIOL 120. Prerequisites: CHEM 1A or 3A. Introduction to microbiology; principles and selected applications. (3 lecture, 3 lab hours) (Course fee, $25) (Formerly MICRO 20)

BIOL 33. Human Anatomy and Physiology (5 units)
Three units allowed for students with prior credit in human anatomy; 2 units allowed for students with prior credit in human physiology. An integrated study of the structure and function of the human body. (4 lecture, 3 lab hours) (Course fee, $25) (Formerly PHYAN 33)

BIOL 64. Functional Human Anatomy (3 units)
Not open to students with credit in BIOL 33. Primarily for students in the health related and biological professions. The life continuum from conception to death. A systems approach to the gross and microscopic structures of the human body. (2 lecture, 3 lab hours) (Course fee, $25) (Formerly PHYAN 64)

BIOL 65. Human Physiology (5 units)
Not open to students with credit in BIOL 33. College chemistry and human anatomy recommended. Homeostasis in the human body; how organ systems function to maintain life; dynamic and adaptive systems at the molecular, cellular, and organ level. (4 lecture, 3 lab hours) (Formerly PHYAN 65)

BIOL 101. General Ecology (3 units)
Prerequisites: BIOL 1A and 1B; PSYCH 42 or MATH 101, or EES 178 (earth and environmental sciences majors only). MATH 70 or equivalent recommended. Required of all biology majors. The structure, function, organization, and regulation of populations, communities, and ecosystems. The role of evolution in environmental relationships. (2 lecture, 3 lab or field hours)* (Course fee, $15) (Formerly BIOSC 130)

BIOL 102. Genetics (3 units)
Prerequisites: BIOL 1A and 1B. Corequisites: CHEM 8 or 128A. Required of all biology majors. Fundamentals of inheritance, including an introduction to the underlying molecular mechanisms. (3 lecture hours) (Formerly BIOSC 140A)

BIOL 103. Cellular Biology (3 units)
Prerequisites: BIOL 102 and either CHEM 150 or 155. Required of all biology majors. Fundamentals of inheritance and cellular biology for both prokaryotic and eukaryotic systems, including an introduction to the underlying molecular mechanisms. (3 lecture hours) (Formerly BIOSC 140B but excludes 3 lab hours)

BIOL 104. Genetics and Cellular Biology Lab (1 unit)
Prerequisite: BIOL 102 and 103. (BIOL 103 may be taken concurrently.) Required of all biology majors. Must be taken a minimum of four semesters from completing BIOL 103. Basic techniques in molecular genetics and cell biology. No credit if BIOSC 140B taken prior to fall 2005. (3 lab hours) (Course fee, $20) (Formerly BIOSC 140B lab component, BIOSC 140L)

BIOL 105. Evolution (3 units)
Prerequisites: senior standing or permission of instructor; BIOL 101, 102, and 103. Required of all biology majors. Evolutionary processes and patterns. (Formerly BIOSC 180)

BIOL 110. Human Ecology (3 units)
The study of the relationships between humans and their environment, both natural and manmade; emphasis on scientific understanding of root causes of current environmental problems. (3 lecture hours)

BIOL 120. Microbiology (4 units)
Prerequisites: BIOL 1A, 1B; CHEM 8 or 128A; or BIOL 11 and CHEM 150. Emphasis on prokaryotes (bacteria); microbial physiology, genetics, ecology, classification, and identification; applications of microbiology. Prerequisite to most upper-division microbiology courses. (3 lecture, 3 lab hours) (Course fee, $25) (Formerly MICRO 140)

BIOL 121. Medical Microbiology (3 units)
Prerequisite: BIOL 120; BIOL 157 recommended. The role of microorganisms in causing infection and disease; strategies for diagnosing and treating infections. (3 lecture hours) (Formerly MICRO 183)

BIOL 122. Nonvascular Plants (3 units)
Prerequisites: BIOL 1A and 1B or permission of instructor. Comparative structure and phylogeny of the fungi, algae, mosses, and liverworts. (2 lecture, 3 lab hours) (Course fee, $20) (Formerly BOT 132)

BIOL 123. Phycology (4 units)
Prerequisites: BIOL 1A and 1B or permission of instructor. Morphology, cytology, ecology, physiology, economic importance, and cultivation of the algae. (2 lecture, 6 lab or field hours)* (Course fee, $30) (Formerly BOT 142)

BIOL 124. Vascular Plants (4 units)
Prerequisites: BIOL 1A and 1B or permission of instructor. Morphology, reproduction, and evolution of the major groups of vascular plants (both living and extinct). Emphasis placed upon the seed plants. (2 lecture, 6 lab hours) (Formerly BOT 131)

BIOL 125. Plant Taxonomy (3 units)
Prerequisites: BIOL 1A and 1B or permission of instructor. Principles of plant classification; local flora. (1 lecture, 6 lab or field hours)* (Formerly BOT 144)

BIOL 130. Invertebrate Zoology (4 units)
Prerequisites: BIOL 1A and 1B. Systematics and phylogeny (based primarily upon external and internal anatomy) and general ecology of free-living invertebrates (excluding insects). Includes field studies of marine and occasionally freshwater habitats. (2 lecture, 3 lab or field hours)* (Course fee, $25) (Formerly ZOOL 141)

BIOL 131. Parasitology (4 units)
Prerequisites: BIOL 1A and 1B and CHEM 1A or 3A. A study of the biology of parasitic organisms, including those of humans. Lecture topics: life history strategies, infectious processes, epidemiology, ecology, parasite evolution and phylogeny, diagnosis and treatment. Laboratory and field exercises: identification and sampling techniques, taxonomy, investigation of biological processes. (3 lecture, 3 lab hours*) (Course fee, $20) (Formerly ZOOL 148)

BIOL 132. General Entomology (3 units)
Prerequisites: BIOL 1A and 1B. Anatomy, physiology, life history, and classification of insects and other arthropods. (2 lecture, 3 lab or field hours)* (Formerly ZOOL 120)

BIOL 133. Natural History of Vertebrates (4 units)
Prerequisite: BIOL 101. Systematics, distribution, morphology, behavior, and ecology of fish, amphibians, reptiles, birds, and mammals. Fieldwork includes capture and sampling techniques, species identification and habitat analysis, and may require weekend field trips to coastal, desert, and mountain environments. (3 lecture, 3 lab hours)* (Formerly ZOOL 150)

BIOL 134. Ichthyology (3 units)
Prerequisite: BIOL 101. Ecology, evolution, and diversity of the fish of the world with emphasis on California fish, freshwater and marine. (2 lecture, 3 lab or field hours)* (Formerly ZOOL 171)

BIOL 135. Biology of Reptiles and Birds (4 units)
Prerequisite: BIOL 101. Ecology, ethology, and evolution of the reptiles and birds of the world. Encompasses the traditional areas of herpetology and ornithology. (3 lecture, 3 lab or field hours)* (Course fee, $25) (Formerly ZOOL 174)

BIOL 136. Mammalogy (3 units)
Prerequisite: BIOL 101. Ecology, evolution, and diversity of the mammals of the world. (2 lecture, 3 lab or field hours)* (Formerly ZOOL 177)

BIOL 140. Plant Anatomy (3 units)
Prerequisites: BIOL 1A and 1B or permission of instructor. Structure and development of flowering plants at the cellular and tissue levels. (2 lecture, 3 lab hours) (Formerly BOT 133)

BIOL 141. Histology (4 units)
Prerequisites: BIOL 103. Identification and study of vertebrate cells, tissues, and organs. (2 lecture, 6 lab hours) (Formerly PHYAN 134)

BIOL 142. Vertebrate Embryology (4 units)
Prerequisites: BIOL 1A and 1B. Morphogenesis of vertebrates from gamete formation through organogenesis, including physiological and experimental aspects of development. Laboratory emphasis on frog, chick, and pig. (2 lecture, 6 lab hours) (Formerly PHYAN 135)

BIOL 143. Comparative Vertebrate Morphology (4 units)
Prerequisites: BIOL 1A and 1B. Comparative structure of vertebrate organ systems; laboratory study of representative vertebrates. (2 lecture, 6 lab hours) (Course fee, $30) (Formerly ZOOL 132)

BIOL 144. Neuroanatomy (4 units)
Prerequisites: BIOL 33 or 64 or 65. Macroscopic and microscopic study of the structure and functional relationships of the human nervous system. (3 lecture, 3 lab hours) (Formerly PHYAN 130)

BIOL 150. Molecular Biology (3 units)
Prerequisites: BIOL 102 and 103; CHEM 150 or 155. The study of genome structure and fluidity, prokaryotic and eukaryotic gene expression, and genomics. If GENET 142 was taken prior to fall 2005, it is equivalent to BIOL 150 and 151. (Formerly GENET 142)

BIOL 151. Bioinformatics (2 units)
Prerequisites: BIOL 102 and 103; CHEM 150 or 155. Recommended prerequisite or corequisite: BIOL 150. Practical use and application of computational tools for the analysis of nucleic acids and proteins. Genomic database searching, sequence alignment, molecular phylogenetic analysis, and secondary and tertiary structure modeling of biological macromolecules. No credit if GENET 142 taken prior to fall 2005. (1 lecture, 3 lab hours) (Course fee, $10) (Formerly GENET 143)

BIOL 152. Experimental Molecular Genetics (4 units)
Prerequisite: BIOL 102 and 103. The nature of genetic information, its mutation, transfer, and recombination in cells. (2 lecture, 6 lab hours) (Course fee, $30) (Formerly GENET 171)

BIOL 153. Microbial Genetics (4 units)
Prerequisite: BIOL 102 and 120 or permission of instructor. Genetic variation, gene transfer, and regulation of gene expression in model microbial systems and medically and industrially important microbes. (3 lecture hours, 3 lab hours) (Formerly GENET 182)

BIOL 155. Developmental Biology (4 units)
Prerequisite: BIOL 102 and 103. Investigations concerning the variety of mechanisms acting during the several stages of development of the living organism, from gamete formation to morphological and biochemical differentiation of organ systems; emphasis on differential genetic control. (3 lecture, 3 lab hours) (Course fee, $20) (Formerly GENET 172)

BIOL 156. Plant Growth and Development (3 units)
Prerequisites: BIOL 102 or permission of instructor. Processes involved in plant growth with emphasis on the development of form in higher plants and the experimental approach. (2 lecture, 3 lab hours) (Course fee, $20) (Formerly BOT 137)

BIOL 157. Immunology (3 units)
Prerequisites: BIOL 102 required. BIOL 103 and CHEM 150 or 155 highly recommended. Principles of mammalian immune response, featuring the molecular and cellular interactions involved in both humoral and cell-mediated immunity. Regulatory controls and adverse clinical conditions involving immune functions are addressed. Experimental basis of inquiry is emphasized. (3 lecture hours) (Formerly PHYAN 160)

BIOL 157L. Immunology Laboratory (3 units)
Prerequisites: BIOL 157 and either BIOL 103 and 104 or BIOL 120. Experimental illustration of immune response; classical and contemporary immunology techniques; interpretation and presentation of experimental outcomes. (6 lab hours, 1 discussion hour) (Course fee, $30) (Formerly PHYAN 160L)

BIOL 160. Microbial Physiology (4 units)
Prerequisite: BIOL 120. Structure, function, energy metabolism, growth, and regulatory mechanisms of microorganisms. (2 lecture, 6 lab hours) (Course fee, $25) (Formerly MICRO 161)

BIOL 161. Plant Physiology (4 units)
Prerequisites: BIOL 1A and 1B (or BIOL 11); CHEM 1A or 3A; CHEM 3B or 8 or 128A; or permission of instructor. General metabolism (photosynthesis, water relations, respiration, nutrient use, etc.) of plants and functional integration with structure. (3 lecture, 3 lab hours) (Course fee, $20) (Formerly BOT 130)

BIOL 162. Comparative Animal Physiology (3 units)
Prerequisite: BIOL 102 and 103. Evolution of physiological systems; functional adaptations to different environments; physiological principles as applied to animals. (3 lecture hours) (Formerly PHYAN 151)

BIOL 162L. Comparative Animal Physiology Lab (1 unit)
Prerequisite: BIOL 102 and 103. BIOL 162 is a pre- or co-requisite. Comparative experimental approach to understanding how animals adapt to different environmental challenges and investigations into physiological processes. (3 lab hours) (Course fee, $20) (Formerly PHYAN 151 lab component)

BIOL 163. Advanced Human Physiology (3 units)
Prerequisites: BIOL 103 and either BIOL 65 or equivalent. Primarily for students in biology and in the health professions. Advanced study of the cardiovascular, respiratory, excretory, and digestive systems. Concepts explaining normal functioning will be emphasized, with presentation of supporting scientific data. Integration of function of organ systems will be illustrated through study of specific examples, such as exercise. (3 lecture hours) (Formerly PHYAN 163)

BIOL 164. Hematology (3 units)
Prerequisite: BIOL 103; BIOL 65 and 157 recommended. Development, structure, identification, and quantification of cellular blood elements; qualitative and quantitative considerations of hemoglobin, coagulation, and immunohematology. (Formerly PHYAN 162)

BIOL 165. Endocrinology (3 units)
Prerequisite: BIOL 102 and 103. A systems approach to the study of hormone synthesis, secretion, function as intercellular signals, and their role in both controlling and integrating normal physiological processes. (Formerly PHYAN 165)

BIOL 166. Neurophysiology (3 units)
Prerequisites: BIOL 33 or 64 or 65 or 103 or 162. Function of the human nervous system with emphasis on molecular mechanisms of electrical and chemical signaling. (Formerly PHYAN 140)

BIOL 170. Microbial Ecology (4 units)
Prerequisites: BIOL 101 and 120. Physiological ecology of microorganisms; interactions of microorganisms with abiotic and biotic factors in the environment; microbial habitats including soil, water, and organisms; techniques of microbial ecology (field and laboratory). (3 lecture, 3 lab hours)* (Formerly ECOL 162)

BIOL 171. Terrestrial Ecology (4 units)
Prerequisite: BIOL 101. The interaction of organisms and communities with the physical and biotic environment, with emphasis on the biotic communities of Central California. (3 lecture, 3 lab or field hours)* (Course fee, $20) (Formerly ECOL 151)

BIOL 172S. Aquatic Ecology (4 units)
Prerequisite: BIOL 101. Physical-chemical features of inland waters as related to their biology; community structure and function, ecological interactions, adaptations, and identification of aquatic organisms. Includes a service-learning component. (3 lecture, 3 lab or field hours)* (Course fee, $25) (Formerly BIOL 172, ECOL 152)

BIOL 173. Marine Biology (3 units)
Prerequisite: BIOL 1B or BIOL 12. Introduction to the marine environment with emphasis on the biological aspects; systematics, ecology, and morphological and physiological adaptations of marine organisms, especially intertidal and shallow water forms; pollution; utilization of marine resources. (One field trip required) (Formerly ECOL 135)

BIOL 174. Animal Behavior (3 units)
Prerequisite: BIOL 101; one additional course in ecology or natural history recommended. Principles of ethology with emphasis on mechanisms of behavior. (2 lecture, 3 lab hours)* (Formerly ZOOL 152)

BIOL 175. Ecology Case Study (3 units)
Prerequisite: BIOL 101. Discussion-based course focusing on analysis and problem-solving in ecology. Cases are grounded in basic ecological and environmental science, but include relevance and application to sociological, economic, and political considerations. (2 hours lecture; 1 hour TBA) (Formerly ECOL 140)

BIOL 176. Field Methods in Ecology (3 units)
Prerequisite: BIOL 101. Teaches a broad range of field methods used in ecology. Focuses on quantitative techniques for studying animal populations: census techniques, capture/marking, radio telemetry, habitat assessment, behavioral observation and experiments, and design and logistics of field experiments. (2 lecture, 3 lab hours) (Course fee, $25) (Formerly ECOL 141)

BIOL 178. Systematic Biology (3 units)
Prerequisite: BIOL 1A and 1B; BIOL 102 and 103 recommended. Modern theory and methods of phylogenetic analysis applied to the study of biodiversity and evolution. (2 lecture, 3 lab hours) (Formerly ECOL 174)

BIOL 181. Seminar in Cellular and Molecular Biology (1 unit)
Prerequisites: BIOL 150 (may be corequisite) or permission of instructor. Trends and breakthroughs in cellular and molecular biology accessed through the primary literature. (1 seminar hour)

BIOL 189T. Topics in Biology (1-4; max total 6 units)
Prerequisite: permission of instructor. Investigation of selected areas in the field of biology. (Lecture and/or laboratory)

BIOL 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

* Late afternoon, Saturday and/or overnight field trips may be required.

GRADUATE COURSES

(See *Catalog Numbering System*.)

Biology (BIOL)

BIOL 208. Biological Field Studies (1-6; max total 6 units)
Prerequisite: permission of instructor. Integrated studies or specialized topics, including botanical, environmental, microbiological, or zoological field studies.* Approved for ***RP*** grading.

BIOL 225. Molecular Evolution (3 units)
Patterns and processes by which biological molecules evolve. Lecture topics include rates and modes of DNA sequence evolution, molecular phylogenetics, gene duplication, concerted evolution, genome organization, and application of computers to comparative molecular analysis. (3 lecture hours)

BIOL 230. Foundations of Ecology (2 units)
Prerequisites: permission of instructor. Discusses ideas and papers that defined ecology as an independent scientific discipline, both in the context of their time of publication and in comparison to current ecological paradigms. Covers late 19th century to present.

BIOL 240. Systems Ecology (3 units)
Prerequisites: BIOL 130, MATH 70. Quantitative approach to the analysis of whole ecosystems including data acquisition and statistical treatment, conceptual and mathematical ecosystem modeling, and computer simulations in FORTRAN or BASIC. No programming experience needed. (2 lecture, 3 lab hours)

BIOL 241A-B. Molecular Biology I-II (3-3)
(See CHEM 241A-B.) Prerequisites: BIOL 140A-B, CHEM 150 or 155, or permission of instructor. BIOL/CHEM 241A is prerequisite for BIOL/CHEM 241B. Current topics in molecular biology are addressed, including protein and nucleic acid structure, DNA replication, transcription, translation, prokaryotic and eukaryotic regulation, mechanisms of exchange of genetic material, and recombinant DNA technology.

BIOL 242. Techniques in Protein Purification and Analysis (3 units)
(Same as CHEM 242.) Prerequisite: CHEM 156 or permission of instructor. Corequisite: BIOL/CHEM 241A. Deals with the technologies relevant to protein isolation, purification, analysis, immobilization, and modification in micro and macro quantities. (1 lecture, 6 lab hours)

BIOL 243. Nucleic Acid Technology Lab (3 units)
(Same as CHEM 243.) Prerequisites: BIOL/CHEM 241A and 242. Corequisite: BIOL/CHEM 241B. A lecture/laboratory course focusing on the technologies used in nucleic acid chemistry; specifically, synthesis, translation, mutagenesis, and genetic engineering. (1 lecture, 6 lab hours) (Course fee, $40)

BIOL 244. Cell Culture Techniques (3 units)
(Same as CHEM 244.) Prerequisite: BIOL 103 and 104. The theory and practice of the *in vitro* propagation of eukaryotic cells, including growth characteristics, metabolic requirements, genetic analysis, and screening assays. Special focus is placed on cancer cell lines with the potential for stem cell manipulation relative to cultured cell biology culture and application to biotechnology. (1 lecture, 6 lab hours) (Course fee, $40)

BIOL 245. Industrial Biotechnology (3 units)
Prerequisites: MICRO 140 and CHEM 150 or 155, or permission of instructor. Theory and current practices of bioprocessing, including hands-on experience with standard techniques and formulation of a strategic plan for a new technology or product. (2 lecture, 3 lab hours)

BIOL 248. Seminar in Molecular Biology and Biotechnology (1-2; max total 4 units)
(See CHEM 248.) Prerequisite: admission to the biology or chemistry graduate program. Preference will be given to students enrolled in the Master of Biotechnology or Biotechnology Certificate programs. Reviews and reports on current literature in various aspects of biotechnology and molecular biology.

BIOL 250. Scientific Research Reporting (2 units)
Prerequisite: permission of instructor. Techniques of scientific photography and writing, illustrating emphasized. (1 lecture, 3 lab hours)

BIOL 255T. Topics in Botany (1-3; max total 9 if no topic repeated)
Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

BIOL 260T. Topics in Biology (1-3; max total 9 if no topic repeated)
Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

BIOL 265T. Topics in Physiology (1-3; max total 9 if no topic repeated)
Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

BIOL 270T. Topics in Zoology (1-3; max total 9 if no topic repeated)
Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

BIOL 274. Biostatistics and Experimental Design (3 units)
Prerequisite: one statistics class, preferably MATH 101. Application of statistical techniques to biological problems with emphasis on sampling, analysis of variance, experimental design, and regression techniques. Emphasis on analysis of real biological data and interpretation of results.

BIOL 275. Biogeography (3 units)
Prerequisite: permission of instructor. Seminar in descriptive and ecological geography of animal and plant groups.

BIOL 281. Seminar in Biological Science (1-2; max total 3 units)
Prerequisite: permission of instructor. Reviews and reports on current literature in the various phases of biology.

BIOL 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

BIOL 295. Research (2-6; max total 6 units)
Prerequisite: permission of instructor. Independent research by the graduate student.

BIOL 299. Thesis (2-4; max total 4 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 299C courses, see *Graduate Studies*.

* Late afternoon, Saturday and/or overnight field trips may be required.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Biology (BIOL)

BIOL 302T. Topics in Biology (3; max total 6 units)
Prerequisite: graduate standing or permission of instructor. Relation of man to his surroundings; review of concepts, cell, physics and chemistry of life, energetics, inheritance, evolution.

Moss Landing Marine Laboratories

The California State University began operation of the Moss Landing Marine Laboratories, Moss Landing, California, in the fall semester 1966. This facility functions as a seaside extension of the campuses of seven cooperating state universities (East Bay, Fresno, Monterey Bay, Sacramento, San Francisco, San Jose, and Stanislaus). It offers full-time coursework in marine biology, oceanography, and other marine sciences for majors in either the biological or physical sciences whose objectives include further graduate study, teaching the sciences, or research in the marine sciences. Properly qualified upper-division and graduate students may enroll at the Fresno State campus for a term of instruction at Moss Landing and earn resident credit for such coursework. See *Earth and Environmental Science Department* for on-campus coursework in general oceanography and geology courses related to marine science.

Space reservation is required for attending Moss Landing Marine Laboratories. Forms for this purpose are available from the Biology Department or Moss Landing Marine Laboratories, P.O. Box 223, Moss Landing, CA 95039. Priority is determined based upon the date the space reservation form is received at Moss Landing Marine Laboratories. Since enrollment is limited, interested students should make early application.

COURSES

Note: The following courses are offered at the Moss Landing Marine Laboratories. MSCI 103 and 104 are usually recommended for first semesters of full-time students.

The Biology Department will accept only the following Moss Landing Marine Laboratories courses for major credit: MSCI 103, 104, 112, 113, 122, 124, 125, 131, 144.

Marine Science (MSCI)

MSCI 103. Marine Ecology (4 units)
Prerequisites: ecology and statistics (or concurrent registration in MSCI 104) or permission of instructor. A field-oriented introduction to the interrelationships between marine and estuarine organisms and their environment with emphasis on quantitative data collection and analysis. (2 lecture, 6 lab or field hours)

MSCI 104. Quantitative Marine Science (4 units)
Prerequisite: college mathematics. The mathematical methods for analysis of biological, chemical, and physical data from the marine environment; experimental design, parametric and nonparametric statistics. (3 lecture, 3 lab or field hours)

MSCI 105. Marine Science Diving (3 units)
Prerequisites: upper-division science major; thorough physical examination; ability to pass swimming test. Skin and SCUBA diving course; pool-training culminates in 10 ocean dives. Topics include diving physics, physiology, diving environments, night diving, and research diving. Successful completion gives NAUI and MLML certification. (1 lecture, 6 lab or field hours)

MSCI 112. Marine Birds and Mammals (4 units)
Prerequisite: upper-division vertebrate zoology; MSCI 103 recommended. Systematics, morphology, ecology, and general biology of marine birds and mammals. (2 lecture, 6 lab or field hours)

MSCI 113. Marine Ichthyology (4 units)
Prerequisite: college zoology or equivalent. 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. (2 lecture, 6 lab or field hours)

MSCI 124. Marine Invertebrate Zoology I (4 units)
Prerequisite: college zoology or permission of instructor; MSCI 103 recommended. A field-oriented introduction to the structure, systematics, evolution, and life histories of the major phyla. (2 lecture, 6 lab or field hours)

MSCI 125. Marine Invertebrate Zoology II (3 units)
Prerequisite: college zoology or permission of instructor; MSCI 103 and MSCI 124 recommended. A field-oriented introduction to the structure, systematics, evolution, and life histories of the minor phyla. (1 lecture, 6 lab or field hours)

MSCI 131. Marine Botany (4 units)
Prerequisite: MSCI 103 recommended. Introduction to the plants of the sea, marshes, and dunes, with emphasis on the morphology, taxonomy, and natural history of seaweeds and vascular plants. (2 lecture, 6 lab or field hours)

MSCI 135. Physiology of Marine Algae (4 units)
Prerequisites: MSCI 103, 131, 144. Develops physiological basis for understanding the adaptation of marine algae (seaweeds and microalgae) to their environment. Students will learn modern methods in physiological research, covering areas such as photosynthesis, respiration, enzyme activity, and biochemical composition. (2 lecture, 6 lab hours)

MSCI 141. Geological Oceanography (4 units)
Prerequisite: MSCI 142 or 143 or concurrently. Structures, physiography, and sediments of the sea bottom and shoreline. (2 lecture, 6 lab or field hours)

MSCI 142. Physical Oceanography (4 units)
Prerequisite: college algebra; college physics recommended. 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; does not require calculus. (3 lecture, 3 lab or field hours)

MSCI 143. Chemical Oceanography (4 units)
Prerequisite: one year of college chemistry. 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. (2 lecture, 6 lab and field hours)

---

* Late afternoon, Saturday and/or overnight field trips may be required.

MSCI 144. Biological Oceanography (4 units)
Prerequisites: general biology and general chemistry. The ocean as an ecological system. Emphasis is on the complexity of organismal-environmental interaction of the plankton, the transfer of organic matter between trophic levels and nutrient cycles. Laboratory includes methods in sampling, shipboard techniques, identification of plankton, and current analytical techniques. (2 lecture, 6 lab or field hours)

MSCI 173T. Topics in Marine Biology (1-4)
Prerequisite: permission of instructor. The study of a selected area in marine biology (morphology, physiology, ecology, etc.). Subjects will vary depending on student demand and availability of instructors. (Lecture and/or laboratory)

MSCI 174T. Topics in Oceanography (1-4)
Prerequisite: permission of instructor. The study of selected areas in oceanography; subject varies depending on student demand and availability of instructors. (Lecture and/or laboratory)

MSCI 175T. Topics in Marine Science (1-4)
The study of a selected area in the marine sciences. The subjects vary depending on student demand and availability of instructors. (Lecture and/or laboratory)

MSCI 180. Independent Study (1-4; max total 6 units)
Prerequisite: permission of instructor. Faculty directed study of selected problems; open to undergraduate students with adequate preparation. Approved for ***RP*** grading.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Marine Science (MSCI)

MSCI 201. Library Research Methods in Marine Science (1 unit)
Prerequisites: graduate standing and permission of instructor. Provides framework for using and evaluating information sources in marine science. Strong emphasis will be placed on developing critical skills. Interweaving bibliographic tools in to the history of marine science will reinforce knowledge of the appropriate resource for each question.

MSCI 202. Oceanographic Instrumentation (4 units)
Prerequisites: MSCI 141, 142, and permission of instructor. 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 measurements. Offered alternate spring semesters. (2 lecture, 6 lab or field hours)

MSCI 206. Molecular Biological Techniques (4 units)
Prerequisites: graduate standing; college level genetics, molecular biology, or permission of instructor. 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.

MSCI 208. Scientific Methods (4 units)
Prerequisites: graduate standing and permission of instructor. Information and skills for graduate students beginning their research careers. Includes the philosophy of science, scientific writing, design of experiments and sampling programs, and using library and other resources.

MSCI 211. Ecology of Marine Birds and Mammals (4 units)
Prerequisites: MSCI 103, 104, 112. Community approach to the ecology of marine birds and mammals using experimental and sampling methodology. Examines the distribution, abundance, trophic ecology, and behavior of birds and mammals in Elkhorn Slough and Monterey Bay. (2 lecture, 6 lab hours)

MSCI 212T. Advanced Topics in Marine Vertebrates (1-4; max total 8 if no topic is repeated)
Prerequisites: MSCI 112 or 113 and permission of instructor. Advanced considerations 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 if no topic is repeated. Likely to be offered alternate fall semesters. (Lecture and/or laboratory)

MSCI 221T. Advanced Topics in Marine Invertebrates (1-4)
Prerequisites: MSCI 124 and permission of instructor. Advanced considerations of the ecology, physiology, and phylogeny of the various invertebrate phyla emphasizing current literature and research. (Lecture and/or laboratory)

MSCI 233T. Advanced Topics in Marine Ecology (1-4)
Prerequisites: MSCI 103 and permission of instructor. Selected topics and current issues in marine ecology; subjects vary depending on student demand and availability of instructors. (Lecture and/or laboratory)

MSCI 234. Advanced Biological Oceanography (4 units)
Prerequisite: MSCI 144 or permission of instructor. Experimental techniques in biological oceanography with emphasis on problems important in plankton ecology. Lectures, labs, and discussions of current research problems. An individual research project involving analytical tools will be required. (2 lecture, 6 lab or field hours)

MSCI 246. Geology of the Monterey Bay Region (4 units)
Prerequisites: graduate standing and permission of instructor. Geology, tectonic, and active naturally occurring processes in the Monterey Bay region and in the Monterey Bay National Marine Sanctuary. The geologic and tectonic history of central California, plate tectonic processes, and representative stratigraphy and geomorphology of the Monterey Bay region.

MSCI 248. Marine Benthic Habitat Techniquest (4 units)
Prerequisites: graduate standing and permission of instructor. Collection and interpretation of geophysical data used to characterize marine benthic habitats. Principles of basic geophysics. Application of techniques to identify and characterize marine benthic habitats, including echosounders, multibeam bathymetry and backscatter, sidescan sonar, seismic profiling, and GIS.

MSCI 262. Satellite Oceanography (4 units)
Prerequisites: MSCI 142, 144, or permission of instructor; MSCI 263 strongly recommended. Physical principles of remote sensing with applications to the ocean, including satellite image processing methods. Labs involve use of PC and Unix workstation. (2 lecture, 3 lab hours)

* Late afternoon, Saturday and/or overnight field trips may be required.

MSCI 263. Applications of Computers in Oceanography (4 units)
Prerequisites: college math, permission of instructor. Lecture, discussion, and technical programming with MATLAB for computation and visualization with applications in marine sciences. Use of existing program libraries for data I/O and analysis. Offered fall semesters. (2 lecture, 6 lab hours)

MSCI 271. Population Biology (3 units)
Prerequisites: MSCI 103 and 104 or permission of instructor. Principles of the interaction among marine organisms which result in the alternation of population structures, techniques for assessment, and management of animal populations. (2 lecture, 3 lab or field hours)

MSCI 272. Subtidal Ecology (4 units)
Prerequisites: MLML diver certification and marine ecology; knowledge of marine algae, invertebrates, and statistics recommended. The ecology of nearshore rocky subtidal populations and communities with emphasis on kelp forests; lectures and discussions of original literature; fieldwork with SCUBA including group projects on underwater research techniques and community analysis, and individual research on ecological questions chosen by student. (2 lecture, 6 lab or field hours)

MSCI 273. Marine Environmental Studyings of the Gulf of California (4 units)
Prerequisites: graduate standing and permission of instructor. An analysis of Gulf of California marine environments. Lectures, readings, intensive field work, and writing a scientific paper based on original research. Topics vary. Taught with Mexican faculty and students from La Paz, Mexico. Students must be able to participate in two weeks of field work in June. Offered spring semesters.

MSCI 274T. Advanced Topics in Oceanography (1-4 units)
Prerequisite: permission of instructor. The study of a selected area in oceanography. Subjects vary depending on student demand and availability of instructors. (Lecture and/or laboratory)

MSCI 280W. Scientific Writing (3 units)
Prerequisites: graduate standing, permission of instructor. Techniques and strategies of scientific writing used for proposals, journal submissions, and abstracts of meetings. Students will develop their writing skills by preparing, editing, and rewriting manuscripts.

MSCI 285T. Seminar in Marine Science (2; max total 4 units)
Prerequisite: graduate standing and permission of instructor. Seminar will be held on topics that change each semester; each student will be required to give at least one seminar. May be repeated for credit. Offered spring and fall semesters.

MSCI 295. Research in the Marine Sciences (1-4; max total 4 units)
Prerequisite: permission of instructor. Independent investigations of an advanced character for the graduate student with adequate preparation. (3 conference, lab, and field hours per unit)

MSCI 299. Thesis (1-4; max total 4 units)*
Prerequisite: See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 299C courses, see *Graduate Studies*.

Biotechnology

Biotechnology

Biotechnology is a rapidly growing component of molecular and cellular life sciences study wherein new products and applications are commercialized. There is an increased need for highly skilled personnel capable of working in research, development, and production in such fields as pharmaceuticals development, crop and livestock improvements, industrial processing, diagnostic and therapeutic medicine, forensic identification, bioremediation, genomics, proteomics, and bioinformatics. California State University, Fresno offers two means for students to develop the expertise for roles in the biotechnology industry: a master's degree and a certificate.

Master of Biotechnology (M.Bt.)

The Master of Biotechnology offers students who are fundamentally educated in varied scientific disciplines the opportunities to advance their scientific skills. It allows them to acquire the business knowledge and skills necessary to commercialize emerging technologies or their products. Offered as a two-year program, it is representative of a unique interdisciplinary degree concept, the Professional Science Master's (PSM) degree, designed for students interested in entering the workforce in leadership roles to promote the development and production of new products and processes.

Admission Requirements for the M.Bt. Students must complete university graduate division admission requirements and must possess an appropriate four-year undergraduate science degree with a minimum 3.0 GPA. There are six categories of specific course prerequisites; completion of three categories constitutes the minimum for classification, but five categories must be completed prior to award of degree. Fresno equivalent courses are indicated in parentheses.

Prerequisite courses are as follows:

1. General Genetics (BIOL 102)
2. Microbiology with Lab (BIOL 120)
3. Biochemistry with Lab (CHEM 150/155 and 156)
4. Immunology with Lab (BIOL 157 and 157L)
5. Analytical Chemistry (CHEM 102/105)
6. Statistics (MATH 101)

Master of Biotechnology Degree Requirements

	Units
I. Core Curriculum	**21**
A. BIOL/CHEM 241A-B	(3-3)
B. BIOL/CHEM 248	(1-1)*
C. MBA 270	(3)
D. MBA 272 or 273	(3)
E. BIOTC 275	(3)
F. BIOTC 298 or 299	(4)
II. Electives	**9**
Minimum of three courses in separate categories A-K; only one may be undergraduate.	
A. BIOL/CHEM 242	(3)
B. BIOL/CHEM 243	(3)
C. BIOL/CHEM 244	(3)
D. BIOL 245	(3)
E. AGRI 200 or BIOL 274	(3)
F. PLANT 108	(3)
G. CSCI 101	(3)
H. CHEM 106	(4)
I. FSC 120	(4)
J. FSC 178	(2)
K. MBA 272 or 273**	(3)
L. PHIL 123	(3)
Total	**30**

* The Graduate Writing Requirement is completed in conjunction with the second enrollment of BIOL/CHEM 248. Consult adviser for details.

** Only the course not taken to fulfill core curriculum, item D, is allowed for credit.

Biotechnology Certificate Program

The Certificate of Advanced Study in Biotechnology is a postbaccalaureate, one-year, laboratory-intensive program of study consisting of eight specified courses among the M.Bt. program courses. Students may not receive both the M.Bt. and the Certificate of Advanced Study in Biotechnology.

Students interested in entry-level biotechnology careers may pursue the certificate to acquire a breadth of relevant technical skills and knowledge for enhanced career options. Students with advanced degrees (M.S., Ph.D., J.D., M.D.) may expand their skills for specific careers. Students interested in research careers in biotechnology fields are encouraged to supplement a disciplinary master's degree with the certificate. Double-counting of courses for the certificate and the master's degree is possible, but 9 units independent of master's degree coursework must be reserved for the certificate.

Admission Requirements for the Certificate. All admission requirements for the M.Bt. apply ***except*** that the prerequisite courses are limited to categories 1-4, and the minimum for admission to the program is two courses, i.e. general genetics and biochemistry lecture. All prerequisite courses must be completed for the certificate award.

College of Science and Mathematics

Biotechnology Program

Alice Wright, *Program Director*

559.278.7692

Master of Biotechnology (M.Bt.)

Biotechnology Certificate of Advanced Study

Certificate Requirements

	Units
Set program of study	**20**
(See M.Bt. program requirements on this page for specific courses.)	
M.Bt. Core requirements - IA and IB	(8)
M.Bt. Courses - IIA, B, C, F	(12)

COURSES

Enrollment in BIOTC courses is limited to M.Bt./PSM students.

Biotechnology (BIOTC)

BIOTC 275. Biotechnology Industrial Experience (3 units)
Prerequisites include PSM program classification; BIOL/CHEM 241B; BIOL/CHEM 248; BUS 272; or permission of instructor. Internship to develop familiarity with biotechnology business practices. Requires a minimum of 150 hours of onsite work and completion of a project for written and oral presentation. Specific placement is facilitated by the PSM coordinator. Approved for ***RP*** grading.

BIOTC 298. Biotechnology Culminating Project (4 units)*
Prerequisites include PSM advancement to candidacy and completion of all other courses in the program of study. Field studies — including appropriate experimentation — addressing a biotechnology business/science problem identified through student's independent analysis. Extensive written documentation is required on the plans and outcomes. A final progress report meeting the requirements of the culminating experience for a master's degree and an oral defense are required. Approved for ***RP*** grading.

BIOTC 299. Thesis (4 units)*
Prerequisites include PSM advancement to candidacy and completion of all other courses in the program of study. Preparation, completion, and submission of an acceptable thesis for a master's degree. An oral defense is required. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

Chemistry

College of Science and Mathematics

Department of Chemistry
Saeed Attar, *Chair*
Rosalina Messer, *Administrative Support Coordinator*
Science Building, Room 380
559.278.2103
www.fresnostate.edu/Chemistry

B.A. in Chemistry

B.A. in Natural Sciences Teaching Credential
Option: Chemistry

B.S. in Chemistry

M.S. in Chemistry

Minor in Chemistry

Biotechnology Certificate

Chemistry

The Chemistry Department provides (1) undergraduate training in chemistry for students planning professional careers in chemistry, biochemistry and allied professions, and for those contemplating graduate work for advanced degrees; (2) undergraduate training in chemistry for those planning careers in professions such as medicine, chiropractic, dentistry, pharmacy, etc.; (3) participation in the preparation of teachers of chemistry and the other physical sciences in the teaching credential programs; (4) teaching of the basic chemical sciences required by students majoring in related fields such as physics, biology, nursing, engineering, geology, agriculture, home economics, and criminology; (5) stimulation of interest in and understanding of the achievements and contributions of chemistry to our civilization for non-science students, as a part of General Education; and (6) graduate instruction in chemistry for the Master of Science degree for students who intend to enter the chemical industry, pursue further advanced study, or who wish to improve their qualifications as teachers in secondary schools and community colleges. The multi-disciplinary forensic science degree program prepares students for continued success by integrating instruction with active forensic research, collaboration with local crime laboratories, and real world experiences.

The Bachelor of Science degree program in Chemistry is accredited by the American Chemical Society. Students who satisfactorily complete the program are recommended by the department for certification as graduate chemists by the American Chemical Society. Students completing the Bachelor of Arts degree may be recommended for certification by completing additional requirements of the American Chemical Society.

Faculty

Thirteen Ph.D. members are in the Department of Chemistry. Our faculty provide excellent research opportunities in analytical, biochemistry, inorganic, organic, and physical chemistry. The broad interests within the faculty have resulted in interdisciplinary research projects in collaboration with scientists and professors in other science areas: agricultural chemistry, biotechnology, clinical chemistry, forensic chemistry, forensic biochemistry, chemical physics, enology, nutritional science, and molecular biology. Research projects have involved local facilities such as the California State Crime Laboratory, University Medical Center, UCSF Fresno Medical Education Program, USDA Research Station, U.S. Veteran's Administration Hospital, U.S. Forest Laboratory, and Valley Children's Hospital.

Facilities

All upper-division and graduate chemistry laboratories and support areas are housed in our science building. Eight four-station graduate laboratories are well equipped, with access to modern instrumentation. Instrumentation in the department includes: Varian EM 360 and Gemini 200 FT NMR spectrometers, GC-MS, atomic absorption spectrometers, Fourier Transform IR (FTIR), liquid scintillation counter, Lambda 6, Shimadzu, HP Diode-Array, spectrophotometers, spectrofluorometer, radiation equipment, liquid chromatographs, high speed refrigerated centrifuges, gas chromatographs, and Unix workstations for advanced computational chemistry. The university library includes many journal subscriptions in chemistry plus numerous texts and related books.

Career Opportunities

Because of the increasing technological nature of our society, chemistry graduates will find an impressive array of options and exciting opportunities in a wide range of fields. A chemistry degree can provide preparation for a career as a professional chemist in areas such as basic research, environmental protection, instrumentation, new product and process development, and education. There is an increasing need for technical expertise in expanding fields such as agricultural chemistry, biotechnology, forensic science, clinical chemistry, food science, occupational safety, and environmental monitoring. Careers for chemists in the academics include university teaching and science teaching in the second-

ary school — an area that will expand greatly in the future. In addition there is a need for technically trained people in nontraditional areas such as marketing and sales, scientific information, patent law, and health and safety. The baccalaureate degree can also provide a strong foundation for studies at medical, dental, veterinary, and pharmacy schools. Students with chemistry degrees have been notably successful in these areas.

Faculty

Saeed Attar, *Chair*
Alam S. Hasson,
Graduate Coordinator

Qiao-Hong Chen
Jai Pil Choi
Laurent Dejean
David L. Frank
Joseph R. Gandler
Melissa L. Golden
Joy J. Goto
Viswanathan Krishnan
Santanu Maitra
Barbara J. Mayer
Kin C. Ng
Eric C. Person

Undergraduate Programs

Chemistry Majors: The Bachelor of Arts degree with a major in chemistry consists of a total of 120 units including 38-39 units of chemistry. The Bachelor of Science degree with a major in chemistry consists of a total of 120 units including a minimum of 46 units in chemistry.

High School Preparation: The high school preparation for majors in the Department of Chemistry should include: algebra (2 years), plane and solid geometry, trigonometry, chemistry, and physics.

Prospective students may elect to take the general chemistry placement test at college entrance. A satisfactory score in this test will permit the student to start the chemistry course sequence with CHEM 1B.

Bachelor of Arts Degree Requirements

The Bachelor of Arts in Chemistry is intended primarily for those students who plan to take extensive coursework in other areas in addition to chemistry. This degree is suitable for prehealth professional students (premedical, predental, etc.), secondary school teaching credential students, and biochemistry students oriented toward biotechnology, forensic science, and the health professions. This degree is *NOT* intended for students who anticipate a career in chemistry, or who expect to continue their education in pursuit of graduate degrees.

Note: Chemistry majors may not take courses listed in category A or B for ***CR/NC*** grades.

	Units
A. The B.A. Chemistry Major requirements	**38-39**
Core Program	
CHEM 1A, 1B, 102, 108, 128A, 128B, 129A, 155	(30)
Emphasis	
CHEM 156	(3)
Elect two courses from CHEM 129B, 153, 241A, 241B	(5-6)
B. Additional requirements	**32-39**
BIOL 1A, 1B, 1BL	(9)
Elect 7 units from BIOL 102, 103, 104, 120 or other approved courses	(7)
MATH 75, 76 (MATH 77 strongly recommended)	(8)
PHYS 2A, 2B (or PHYS 4A, 4AL, 4B, 4BL, 4C strongly recommended)	(8-11)
C. Remaining General Education requirements	**42***
D. Electives and remaining degree requirements	**0-8**
(See *Degree Requirements*); may be used toward a double major or minor.	
Total	**120**

* Of the 51 required General Education units, 9 units will be satisfied by the following courses in the major and additional requirements: 3 units of CHEM 1A or PHYS 2A in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; and 3 units MATH 75 in G.E. Foundation B4. Consult the department chair or faculty adviser for additional details.

The following is an example of a four-year program for the B.A. in Chemistry.

First Semester — Fall	*Units*
CHEM 1A	5
MATH 75	4
ENGL 5B or 10	3
General Education	3
	15

Second Semester — Spring	
CHEM 1B	5
MATH 76	4
PHYS 2A or 4A, 4AL	4
General Education	3
	16

Third Semester — Fall	
CHEM 128A	3
CHEM 129A	2
PHYS 2B or 4B, 4BL	4
BIOL 1A	4
General Education	3
	16

Fourth Semester — Spring	
CHEM 128B	3
CHEM 102	5
BIOL 1B, 1BL	5
Electives or General Education	3
	16

Fifth Semester — Fall*	
**CHEM 108	4
**CHEM 155	3
BIOL 102	4
Electives or General Education	3
	14

Sixth Semester — Spring	
***CHEM 156	3
BIOL 103 and 104 or BIOL 120	4
Electives or General Education	6
	13

Seventh Semester — Fall	
Electives or General Education	15

Eighth Semester — Spring	
Electives or General Education	15
Total	**120**

* It is important to fulfill the upper-division writing skills requirement by exam or *W* class during the junior year.
**Offered fall semester only.
***Offered spring semester only.

Bachelor of Science Degree Requirements

The Bachelor of Science in Chemistry is intended for students who plan a career in chemistry. The B.S. is accredited by the American Chemical Society. Students who satisfactorily complete this program are recommended by the department for certification as graduate chemists by the American Chemical Society. The B.S. prepares students to enter the job market or for graduate study leading to an advanced degree, such as a Master of Science or Doctor of Philosophy.

Note: Chemistry majors may not take courses listed in category A or B for ***CR/NC*** grades.

	Units
A. The B.S. Chemistry Major requirements	**46**
CHEM 1A, 1B, 102, 106, 110A, 110B, 111, 123, 124, 128A, 128B, 129A, 129B, 155	
B. Additional requirements	**23**
MATH 75, 76, 77; PHYS 4A, 4AL, 4B, 4BL, 4C	
C. Remaining General Education requirements	**45***
D. Electives and remaining degree requirements	**6**
Recommended: CHEM 140T, 153, 156, 160, 190	
Total	**120**

* Of the 51 required General Education units, 3 units will be satisfied by PHYS 4A and 4AL in G.E. Breadth B1, and 3 units of MATH 75 in G.E. Foundation B4. Consult the department chair or faculty adviser for details.

Advising Note for Chemistry Majors

1. No General Education Integration or Multicultural/International course with a CHEM designation may be used to satisfy the General Education requirements for majors in the department.

Transfer students are strongly urged to consult their adviser.

Many of the courses listed in the degree requirements have chemistry or other prerequisites. For that reason, the following four-year sample program leading to a B.S. in Chemistry is provided. This sample program emphasizes the need to take course sequences in mathematics and physics prior to CHEM 110A. In addition, it specifies certain semesters for some courses that are offered only once a year. Finally, this program is constructed in such a way as to leave adequate time for independent study experience (CHEM 190) in the senior year.

If a student wishes to deviate significantly from this sample program, particularly in regard to chemistry, physics, and mathematics requirements, it is very important that an alternate program be developed in consultation with a departmental adviser. Any course substitutions or other changes to degree requirements can only be initiated by submitting a written request to the chair of the Chemistry Department.

First Semester — Fall	*Units*
CHEM 1A	5
MATH 75	4
ENGL 5B or 10	3
General Education	3
	15

Second Semester — Spring	
CHEM 1B	5
MATH 76	4
PHYS 4A, 4AL	4
General Education	3
	16

Third Semester — Fall	
CHEM 128A	3
CHEM 129A	2
MATH 77	4
PHYS 4B, 4BL	4
General Education	3
	16

Fourth Semester — Spring	
CHEM 128B	3
CHEM 129B	2
CHEM 102	5
PHYS 4C	3
General Education	3
	16

Fifth Semester — Fall*	
**CHEM 110A	3
**CHEM 155	3
**CHEM 123	3
CHEM or other elective	1
General Education	5
	15

Sixth Semester — Spring	
***CHEM 110B	3
***CHEM 111	3
***CHEM 124	2
General Education	8
	16

Seventh Semester — Fall	
**CHEM 106	4
Chemistry or other elective	3
CHEM 190 (recommended) or other elective	3
General Education	4
	14

Eighth Semester — Spring	
CHEM 190 (recommended) or other elective	3
General Education	9
	12

Total	**120**

* It is important to fulfill the upper-division writing skills requirement by exam or *W* class during the junior year.
**Offered fall semester only.
***Offered spring semester only.

Bachelor of Arts in Natural Sciences Degree Requirements

David M. Andrews
Director
559.278.5174

Chemistry Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 278-5173.

	Units
Core requirements	**36**
Biology	(12)
BIOL 1A, 1B, 1BL, 101	
Chemistry	(10)
CHEM 1A, 1B	
Geology	(7)
EES 1 and 168	
Natural Science	(3)
NSCI 106	
Physical Science	(4)
PSCI 21	
Chemistry Option	**35-36**
PHYS 2A, 2B[1]	(8)
MATH 75	(4)
MATH 76	(4)
CHEM 128A	(3)
CHEM 102 or 105, 108, 128B, 129A, 150 or 155*	(16-17)
General Education requirements	**51**
Electives and remaining degree requirements[2,3]	**9-10**
Total[2]	**120**

* Offered fall semester only.

Advising Notes for the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well-prepared for physics.
2. This total assumes that students in this option will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units), and MATH 75 (3 units). Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and upper-division writing skills.

Chemistry Honors Program

The Department of Chemistry Honors Program includes major components in the areas of research, service, and scientific communication culminating in the presentation of an independent research project. The program provides the opportunity for highly qualified chemistry students to sharpen their analytical abilities, refine their writing and presentation skills, and expand their knowledge of chemistry. These components are typically completed over the course of two years.

Applications for the department honors program are accepted in the spring semester for the following academic year. Minimum criteria for application to the program includes completion of two semesters of organic chemistry (may be enrolled in 128B during the application period), an overall GPA of at least 3.25, and a letter of recommendation from the faculty mentor.

Program Requirements: (1) Completion of the requirements for a B.A. or B.S. in Chemistry, (2) continuing major GPA of 3.25 or better, (3) regular attendance at the department seminar, and (4) CHEM 165SH [3 units], 160H [3 units], 180H [1 unit], 199 [3 units].

Successful students will graduate with a B.S. or B.A. in Chemistry with Honors Distinction, an inscribed bronze medallion awarded at the department graduation event, and special recognition at the department and college graduation events.

Chemistry Minor

A Minor in Chemistry for a bachelor's degree requires at least 21 units, of which at least 7 are upper division. Specific course requirements are General Chemistry (CHEM 1A and 1B or 3A), Organic Chemistry (CHEM 8 or 128A-B and 129A), and Quantitative Analysis (CHEM 105).

Those students requiring additional upper-division chemistry units may choose from courses such as the following: CHEM 125, 150, 153, 155, and 156.

Note: The Chemistry Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Graduate Program

The mission of the graduate program in chemistry is guided by the mission of the university; it seeks to provide comprehensive undergraduate and graduate degree instruction for qualified students, and to contribute to the needs and well being of the people of the San Joaquin Valley and California.

The California State University, Fresno graduate program in chemistry is primarily oriented toward two groups of students: students who are preparing themselves for employment in chemistry-based occupations (including teaching) and students interested in additional training in chemistry and biochemistry to prepare for advanced Ph.D. graduate work.

For students in the first category, the program stresses strengthening the student's chemistry background while also providing advanced training in both theory and research — training that is very beneficial in today's competitive job market. Furthermore, the program also strives to meet local and regional needs for individuals with advanced training in chemistry and biochemistry, needs that are strongly tied to the agricultural nature of the valley.

For students in the second category, the program's emphasis on improving chemistry background and basic research skills prepares students for work at the Ph.D. level and enhances their chances for success.

Master of Science Degree Requirements

The Master of Science degree program in Chemistry assumes undergraduate preparation equivalent to a California State University, Fresno B.S. in chemistry. Each new student is required to take the Diagnostic Placement Examinations in four fields of chemistry (physical, organic, analytical, and inorganic or biochemistry) to provide a basis for program planning. These are taken at the beginning of the first semester of residence. Twenty-one of the 30 units required for the degree must be in chemistry.

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements,* and *Criteria for Thesis and Project.)*

Graduate-Level Writing Proficiency Requirement

The completion of the following two components will satisfy the writing requirement:

1. successful completion of CHEM 260 with a grade of ***B*** or better, and
2. completion of a formal paper on the student's research to be submitted at the beginning of the fall semester of the second year. The paper should be of sufficient length (at least 2,000 words) to allow proper evaluation by a two-member review committee that includes the research director.

Master of Science Program Development

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed according to Plan A or Plan B listed in the copy that follows. Other courses may be specified after examination of the student's record and performance on the departmental diagnostic examinations.

Plan A -

M.S. with Thesis	*Units*
Courses in chemistry, including at least 24 units in 200 series (see *specific requirements)*	**24**
Approved electives in chemistry or related fields	**6**
Total	**30**

Specific requirements: CHEM 280 (at least 2 units); 295 (2 units); 299 (4 units); and 3 units each from 4 of the 5 following groupings: (i) CHEM 215, (ii) 220 or 222, (iii) 225, 226, or 227, (iv) 230 or 235, (v) 241A or 242. CHEM 260 recommended.

Other courses may be specified after examination of the student's record and his or her performance on the departmental diagnostic examinations.

Plan B - M.S. with

Comprehensive Examination	*Units*
Courses in chemistry, including at least 24 units in 200 series (see *specific requirements)*	**24**
Approved courses in chemistry or related fields may include biology, engineering, geology, mathematics, physics, etc.) according to the student's objective	**6**
Total	**30**

Specific requirements: CHEM 280 (at least 2 units); 295 (2 units); and 3 units each from 4 of the 5 following groupings: (i) CHEM 215, (ii) 220 or 222, (iii) 225 or 227, (iv) 230 or 235, (v) 241A or 242.

Other courses may be specified after examination of the student's record and his or her performance on the departmental diagnostic examinations.

Instead of a thesis, a student must successfully complete a final comprehensive examination consisting of two parts: (a) a general written examination in chemistry; (b) an examination dealing with a specific area of chemistry. See department for *Policy Statement — Plan B Comprehensive Examination.*

Biotechnology Certificate Program

California State University, Fresno offers a Certificate of Advanced Study Program in Biotechnology. See *Biotechnology*.

COURSES

Chemistry (CHEM)

CHEM 1A. General Chemistry 1A
(5 units)
Prerequisites: high school chemistry; G.E. Foundation B4 (except for students with declared majors in the College of Science and Mathematics). CHEM 1A not open to students with credit in CHEM 1B. Fundamental principles of chemistry such as chemical bonding and structure; stoichiometry, thermochemistry, oxidation-reductions, and states of matter. G.E. Breadth B1. (3 lecture, 3 lab, and 2 activity hours)* (Course fee, $15) **FS**

CHEM 1B. General Chemistry 1B
(5 units)
Prerequisite: CHEM 1A with a grade of ***C*** or better. Acid-base theory; chemical kinetics; equilibrium (acid-base, hydrolysis, and

solubility); thermodynamics, electrochemistry; selected topics in nuclear chemistry, coordination chemistry, and/or chemistry of selected groups. (3 lecture, 6 lab hours)* (Course fee, $15) **FS**

CHEM 3A. Introductory General Chemistry (4 units)
Prerequisite or corequisite: G.E. Foundation B4. No credit for CHEM 3A after 1A. High school chemistry recommended. For applied science and nonscience majors. Composition of matter and physical and chemical changes; fundamental laws and principles; atomic and molecular structure; acid-base theory, redox and equilibria; qualitative and quantitative theory and techniques. G.E. Breadth B1. (3 lecture, 3 lab hours)* (Course fee, $15) **FS**

CHEM 3B. Introductory Organic and Biochemistry (3 units)
No credit for CHEM 3B to students with credit in 1B. Primarily for students in health-oriented professions; not a substitute for CHEM 8. Prerequisite: CHEM 3A. Introduction to the basic concepts of organic and biochemistry. Structure and behavior of organic and biological compounds, metabolism, and regulation. **FS**

CHEM 3BL. Introductory Organic and Biochemistry Laboratory (1 unit)
Prerequisite: CHEM 3A and CHEM 3B (or concurrently). Introductory laboratory study of the properties and chemistry of carbon-containing compounds and biological molecules. (3 laboratory hours) (Course fee, $20)

CHEM 8. Elementary Organic Chemistry (3 units)
Not open to chemistry majors. Recommended for students requiring a one-semester course in the field. Prerequisite: CHEM 1A or 3A. Lectures, discussions, and demonstrations of fundamental principles; structure and chemical behavior of organic compounds. **FS**

CHEM 10. Chemistry and Society (4 units)
Not open to students with credit in college chemistry; for nonscience majors. Prerequisite: G.E. Foundation B4 (except for students with declared majors in the College of Science and Mathematics). The significance of chemical principles in contemporary society; benefits and hazards relative to areas such as energy, health, diet, environment, and agriculture. G.E. Breadth B1. (3 lecture, 2 lab hours)* (Course fee, $7) **FS**

CHEM 102. Quantitative Analytical Chemistry (5 units)
For chemistry majors; recommended for other science majors. Prerequisites: CHEM 1B (with a grade of ***C*** or better) and 128A. Students with credit in a similar lower-division quantitative analysis course will receive only one additional unit of credit. Introduction to principles and methods of analytical chemistry. (3 lecture, 6 lab hours)* (Course fee, $25) **FS**

CHEM 105. Quantitative Analysis Laboratory (4 units)
Not open to chemistry majors. Prerequisites: CHEM 1B (with a grade of ***C*** or better), or CHEM 3A (with a grade of ***B*** or better), or permission of instructor. Laboratory study of principles and methods of applied quantitative analysis. (2 lecture, 6 lab hours) (Course fee, $25) **FS**

CHEM 106. Analytical Measurements Laboratory (4 units)
Prerequisites: CHEM 102 (with a grade of ***C*** or better), 108 or 110A, or permission of instructor. Completion of Upper-Division Writing Exam or passing a "W" course with a ***C*** or better. Principles and methods of analytical measurements of organic and inorganic substances by instrumental and non-instrumental techniques. (2 lecture, 6 lab hours)* (Course fee, $25) **F**

CHEM 108. Introductory Physical Chemistry (4 units)
Prerequisites: MATH 76 (MATH 77 strongly recommended), CHEM 8 or 128A, and PHYS 2A and 2B or 4A, 4AL, 4B, 4BL, and 4C. Basic treatment of gas laws, thermodynamics, phase equilibria, properties of solutions, kinetics, and spectroscopy. **F**

CHEM 110A-B. Physical Chemistry (3-3)
Prerequisites: MATH 77; CHEM 1B, 8 or 128A; CHEM 110A requires PHYS 4B; CHEM 110B requires PHYS 4C or permission of instructor. Mathematical treatment of the laws of thermodynamics, reaction kinetics, elementary statistical and quantum mechanics, properties of solutions, kinetic theory of gases, crystal structure, molecular structure, and nuclear chemistry. 110A - **F**; 110B - **S**

CHEM 111. Physical Chemistry Laboratory (3 units)
Prerequisite: CHEM 110B or concurrently, CHEM 102. May not be taken concurrently with 106. Completion of Upper-Division Writing Exam or passing a "W" course with a ***C*** or better. Techniques of physical measurements, error analysis and statistics; ultra-violet, infrared, and nuclear magnetic resonance spectroscopy; dipole moments, viscosity, calorimetry, kinetics, phase diagrams, thermodynamic measurements, and report writing. (1 lecture, 6 lab hours)* (Course fee, $25) **S**

CHEM 123. Advanced Inorganic Chemistry (3 units)
Prerequisites: CHEM 1B, 102 and 110A (or concurrently). Treatment of ionic and covalent bonding, atomic structure, molecular structure, and reaction mechanisms. Introduction to visible and infrared spectroscopy of transition metal complexes, special topics. **F**

CHEM 124. Synthesis and Characterization (2 units)
Prerequisite: CHEM 123 or concurrently. Completion of Upper-Division Writing Exam or passing a "W" course with a ***C*** or better. Techniques of preparation to include high temperature reactions, vacuum line and glove box preps, nonaqueous syntheses, solid state reactions. Emphasis on structural characterizations using instrumental methods. (6 lab hours)* (Course fee, $35) **S**

CHEM 125. Applied Analytical Techniques (3 units)
Prerequisites: CHEM 8 or 128A and CHEM 102 or 105. Analytical techniques and their applications in clinical, environmental, agricultural, forensic, and bioscience laboratories. (2 lecture, 3 lab hours)*

CHEM 128A-B. Organic Chemistry (3-3)
For chemistry majors; recommended for premedical students and other science majors. CHEM 128A not open for credit to students with credit in CHEM 8. Prerequisites: CHEM 1B with a grade of ***C*** or better or permission of instructor; for CHEM 128B: CHEM 128A with a grade of ***C*** or better. Introduction to structure and reactivity of principal classes of organic compounds with emphasis on theory and mechanism. **FS**

CHEM 129A-B. Organic Chemistry Laboratory (2-2)
Prerequisites or corequisites: CHEM 128A (for 129A); 128B and 129A (for 129B), or permission of instructor. CHEM 129A must be taken before CHEM 129B. Laboratory study of the methods, techniques, synthe-

*In all lab courses, the wearing of approved safety glasses is mandatory.

ses, and instrumentation or representative classes of organic compounds; introduction to research techniques by way of independent projects; introduction to qualitative organic analysis. (6 lab hours)* (Course fee, $25) **FS**

CHEM 140T. Topics in Chemistry (1-4; max total 6 if no area repeated)
Prerequisite: permission of instructor. Seminar covering special topics in one of the areas of chemistry: analytical, biochemistry, inorganic, organic, physical. Some topics may have a laboratory. **FS**

CHEM 150. General Biochemistry (3 units)
Prerequisite: CHEM 8 or CHEM 128A and 128B. (CHEM 150 and 153 together constitute a year sequence.) Chemistry and metabolism of basic cellular constituents including carbohydrates, lipids, proteins, and nucleic acids. **FS**

CHEM 153. Physiological Chemistry and Metabolism (3 units)
Prerequisite: CHEM 150 or 155. Continuation of CHEM 150 or 155. Intensive discussion of the degradation and biosynthesis of major cellular constituents; energy metabolism; control of metabolic processes and pathological implications in mammalian systems. **S**

CHEM 155. Fundamentals of Biochemistry (3 units)
Primarily for chemistry majors; recommended for premedical students and graduate students in the sciences. Prerequisite: CHEM 128B. (CHEM 155 and 153 together constitute a year sequence.) Structure, function, and metabolism of chemical entities in living systems. **F**

CHEM 156. Biochemical Laboratory Techniques (3 units)
Prerequisites: senior standing or permission of instructor; CHEM 150 or 155 (or concurrently), 102 or 105, 129A. Completion of Upper-Division Writing Exam or passing a "W" course with a ***C*** or better. Provides the student with a range of techniques and methodology appropriate to the study or phenomena at the biochemical, cellular, and organismic levels. Satisfies the senior major requirement for the B.A. in Chemistry. (1 lecture, 6 lab hours)* (Course fee, $30) **S**

CHEM 160. Research Techniques (3 units)
Concepts in the design of experiments. Development of practical research skills through the planning and undertaking of a short laboratory project. Satisfies the senior major requirement for the B.S. in Chemistry. (1 lecture, 6 lab hours)*

CHEM 160H. Research Techniques (3 units)
Prerequisites: admission to the chemistry honors program or permission of instructor. Concepts of experimental design and the development of practical research expertise and communication skills through the planning, completion, and presentation (written and oral) of a short laboratory project. (1 lecture, 6 lab hours)

CHEM 161W. Scientific Writing Workshop (3 units)
Prerequisites: G.E. Foundation and Breadth Area B, ENGL 5B or 10 (C or better), to be taken no sooner than the term in which 60 units are completed. A review of common conventions and forms of scientific and technical writing, including practical assignments in the preparation of laboratory procedures, research grant proposals, and research manuscripts. Meets the upper-division writing skills requirement for graduation.

CHEM 165SH. Peer Instruction in Chemistry (3 units)
Prerequisites: admission to the chemistry honors program or permission of instructor. The development of improved oral communication, reinforcement of foundational chemistry knowledge, and development of teaching skills through service as a peer-instructor in chemistry.

CHEM 170. Chemistry in the Marketplace (3 units)
Not open to chemistry majors. Prerequisites: G.E. Foundation and Breadth Area B. The impact of chemistry and chemicals on society and individual lives. G.E. Integration IB. (3 lecture hours) **FS**

CHEM 180H. Honors Seminar in Chemistry (1; max total 2 units)
Prerequisites: admission to the chemistry honors program or permission of instructor. Development of critical evaluation skills of presentations and current literature and research in various chemistry disciplines.

CHEM 190. Independent Study (1-3; max total 6 units)
Prerequisite: permission of instructor. See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

CHEM 199. Undergraduate Thesis (3 units)
Prerequisites: CHEM 190 or 160 or 160H. Preparation, completion, and submission of an acceptable thesis based on undergraduate research in chemistry. (Formerly CHEM 190H)

GRADUATE COURSES

(See *Catalog Numbering System.)*

Chemistry (CHEM)

CHEM 201. Chemistry Laboratory Teaching Techniques (1 unit)
Prerequisites: concurrent appointment as a teaching associate in the Department of Chemistry or permission of instructor. Discussion and practice of effective laboratory teaching techniques, laboratory safety, common equipment setups, and grading. (2 activity hours)

CHEM 215. Quantum Chemistry (3 units)
Prerequisite: graduate standing. Seminar on recent advances in quantum mechanics; chemical bonding, and atomic and molecular spectroscopy.

CHEM 220. Theoretical Inorganic Chemistry (3 units)
Prerequisites: CHEM 110A, 110B, 123. Seminar on theoretical inorganic chemistry emphasizing structure and bonding of inorganic and coordination compounds, valence bond, molecular orbital and ligand field theories; correlation of structure and reactivity.

CHEM 222. Advances in Inorganic Chemistry (3 units)
Prerequisites: CHEM 110A, 110B, 123, 128B. Seminar on recent advances in inorganic chemistry. Topics may include, but are not limited to, organometallic chemistry, solid-state chemistry, nonmetallic complexes, and the chemistry of rare-earth compounds.

* In all lab courses, the wearing of approved safety glasses is mandatory.

CHEM 225. Separation Methods in Chemistry (1-3)
Prerequisites: CHEM 106 and 129B. Seminar on the theory, application, and literature of various separation methods for organic and inorganic analysis. May include laboratory.

CHEM 226. Electrochemistry (1-3)
Prerequisite: CHEM 106. Seminar on the theory, application, recent developments, and literature of electrochemistry and electrochemical methods of organic and inorganic analysis. May include laboratory.

CHEM 227. Analytical Spectroscopy (1-3)
Prerequisites: CHEM 106, 110A, 110B, or permission of instructor. Theory, instrumentation, and application. Recent developments and literature of spectroscopic techniques. May include laboratory.

CHEM 228. Mass Spectrometry (1-3)
Prerequisites: CHEM 106 or 125, 128B, 108 or 110A and 110B, or permission of instructor. Seminar on the theory and application of mass spectrometry techniques to chemical analysis and identification. May include laboratory.

CHEM 230. Advanced Organic Chemistry (3 units)
Prerequisites: CHEM 128B, 129B. Seminar on recent advances in organic chemistry including reaction mechanisms and synthetic applications with references to current literature.

CHEM 235. Physical Organic Chemistry (3 units)
Prerequisites: CHEM 110A, 110B, 128B. Seminar in application of modern theoretical concepts to the chemical and physical properties of organic compounds.

CHEM 240T. Topics in Advanced Chemistry (1-3)
Seminar covering special topics in one of the areas of chemistry: analytical, biochemistry, inorganic, organic, physical. Some topics may have a laboratory.

CHEM 241A-B. Molecular Biology I-II (3-3)
(Same as BIOL 241A-B.) Prerequisites: BIOL 102, 103, CHEM 150 or 155, or permission of instructor. BIOL/CHEM 241A is prerequisite for BIOL/CHEM 241B. Current topics in molecular biology are addressed, including protein and nucleic acid structure, DNA replication, transcription, translation, prokaryotic and eukaryotic regulation, mechanisms of exchange of genetic material, and recombinant DNA technology.

CHEM 242. Techniques in Protein Purification and Analysis (3 units)
(See BIOL 242.) (Course fee, $40)

CHEM 243. Nucleic Acid Technology Lab (3 units)
(See BIOL 243.) Prerequisites: BIOL/CHEM 241A and 242. Corequisite: BIOL/CHEM 241B. A lecture/laboratory course focusing on the technologies used in nucleic acid chemistry; specifically, synthesis, translation, mutagenesis, and genetic engineering. (1 lecture, 6 lab hours) (Course fee, $40)

CHEM 244. Cell Culture Techniques (3 units)
(See BIOL 244.) (Course fee, $40)

CHEM 248. Seminar in Molecular Biology and Biotechnology (1-2; max total 4 units)
(Same as BIOL 248.) Prerequisite: admission into the biology or chemistry graduate program. Preference will be given to students enrolled in the Master of Biotechnology or Biotechnology Certificate programs. Reviews and reports on current literature in various aspects of biotechnology and molecular biology.

CHEM 251. Forensic Drug Chemistry and Toxicology (3 units)
Prerequisites: CHEM 128B, 129A, and 102 or 105, or permission of instructor. CHEM 106 or 125 strongly recommended. Forensic science methods for analysis of controlled substances (in vivo or ex vivo) and their interpretation and significance. May include laboratory. S

CHEM 260. Advanced Research Techniques (3 units)
Prerequisites: classified standing or permission of the instructor. Advanced concepts in experimental design. Development of practical research expertise and communication skills through the planning, completion, and presentation (both written and oral) of a short laboratory project. (1 lecture, 6 lab hours)

CHEM 280. Seminar in Chemistry (1; max total 3 units)
Approved for ***RP*** grading.

CHEM 282. Forensic Science Seminar (1-1; max total 2 units)
Prerequisites: graduate students only. Discussion and presentation of current topics and literature.

CHEM 290. Independent Study (1-3; max total 6 units)
See *Academic Placement—Independent Study*. Approved for ***RP*** grading.

CHEM 291. Internship in Science Laboratory (3 units)
Prerequisites: classified standing in the MSFS program with successful completion of the Graduate Writing Requirement and beginning work with the student's research mentor on approved project/thesis research. Minimum of 150 hours research internship. May be completed at any public crime laboratory or facility approved by program coordinator. S

CHEM 295. Research (2 units)
Prerequisite: permission of instructor. Independent investigations of an advanced character for the graduate student with adequate preparation. Approved for ***RP*** grading. (May include conferences, laboratory, library.)

CHEM 298. Project (4 units)*
Prerequisites: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable project for the master's degree. Approved for ***RP*** grading.

CHEM 299. Thesis (4 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSES

(See Catalog Numbering System.)

Chemistry (CHEM)

CHEM 340T. Topics in Chemistry (1-3)
A professional development seminar covering special topics in one of the areas chemistry: analytical, biochemistry, forensic, inorganic, organic, physical. Some topics may have a laboratory or activity component.

Computer Science

College of Science and Mathematics

Department of Computer Science
J. Todd Wilson, *Chair*
Science II Building, Room C255
559.278.4373
FAX: 559.278.4197
e-mail: csecs@csufresno.edu

B.S. in Computer Science

M.S. in Computer Science

Minor in Computer Science

The Department

Computer science is applied reasoning using both art and science: It requires the ability to communicate ideas through a combination of language and powerful technology. It is concerned with the interaction of humans and computers, as well as the application of computers to a myriad of specialized problems.

Program Description

The goal of the Department of Computer Science is to offer programs to a diverse audience: (1) students interested primarily in computing, (2) students interested primarily in applying computing to some other field of study, and (3) students who wish to include computing as part of their general education.

Career Opportunities

Computer use pervades our society, and the industry supporting that use has grown rapidly. Graduates from this program find job opportunities in such diverse fields as computer design, software engineering, systems analysis, database design, computer graphics, and technical programming. Because of the strong theoretical foundation of the program, graduates are attractive to companies involved in computer manufacturing and to those industries using computers in high-technology applications.

Our proximity to two of the largest areas using computers in the nation, Silicon Valley and Los Angeles, provides our graduates with a broad-based collection of potential employers. Graduates have also obtained exciting and challenging positions at Air Force and Naval bases in California. A significant proportion of our graduates pursue graduate studies. Students who obtain the master of science degree will be in an excellent position to pursue a Ph.D.

Organizations

Student chapters of the Association for Computing Machinery (ACM) and the IEEE Computer Society are very active in the department. They organize field trips to major computer manufacturers and users in California. The ACM chapter sponsors the fall Programming Contest.

Computer science majors who have a distinguished academic record in computer science are invited to join Upsilon Pi Epsilon, the Honor Society for the Computing Sciences.

Co-op Program

Through the Cooperative Education program, students receive academic credit and are employed in computer-related industries. This is an excellent opportunity for a student to obtain experience, a reasonable salary, and college credit in this field.

Undergraduate Program

The bachelor's degree in computer science prepares students for careers in the computing industry or for graduate study. Combined with a minor in another field of study, the bachelor's degree allows students to utilize their computing expertise in a variety of specialized fields. The core and computer science theory courses are excellent preparation for students who intend to pursue an advanced degree in computer science.

For the computer science major, the department offers courses that represent both the core of study considered essential to all aspects of computing and advanced study sequences in particular fields of interest. The core classes introduce all majors to the spectrum of thought represented in computing. The advanced sequences allow the individual student to pursue concentrated work within such areas as computer architecture, artificial intelligence, databases, compilers, operating systems, computer science theory, computer graphics, software engineering, programming languages, networking, distributed systems, and parallel processing. The department also offers topics courses to keep students informed of current advances and methods in computing.

In addition to courses designed for majors, the department offers courses intended to introduce computing to nonmajors. These courses will benefit any major who wishes to include computing in their undergraduate study.

Grade Requirements. All courses taken to fulfill major course requirements must be taken for a letter grade. All courses required as prerequisites for a course must be completed with a grade of *C* or better before registration will be permitted.

Administrative Academic Probation. A minimum Grade Point Average (GPA) of 2.0 must be maintained in all courses taken in the College of Science and Mathematics. Students who fail to maintain a 2.0 GPA in courses within their major may be placed on administrative academic probation. Failure to eliminate the grade point deficiency could result in disqualification from the College of Science and Mathematics.

Faculty and Facilities

The faculty comes from a variety of areas including computer systems and architecture, theoretical computer science, programming languages, software engineering, computer graphics, distributed systems and parallel processing, neural networks, image processing, computer vision, pattern recognition, wireless communication and mobile computing, robot swarm communication, evolutionary computation, domain-specific languages, and real-time and embedded systems. They have in common a desire to provide a program that will give the student a broad range of experience in computer science as well as the depth of education that will be needed in the student's later career, whether professional or academic.

Students and faculty have access to a networked environment of UNIX workstations (Sun Microsystems and Linux systems) and microcomputer laboratories of PCs. These systems are connected to campus and international networks.

Faculty

J. Todd Wilson, *Chair*
Brent J. Auernheimer, *Assistant Chair*
Shih-Hsi Liu, *Graduate Adviser*
Ming Li
Cui Lin
Prudence Lowe
Jin Park
Shigeko Seki
Henderson Yeung

Bachelor of Science Degree Requirements

Computer Science Major *Units*

Major requirements 59

CSCI 40, 41, 60, 112, 113, 115, 117, 119, 144.....(35)

Select seven courses from the following, including one sequence .....(21)

CSCI 124, 126, 130, 134, 146, 148, 150, 152S, 154, 156, 164, 166, 172, 173, 174, 176, 177, 186, 188, 191T (max total 6 units)

Approved Sequences:

CSCI 124-126
CSCI 144-146
CSCI 144-148
CSCI 150-152S
CSCI 156-ECE 146
CSCI 164-166
CSCI 172-173
CSCI 176-177
CSCI 186-188

CSCI 198 or complete an additional second course in one of the sequences above.....(3)

Additional requirements 10*

MATH 75, 76; PHYS 2A and 2B or PHYS 4A, 4AL, 4B, 4BL

General Education requirements..... 51

Total 120

*This total indicates that 6 units from MATH 75 and PHYS 2A or PHYS 4A are being used to satisfy the General Education requirement of 51 units.

Note: Pass the Upper-Division Writing Exam (recommended to satisfy the upper-division writing skills graduation requirement).

Computer Science Minor

The Computer Science Minor requires 20 units of computer science courses consisting of CSCI 40, CSCI 41, and 12 units from CSCI 1, 60, or upper-division courses. At least 6 of the 20 units must be upper division. No ***CR/NC*** courses will be accepted toward the Minor in Computer Science.

Suggested minor sequences (after completion of CSCI 40, 41):

- Artificial Intelligence: CSCI 60, 112, 117, 164, 166
- Computer Architecture: CSCI 112, 113, 176, 177
- Computer Graphics: CSCI 112, 172, 173
- Computer Languages: CSCI 60, 112, 115, 117, 134
- Database Emphasis: CSCI 60, 115, 124, 126, 144
- Scientific Computation: CSCI 60, 112, 154*, 172*
- Secondary Teaching: CSCI 60, 112, 113, 115, 117
- Software Engineering: CSCI 60, 112, 115, 150, 152S
- System Software: CSCI 112, 113, 144, (146 or 148)
- Theory of Computation: CSCI 60, 119, 174, 186, 188

*CSCI 154 and 172 have a mathematics prerequisite. Note that these are only suggested combinations. While attention must be given to prerequisites, many combinations are available to interested students.

Note: The Computer Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Graduate Program

The Master of Science degree program in Computer Science is designed to offer the advanced principles, applications, and current topics in computer science. Students who obtain the M.S. will be ready to do significant developmental work in the computer industry or in an important application area and will also be well qualified to pursue a Ph.D.

Applicants may hold an acceptable bachelor's degree in any field of study and must submit Graduate Record Examination (GRE) scores.

To attain classified standing at the time of admission, an applicant must:

1. have a minimum grade point average of 2.75 in the last 60 units and
2. have completed the following undergraduate prerequisite courses or equivalents with a minimum grade point average of 3.0: CSCI 40, 41, 60, 112, 113, 115, 117, 119, 144, MATH 75, 76.

Applicants who do not meet the requirements 1 and 2 above may be admitted to conditionally classified standing to complete the remaining prerequisites at California State University, Fresno. Approved coursework up to a maximum of 10 units of the 30 units required for the M.S. can be taken concurrently with prerequisite courses by a student with conditionally classified standing.

To attain classified standing from conditionally classified standing, a student must complete the remaining prerequisite courses with a minimum grade point average of 3.0 and have earned a minimum grade point average of 3.0 in all coursework taken toward the M.S. in Computer Science.

(See also *Graduate Studies*)

Master of Science Degree Requirements

The Master of Science requires a minimum of 30 units after the completion of the baccalaureate degree according to the criteria below. At least 21 units of the total must be taken in 200-level courses in computer science. The undergraduate courses used toward the bachelor's degree or toward fully classified status may not be used toward the master's degree.

Units

Required courses..... 10

CSCI 174 or 188, 200, 213 or 246, 217

Electives 9

Three of the following: CSCI 226, 230, 244, 246*, 250, 252, 253, 256, 272, 274, 282, 284

Approved electives 5-8

Culminating experience 3-6

CSCI 298 or 299

Total 30

*CSCI 246 is an elective for students who have taken CSCI 213 as a required course.

In order to be eligible for advancement to candidacy in the M.S. in Computer Science program, all students must pass CSCI 200 with a grade of ***B*** or better. In addition, all students must demonstrate competence in graduate-level writing prior to being advanced to candidacy. Students may fulfill this requirement by passing the writing component of CSCI 200. Please see the graduate program coordinator for further information.

COURSES

Computer Science (CSCI)

CSCI 1. Critical Thinking and Computer Science (3 units)

Prerequisite: intermediate algebra. Overview of the field of computer science with an emphasis on critical thinking skills. Problem-solving strategies, algorithm design, and data abstraction. Introduction to hardware, theoretical limitations of computers, and issues arising from the growing role of computers in society. G.E. Foundation A3.

CSCI 5. Computer and Applications (3 units)
An introduction to the computer: tools, applications, and graphics. Overview of the components of computer systems; discussion on software systems, electronic mail, influence of computers on society and the future of computing; extensive hands-on experience with application tools and programming. PC (Windows) environment. ***CR/NC*** grading only. (2 lecture, 2 lab hours)

CSCI 30. Introduction to the Internet (3 units)
Topics include e-mail, Web browsers, searching, evaluation of Web resources, HTML, webpage design, encryption, and basic network communication. Special emphasis is placed on the underlying technologies. (2 lecture [1 traditional, 1 online], 2 lab hours)

CSCI 40. Introduction to Programming and Problem Solving (4 units)
Prerequisites: Students must take the ELM exam; students who do not pass the exam must record a grade of ***C*** or better in a college-taught intermediate algebra course; trigonometry. Introduction to problem solving, algorithm development, procedural and data abstraction; program design, coding, debugging, testing, and documentation; a high-level programming language. (3 lecture, 2 lab hours)

CSCI 41. Introduction to Data Structures (4 units)
Prerequisite: CSCI 40. Programming methodology, program correctness. Review of data types. Data structures: linear and nonlinear structures, files. Implementation of data structures. Recursion. Searching and sorting. (3 lecture, 2 lab hours)

CSCI 60. Foundations of Computer Science (4 units)
Prerequisites: CSCI 40 (may be taken concurrently.) Abstraction, iteration, induction, recursion, complexity of programs, data models, and logic. (3 lecture, 2 lab hours)

CSCI 100. Introduction to Computational Science (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Fundamental concepts of computational science, computational modeling, computer simulations, and scientific applications. Topics include system-dynamics models, cellular-automaton simulations, computational and modeling tools, scientific visualization, high-performance computing. G.E. Integration IB.

CSCI 101. Computational Foundations for Bioinformatics (3 units)
Prerequisite: CSCI 1, BIOL 102. Computational approaches to problems in molecular biology; Algorithms, heuristics, strings, and graphs. Sequence comparison and multiple alignment. Selected topics such as scripting, visual programming, laboratory workflow, databases, and queries. (2 lecture, 2 lab hours)

CSCI 105T. Workshop on Computer Languages (1-3; max total 6 units)
Prerequisite: CSCI 40 or permission of instructor. Workshops in the use of various high-level programming languages or other selected languages in areas of database, statistical computation, or operating systems.

CSCI 112. Introduction to Computer Systems (4 units)
Prerequisite: CSCI 41, 60. Computer arithmetic. Von Neumann architecture. Instruction sets, data types, formats, addressing. Register and ALU organization. Memory hierarchy. I/O. Bus organization. Study of one or more assembly languages. Basics of implementation of higher-level languages. (3 lecture, 2 lab hours)

CSCI 113. Introduction to Computer Organization (4 units)
Prerequisite: CSCI 41. Fundamental issues of computer design at register-transfer level. Logical design of basic combinational and sequential modules. Organization and design of major functional blocks: ALU, CPU, memory, cache, input/output, hard-wired and microprogrammed control. Simulation of computer organization. Introduction to high-performance superscalar computer organization. (3 lecture, 2 lab hours)

CSCI 115. Algorithms and Data Structures (4 units)
Prerequisites: CSCI 41, 60; MATH 75. Review of basic data structures. Graph, search paths, and spanning trees. Algorithm design and analysis of sorting, merging, and searching. Memory management, hashing, dynamic storage allocation. Integration of data structures into system design. (3 lecture, 2 lab hours)

CSCI 117. Structures of Programming Languages (4 units)
Prerequisites: CSCI 41, 60. General concepts and paradigms of programming languages; scope and binding rules, applications and implementations of language concepts. Languages selected from: ADA, ICON, Miranda, ML, MODULA 2, OCCAM 2, PROLOG, LISP, Scheme, Smalltalk. (3 lecture, 2 lab hours)

CSCI 119. Introduction to Finite Automata (4 units)
Prerequisites: CSCI 41, 60. Strings, languages, and fundamental proof techniques. Regular expression, regular grammar, regular languages, finite automata, their interrelationship, and their properties. Introduction to context-free languages. (3 lecture, 2 lab hours)

CSCI 124. Introduction to File Processing (3 units)
Prerequisite: CSCI 115. Definition of file components, access methods, and file operations. Algorithms for efficient implementation of data structures; characteristics of bulk storage media for mainframe and microcomputers. Introduction to database management systems.

CSCI 126. Database Systems (3 units)
Prerequisite: CSCI 124. Database concepts; hierarchical and relational network models; object-oriented data models. Data normalization, data description languages, data manipulation languages, and query design.

CSCI 130. Web Programming (3 units)
Prerequisite: CSCI 115. Programming for the World Wide Web. Web servers and clients, Internet and Web protocols, and mark-up languages. Client-side scripting, including both gateway and filter-based approaches. (2 lecture, 2 lab hours)

CSCI 134. Compiler Design (3 units)
Prerequisites: CSCI 112, 115, 119. Syntax and semantics of programming languages. Lexical analysis, parsing techniques, parser generator, SLR and LALR parsing. Introduction to symbol table organization and semantic routines. Compiler generators.

CSCI 144. Introduction to Operating Systems (3 units)
Prerequisites: CSCI 41 and CSCI 112 or ECE 118. Operating system history and services. File systems. Memory management. Process management — concurrent processes, communication, semaphores, monitors, deadlocks. Resource management — processor and disk scheduling. Security and protection mechanisms. (3 lecture hours)

CSCI 146. Systems Architecture (3 units)
Prerequisites: CSCI 113, 144. An in-depth analysis of one or more operating systems — system data structures, hardware architecture, shell and kernel functions, I/O routines, interrupt handling. Other topics

may include parallel hardware architectures, performance analysis.

CSCI 148. Systems Programming (3 units)
Prerequisites: CSCI 113, 144. Topics include implementation of operating system components and modification of existing systems. Device drivers, memory management, communication networks, and file systems will be examined. Projects will be emphasized.

CSCI 150. Introduction to Software Engineering (3 units)
Prerequisite: CSCI 41. History, goals, and motivation of software engineering. Study and use of software engineering methods. Requirements, specification, design, implementation, testing, verification, and maintenance of software systems. Team programming. (2 lecture, 3 lab hours)

CSCI 152S. Software Engineering (3 units)
Prerequisite: CSCI 150. In-depth examination of techniques for specification, design, implementation, testing, and verification of software. Human-computer interfaces. Formal methods of software development. Use of software engineering tools for the development of substantial software projects. (2 lecture, 2 lab hours) (Formerly CSCI 152)

CSCI 154. Simulation (3 units)
Prerequisites: CSCI 41, 60; MATH 75. Simulation as a tool for the study of complex systems in computer science, statistics and operations research. Generating random variables. Review of principles behind and examples of simulation languages.

CSCI 156. Internetworking Systems and Protocols (3 units)
Prerequisite: CSCI 144 or permission of instructor. Review of underlying network technologies. Application-level interconnections, network architectures, addressing, mapping abstract addresses to physical addresses, routing datagrams, error and control messages, protocol layering, gateways, subnets. Client-server interactions. Upper layers of protocol stacks. (3 lecture hours)

CSCI 164. Artificial Intelligence Programming (3 units)
Prerequisite: CSCI 117. Introduction to problem-solving methods from artificial intelligence. Production systems. Knowledge-based systems. Machine learning. Topics chosen from fuzzy logic, neural network models, genetic algorithms. Verification, validation, testing.

CSCI 166. Principles of Artificial Intelligence (3 units)
Prerequisite: CSCI 164. Analysis of knowledge-based and neural models, including self-organization, sequential learning models, neurally inspired models of reasoning and perception. Integration of different paradigms.

CSCI 172. Computer Graphics (3 units)
Prerequisites: MATH 76, CSCI 41, and (CSCI 112 or ECE 118). Hardware devices, raster graphics, device in dependence, graphic data structure and representations, interactive techniques, and algorithms for the display of two- and three-dimensional objects, graphic transformations, graphics standards, modeling, animation, VRML, and scientific visualization. (3 lecture hours)

CSCI 173. Advanced Computer Graphics (3 units)
Prerequisite: CSCI 172. Visible surface algorithms, lighting and shading, textures, curves and surfaces, computer-aided design, advanced modeling techniques, solid modeling, advanced raster graphics architecture, advanced geometric and raster algorithms, user interface, ray tracing, animation techniques, and fractals. (2 lecture, 2 lab hours)

CSCI 174. Design and Analysis of Algorithms (3 units)
Prerequisites: CSCI 115, 119. Models of computation and measures of complexity, algorithms for sorting and searching, set representation and manipulation, branch and bound, integer and polynomial arithmetic, pattern-matching algorithms, parsing algorithms, graph algorithms, NP-complete problems.

CSCI 176. Parallel Processing (3 units)
Prerequisites: CSCI 113, 144. Characteristics, and classification of computer systems. Notion and realization of parallelism. Pipeline design techniques. Vector processing. Array processing. Multiprocessing. Multiprocessing vs. multicomputers. Shared memory vs. message-passing, problem solving, and parallel programming. Architectural trends.

CSCI 177. Distributed Computer Systems (3 units)
Prerequisites: CSCI 113, 144. Characteristics and design of distributed systems. Application and network interconnectivity. Enterprise computing. Distributed data and transaction management. Distributed operating systems. Distributed problem solving and programming.

CSCI 186. Formal Languages and Automata (3 units)
Prerequisite: CSCI 119. Introduction to formal language theory. Context-free grammars, context-sensitive grammars, unrestricted grammars, graph grammars, and rewriting systems; properties of context-free languages, push-down automata.

CSCI 188. Introduction to Computability (3 units)
Prerequisite: CSCI 119. Introduction to computability and complexity. Turing machines, recursive functions, reduction, undecidability, classes P and NP, and intractable problems.

CSCI 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

CSCI 191T. Proseminar (1-3; max total 15)
Prerequisite: permission of instructor. Presentation of selected topics in computer science.

CSCI 194. Cooperative Education (1-4; max total 8 units)
Prerequisites: courses appropriate to the work experience; approval by major department cooperative education coordinator. Integration of work experience with academic program, individually planned through coordinator. ***CR/NC*** grading only.

CSCI 198. Project (3 units)
Prerequisite: senior standing in computer science or permission of instructor and approved subject. See *Criteria for Thesis and Project*. Study of a problem under the supervision of a faculty member. Presentation by the student in a seminar setting and a final report are required. Satisfies the senior major requirement for the B.S. in Computer Science. Approved for ***RP*** grading.

GRADUATE COURSES

(See *Catalog Numbering System.*)

Computer Science (CSCI)

CSCI 200. Introduction to Research in Computer Science (1 unit)
Prerequisite: classified standing in computer science. Orientation to the graduate program, introduction to research methodology, and discussion of possible project and thesis topics.

CSCI 213. Computer Organization (3 units)
Prerequisites: CSCI 112 and 113 or permission of instructor. Organization of memory, I/O, and processors. Computer busses. Microprogramming and instruction execution. Interrupts. Data communications.

CSCI 217. Programming Language Principles (3 units)
Prerequisite: CSCI 117 or permission of instructor. Advanced topics in programming languages: concurrency, exceptions, types, procedures, execution models. Introduction to the formal specification of programming languages: syntax specification, semantic specification.

CSCI 226. Advanced Database Systems (3 units)
Prerequisites: CSCI 126 and 144. Implementation of database systems on modern hardware systems. Operating system design issues, including buffering, page size, prefetching, etc. Query processing algorithms; design of crash recovery and concurrency control systems. Implementation of distributed databases and database machines.

CSCI 230. Advanced Web Application Development (3 units)
Prerequisite: CSCI 130 or permission of instructor. Application development for the World Wide Web. Three-tier architecture; authentication, capability, and session management; versioning and open-source development. Case studies and project work.

CSCI 244. Operating Systems (3 units)
Prerequisite: CSCI 144. Operating system functions. Performance monitoring and fine-tuning. Network operating system design. Concurrency, analysis of deadlock. Selected topics from current research.

CSCI 246. Computer Architecture (3 units)
Prerequisite: CSCI 144 or permission of instructor. Contemporary computer architectures. Pipelined, superscalar, shared and distributed memory, multicore and embedded systems. Memory hierarchy, computer arithmetic, interconnection networks. Selected topics from current research.

CSCI 250. Advanced Software Engineering (3 units)
Prerequisite: CSCI 150 or permission of instructor. Theoretical and practical aspects of software engineering emphasizing requirements analysis, specification, design, coding, testing, correctness, maintenance, and management. Examination of reliability, performance, and software metrics.

CSCI 252. Software Development and Environments (3 units)
Prerequisite: CSCI 150. Overview of advanced and state-of-the-practice software engineering methodologies and techniques for software development, software environments, software verification, software planning, or cost estimation. Selected topics from current research.

CSCI 253. Human-Computer Interaction (3 units)
Software engineering approach to human-computer interaction. Design, evaluation, and implementation of user interfaces and experiences. Modeling, prototyping, inspection, and usability testing. Relationship of user interface characteristics to attention, errors, and efficiency. (Formerly CSCI 291T)

CSCI 256. Wireless Communications and Mobile Computing (3 units)
Review of basic wireless communication concepts, protocols, and architectures. Study of IEEE 802.11 based wireless LANS, wireless mobile ad hoc networks, wireless sensor networks, and wireless mesh networks. Mobile IP and cellular networks. (Formerly CSCI 291T)

CSCI 264. Artificial Intelligence (3 units)
Prerequisite: CSCI 164 or ability to program in Lisp and Prolog. Software technology for artificial intelligence systems, including expert systems. Knowledge- based and rule-based systems. Explanation and learning. User-oriented interfaces.

CSCI 272. Computer Graphics (3 units)
Prerequisite: CSCI 172 or permission of instructor. 3-D transformations, visible-surface algorithms, shading, textures, curves and surfaces, computer-aided design, advanced modeling techniques, solid modeling, advanced raster graphics architecture, advanced geometric and raster algorithms, user interface, ray tracing, animation techniques, and fractals.

CSCI 274. Combinatorial Algorithms (3 units)
Prerequisite: CSCI 174. Design and analysis of efficient algorithms for combinatorial problems. Network flow theory, matching theory, augmenting-path algorithms, branch-and-bound algorithms, data structure techniques for efficient implementation of combinatorial algorithms, analysis of data structures, application of data structural techniques to sorting, searching, and geometric problems.

CSCI 282. Theory of Computation (3 units)
Prerequisite: CSCI 188 or permission of instructor. General models of computation, recursive functions, undecidable problems, propositional calculus, predicate calculus, complexity classes, NP-complete problems.

CSCI 284. Automata Theory (3 units)
Prerequisite: CSCI 186 or permission of instructor. Formal languages, abstract machines, algebraic approach to automata, term rewriting systems, formal power series, cryptography, parallel computation.

CSCI 290. Independent Study (1-3; max total 6 units)
Prerequisite: approval of department. See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

CSCI 291T. Seminar (1-3; max total 9 units)
Prerequisite: approval of instructor. Special topics in computer science of current interest and importance.

CSCI 298. Research Project (3 units)*
Prerequisite: advancement to candidacy. See *Criteria for Thesis and Project.* Independent investigation of an advanced topic as the culminating requirement for the master's degree. Approved for ***RP*** grading.

CSCI 299. Master's Thesis (3-6; max total 6 units)*
Prerequisite: advancement to candidacy. See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Computer Science (CSCI)

CSCI 391T. Topics in Computer Science (1-6; repeatable for credit with different topics)

Earth and Environmental Sciences

College of Science and Mathematics

Department of Earth and Environmental Sciences
Stephen D. Lewis, *Chair*
Belinda Rossette, *Administrative Support Coordinator*
Science II Building, Room 114
559.278.3086
www.fresnostate.edu/ees/

B.S. in Environmental Sciences

B.S. in Geology

B.A. in Natural Sciences Teaching Credential
Option: Earth Science

M.S. in Geology

Minor in Geology

Certificate of Advanced Study in Geographic Information Systems (GIS)

Earth and Environmental Sciences

The Department of Earth and Environmental Sciences at California State University, Fresno offers courses leading to the Bachelor of Science and Master of Science in Geology — as well as the Bachelor of Arts in Natural Sciences and the Minor in Geology — which are especially well-suited for primary and secondary teachers.

Coursework and research emphasize field and laboratory investigations of geologic and environmental problems. Our field orientation takes advantage of the university's proximity to the Sierra Nevadas, the California Coast Ranges, coastal California, and the desert provinces. This unique location gives faculty and students access to an unparalleled outdoor laboratory, all within short trips from the university.

The department's close relationship with state agencies and the private sector enables many students to pursue internships or part-time employment in geologic and environmental work while they complete their degrees.

The Bachelor of Science in Geology prepares students for employment in petroleum geology, mineral exploration, land-use planning, environmental assessment, hydrology, and engineering geology, or for teaching earth science or physical science at the secondary level. The Master of Science program provides a graduate degree for students who want to work in industry or government on the professional level, for students who want to teach earth science in junior college, or for students who wish to pursue further graduate study.

Our applied geology option specializes in engineering geology, hydrogeology, or exploration geology fields, which have the strongest employment potential.

The Bachelor of Science in Environmental Sciences offers an interdisciplinary approach to the natural sciences with an emphasis on biology, chemistry, and geology. This degree is designed for students interested in areas such as pollution abatement, water resources, ecosystem protection, restoration, or management.

Students may also participate in coursework and research in marine geology and oceanography offered through Moss Landing Marine Laboratories in Monterey Bay. Consult the chairs of the Earth and Environmental Sciences, and Biology departments. See *Moss Landing Marine Laboratories, Biology Department.*

Facilities and Support

Department equipment includes the following:

- X-ray diffraction
- X-ray fluorescence laboratory
- Microscope equipment for petrography study
- Rock preparation laboratory for preparing thin and polished sections
- Remote Sensing/Geo Information Systems (GIS)
- Electronic mapping lab
- Fully equipped distance learning instructional lab
- Water research analytical laboratory including mass spectrometer for isotope analysis
- Sediment transport experimental facility
- Field geophysical instruments
- Microfossil processing equipment
- Field vehicles

Career Opportunities

Career pathways in earth and environmental sciences can lead to the following occupations:

- Professional geologist
- Earth science educator
- Environmental scientist/ecologist
- Environmental manager/planner
- Hydrogeologist/hydrologist
- Public administrator

Undergraduate Program

Geology Major. The bachelor's degree with a major in geology consists of 120 units, including 49 units of geology. For general degree requirements see *Degree Requirements*. Students planning graduate study are advised to meet the foreign language requirements of the institutions they plan to attend.

High School Preparation. Adequate high school preparation for a major in geology will facilitate the progress of students through our program. This preparation should include: algebra (2 years), plane and solid geometry, trigonometry, chemistry, physics or biology, and English (4 years).

Faculty

Stephen D. Lewis, *Chair*

Mara Brady
Robert G. Dundas
Christopher J. Pluhar
Keith D. Putirka
Mathieu Richaud
C. John Suen
Peter K. Van de Water
John Wakabayashi
Zhi (Luke) Wang
Beth Weinman

John J. Anglen, *Lecturer*
Susan Bratcher, *Lecturer*
Neil Ingraham, *Lecturer*
Kerry Workman-Ford, *Lecturer*

Bachelor of Science Degree Requirements

Geology Major *Units*

Major requirements 49
Lower-division requirements
EES 1, 2, 12, and 30.....(12)
Upper-division requirements
EES 100, 101, 102, 104, 106, 107, 178, 199; two of the following: EES 105, 110, 122 ; one of the following: EES 114, 117, 118, 124 .....(34)
Upper-division geology elective (see *Note 2*).....(3)
Additional requirements 22
CHEM 1A, 1B; MATH 75; PHYS 2A, 2B
Remaining General Education requirements 45*
Electives and remaining degree requirements 4
Upper-division writing skills; (see *Degree Requirements*); may be used toward a minor
Total 120

*Of the 51 required General Education units, 6 units will be satisfied by the following two courses in additional requirements: 3 units of CHEM 1A in G.E. Breadth B1 and 3 units of MATH 75 in G.E. Foundation B4. Consult the department chair or faculty adviser for details.

Advising Notes

1. "Additional requirements" courses may be applied to satisfy requirements of General Education, or a minor, as appropriate. They also may be taken *CR/NC* (see *Credit/No Credit Grading*).
2. No more than 1 unit of EES 160 may be used to fulfill the upper-division elective requirement. EES 154, 155, and 168 are not applicable toward geology major requirements.
3. No General Education Integration course offered by the Department of Earth and Environmental Sciences may be used to satisfy the General Education requirements for geology majors.
4. *CR/NC* is not permitted in the geology major with the exception of EES 3, 30, and 160.
5. No more than 1 unit of EES 3 will be permitted.
6. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
7. Students planning to pursue graduate study in geology are strongly encouraged to take MATH 76 or EES 177.

Bachelor of Science Degree Requirements

Environmental Sciences Major *Units*

Lower-division core requirements 50-51
Biology: BIOL 1A, 1B, 1BL .....(9)
Chemistry: CHEM 1A, 1B.....(10)
Environmental Sciences: EES 4[1], 12 .....(7)
Earth Science: EES 1, 30 .....(6)
Mathematics: MATH 75 and select one: MATH 76, 101; PSYCH 42[2]; EES 177 ..... (7-8)
Physics: PHYS 2A and 2B; or 4A[3], 4AL, 4B, 4BL .....(8)
Social Science: PLSI 71 .....(3)
Upper-division requirements 24
Biology: BIOL 101 .....(3)
Environmental Sciences: EES 108, 109, 199 .....(9)
Geology: EES 105, 186, and select one: EES 113, 117, 124.....(9)
Social Science: ECON 117[4] .....(3)
Controlled electives 9
Biology/Chemistry: CHEM 8 .....(3)
Earth Science: EES 102, 110, 113, 114, 117, 124.....(6)
Remaining General Education requirements 36-39
Electives 0-1
Total 120

[1] Requires G.E. Foundation B4 as prerequisite.
[2] PSYCH 42 is prerequisite for BIOL 101.
[3] Requires MATH 77 as prerequisite or may be taken concurrently.
[4] Prerequisite for ECON 117 waived for environmental sciences majors.

Advising Notes

1. Program satisfies 15 of the 51 required G.E. units if PSYCH 173 is taken.
2. Students interested in physical aspects of environmental sciences should take MATH 76 or EES 177 in addition to PSYCH 42.

Geology Minor

The minor consists of 20 units of coursework approved by a departmental faculty member and must include 6 upper-division units in residence. Minimum GPA is 2.0.

Bachelor of Arts in Natural Sciences

Earth Science Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 278-5173.

The degree is also a suitable choice for students with a general interest in earth science and interest in pursuing a career in environmental science, law, medicine, dentistry, optometry, and other areas for which the breadth of scientific coverage of this degree is advantageous.

The B.A. in Natural Sciences with the Earth Science Emphasis is as follows:

Units

Core requirements 36
Biology .....(12)
BIOL 1A, 1B, 1BL, 101
Chemistry .....(10)
CHEM 1A, 1B
Geology .....(7)
EES 1 and 168
Natural Science .....(3)
NSCI 106
Physical Science .....(4)
PSCI 21
Earth Science Option..... 43
PHYS 2A, 2B[1] ..... (8)
MATH 75 ..... (4)
EES 12, 30, 100, 101, 102, 105, 112, 155 ..... (24)
Select two courses: EES 110, 114, 117, 124; GEOG 111..... (6)
EES 3 ..... (1)
General Education requirements 51
Electives and remaining degree requirements.....2
Total[2,3] 120

Advising Notes for the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well prepared for physics.
2. This total assumes that students in this option will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A (3

units), BIOL 1A (3 units), EES 168 (3 units), and MATH 75 (3 units). Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and upper-division writing skills.

Graduate Program in Geology

The Department of Earth and Environmental Sciences offers graduate courses and research leading to the Master of Science. The graduate courses and research areas are such that several different career goals can be met, including the following: (1) preparation for enrollment in a Ph.D. program in geology or a related field, (2) preparation for employment as a professional geoscientist with industry or government, and (3) advancement of knowledge of the earth sciences and teaching skills of secondary school and junior college teachers.

Graduate research opportunities are available in several fields, including but not restricted to hydrology/hydrogeology/hydrogeochemistry, stream restoration, geophysics, tectonics, engineering geology, geomorphology, structural geology, volcanology/igneous and metamorphic petrology, sedimentology/paleontology/stratigraphy, paleoclimatology and high temperature, and stable isotope geochemistry.

The graduate program also offers research opportunities in applied geology. This curriculum is usually interdisciplinary with an environmental focus, involving coursework in geology, civil engineering, chemistry, soil sciences, and other areas. Two applied geology emphases are offered: (1) engineering and environmental geology and (2) hydrogeology. Students of applied geology are encouraged to undertake theses involving support and supervision by professionals in private and public sectors.

University requirements are met through satisfactory completion of core courses and specialty courses in the curriculum emphasis.

Students are required to pass the writing component of EES 201. Please see the department's graduate program policy and graduate program coordinator for more information.

Master of Science Degree Requirements

The graduate program for the Master of Science in Geology assumes as its foundation the equivalent of the undergraduate major in geology at California State University, Fresno. Two-thirds of the 30 units required for the degree must be in geology, and at least 21 of the 30 units must be 200-series courses. Students will select a thesis adviser to guide their research. The thesis adviser will also guide the selection of coursework in the program. For additional details regarding such requirements and procedures, please see the geology graduate program coordinator and the department's graduate program policy statement; for general requirements see *Division of Graduate Studies*. (See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, Foreign Language Requirements,* and *Criteria for Thesis and Project*.)

Course Requirements: Under the direction of his/her thesis adviser, and with approval by the department faculty, each student prepares and submits an individually designed program. Most coursework is elective in nature, in keeping with the department's philosophy that flexibility enables students to develop a path of study best suited to their goals. The course requirements are as follows:

	Units
EES 201 (Seminar in Geology)	**3**
EES 299 (Thesis)	**6**
Approved upper-division or graduate course electives in geology or related fields such as biology, chemistry, physics, engineering, and mathematics. Electives determined in consultation with graduate adviser	**21**
Total	**30**

Students studying applied geology should take the following courses before or during their graduate experience: EES 114, 117, 124.

Modifications in the program of study may be made with approval of both the thesis adviser and graduate program coordinator.

Additional Requirements. A master's thesis is required. An oral defense of a thesis proposal is required, to ensure that students have selected a problem that is commendable to an M.S. thesis in the sciences and that the proposed methods of analysis are appropriate to the task. This defense normally will be scheduled as a culminating experience in EES 201, but also can be scheduled outside of EES 201 if necessary. An oral defense of the thesis is also required. The defense will include questions regarding the thesis and questions of a more general nature related to knowledge in the earth sciences. The thesis will be judged by the extent to which a student attempts to solve a scientific problem by employing methods appropriate to the task. The thesis must meet certain minimum standards, which include the following: thoughtful consideration of and reference to prior work in the field of study; a peripheral understanding of the broader scientific value or societal implications of the work, as appropriate; and a demonstration of originality and critical thinking. Graduate students of geology conducting research in a foreign country are expected to be proficient in the language in which source materials are published.

Certificate of Advanced Study in Geographic Information Systems (GIS)

GIS uses digital technology to assist the evaluation of spatial information. GIS professionals acquire, manage, analyze, visualize, and represent geospatial data, or information related to geographical locations. The certificate requires 12 units. This is an online course of study. For more, see *www.fresnostate.edu/cge/giscert/*.

Required Coursework	*Units*
EES 211: Fundamentals of Geographical Information Systems	**3**
EES 212: Introduction to Geospatial Technologies	**3**
EES 214: Advanced Spatial Analysis	**3**
EES 216: Practicum	**3**
Total	**12**

Note: For the undergraduate Certificate of Special Study in Geographic Information Systems, see the *Department of Geography*.

COURSES

Earth and Environmental Sciences (EES)

EES 1. Natural Disasters and Earth Resources (4 units)
Prerequisite: G.E. Foundation B4 (except for those with declared major in the College of Science and Mathematics). Recommended: MATH 4R or second-year high school algebra. Processes and materials that produce the different geologic resources and hazards (earthquakes, volcanoes, floods, landslides). Plate tectonic theory (including continental drift) as the unifying model to explain geologic phenomena. Emphasizes the relationship between geology and humans. G.E. Breadth B1. (3 lecture, 2 lab hours; optional field trips) (Course fee, $10) (Formerly GEOL 1)

EES 2. Historical Geology (3 units)
Prerequisites: EES 1. Origin and evolution of solid earth, life, oceans, and atmosphere as revealed by the rock record's fossil remains with emphasis on the evolution of life and the physical environment. (2 lecture, 2 lab hours) (Course fee, $10) (Formerly GEOL 2)

EES 3. Geology Field Trip (1; max total 3 units)
Extended weekend field trip to areas of geologic interest including Yosemite National Park, Death Valley, or coastal California. May be repeated. Nonmajors encouraged. *CR/NC* grading only. (Weekend field trips required; field trip fee, $60) (Formerly GEOL 3)

EES 4. Environmental Science (4 units)
Prerequisite G.E. Foundation B4. Introduction to environmental science, focusing on environmental principles and processes. Topics include human population and consumption, ecosystems and biodiversity, resource management and conservation, energy sources and technology use, dynamics, ecosystems, pollution and wastes, environmental economics and ethics, global changes, and tomorrow's world. (3 lecture, 2 lab hours) G.E. Breadth B1. (Course fee, $10) (Formerly ENSC 1)

EES 9. Introduction to Earth Science (3 units)
Introduction to earth science emphasizing K-6 teacher preparation. Addresses topics in earthquakes, volcanoes, rock and mineral formation, oceanography, astronomy, and meteorology. For liberal studies majors only. (2 lecture, 2 lab hours) (Course fee, $10) (Formerly GEOL 9)

EES 12. Mineralogy (3 units)
Prerequisites: EES 1; CHEM 1A (or concurrently). Prerequisite: high school chemistry. Properties, relationships, uses origin of minerals; determination of common minerals by physical and other tests. Field trips may be required. (2 lecture, 3 lab hours) (Course fee, $35) **F** (Formerly GEOL 12)

EES 30. Introductory Field Methods (2 units)
Prerequisites: EES 1, MATH 5. Introduction to geologic fieldwork methods, including use of Brunton pocket transit and stereo aerial photographs, preparation/interpretation of maps and geologic cross-sections. *CR/NC* grading. Graded for EES majors/minors. (6 lab/field hours) (Weekend field trips required) (Course fee, $35) (Formerly GEOL 30)

EES 50. National Parks of the Sierra Nevada (3 units)
Geology, ecology, and history (human and natural) of Yosemite, Kings Canyon, and Sequoia National parks and issues facing these parks. (Course fee, $25) (3 lecture hours, field exercises required)

EES 100. Analytical Methods in the Earth Sciences (2 units)
Prerequisites: EES 12 (concurrent enrollment recommended). Covers various methods for identifying and characterizing crystalline substances. Topics include crystallography, optical methods for mineral identification, and powder X-ray diffraction methods for mineral identification and structure characterization. (1 lecture, 3 lab hours) (Course fee, $10) **F** (Formerly GEOL 100)

EES 101. Igneous and Metamorphic Petrology (4 units)
Prerequisites: EES 30, 100; CHEM 1B (or concurrently). Origin classification, textures, structures, and geologic setting of igneous and metamorphic rocks; examination of samples in outcrop, hand specimen, and thin section. Weekend field trips required. (3 lecture, 3 lab hours) (Course fee, $35) **S** (Formerly GEOL 101)

EES 102. Sedimentology (4 units)
Prerequisites: EES 30, 100. Origin, classifications, textures, and structures of sedimentary rocks; examination of samples in hand specimen and thin section. Required field component for field stratigraphy and sedimentology and for producing a formal field report. (2 lecture, 3 lab hours plus field project) (Course fee, $35) **F** (Formerly GEOL 102)

EES 104. Scientific Writing and Research Techniques (2 units)
Prerequisites: EES 1 or EES 4; a passing grade on the Upper-Division Writing Exam, or completion of an upper-division writing course with a *C* or higher (may be taken concurrently). Organizing and writing the scientific report and thesis. Topics include techniques and conventions in research methods, evaluation approaches, and presentation of results. Peer reviews. Oral presentation and term paper required. (1 lecture, 3 lab hours) **F** (Formerly GEOL 104)

EES 105. Geomorphology (3 units)
Prerequisite: EES 1; EES 30 (or concurrently). Landforms, climates, geologic processes, and their interrelation in shaping the earth's surface today and in the geologic past. Interpretation of topographic maps and aerial photographs. Field trips required. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 105)

EES 106. Structural Geology (4 units)
Prerequisites: EES 30, 101; MATH 75 (or concurrently); PHYS 2A. Recognition, representation, and interpretation of structural features of the earth's crust. Includes theoretical and mechanical principles. Study of regional tectonics and major structural provinces of the Cordillera. Required field component for field mapping, collecting, and producing formal field report. Field trips required. (2 lecture, 3 lab hours plus field project) (Course fee, $35) **F** (Formerly GEOL 106)

EES 107. Advanced Field Methods (3 units)
Prerequisites: EES 102, 104, 106. Field trips to areas of diverse geology; observation, description, and mapping of geologic phenomena. Includes written reports of areas selected for study. Students should contact the department for details. (9 lab hours usually including fieldwork on weekends or during January intercession and spring vacation) (Course fee, $35) **S** (Formerly GEOL 107)

EES 108. Soil and Water Sciences (4 units)
Prerequisite: BIOL 1A, CHEM 1B or CHEM 150, EES 1 or EES 4, PHYS 4B or 2B, MATH 75. Introduction to the physical, chemical, and biological properties of soil and water in relation to environmental sustainability. Introduction to the hydrological cycle and distribution of soil and water sources. Discussion of soil and water resources management and policy issues.

(3 lecture, 3 lab hours; optional field trips) (Course fee, $10) (Formerly ENSC 100A, EES 100A)

EES 109. Atmospheric Science (3 units)
Prerequisite: BIOL 1A, CHEM 1B or CHEM 150, EES 1 or EES 4, PHYS 4B or 2B, MATH 75. The structure of the atmosphere and humanity's impact upon it. The causes and consequences of air pollution. Air quality standards. Stratospheric and tropospheric ozone. Introduction to the chemistry of air pollution and air pollution control strategies. (2 lecture, 3 lab hours; optional field trips) (Course fee, $10) (Formerly ENSC 100B, EES 100B)

EES 110. Invertebrate Paleontology (3 units)
Prerequisites: EES 1 or BIOL 1A and 1B, 1BL, or BIOL 11 or BIOL 12. Invertebrate structures and development of prehistoric animals; introduction to stratigraphic importance of fossils. Field trips may be required. (2 lecture, 3 lab hours) (Course fee, $10) (Formerly GEOL 110)

EES 112. Planet Earth through Time (3 units)
Credit not allowed after completion of EES 2. Prerequisites: G.E. Foundation and Breadth Area B. Principles of geology used in the interpretation of the history of Earth as revealed in rocks and their fossils. Includes origin of the solar system, evolution of atmosphere and oceans, origin of life, rise and fall of the dinosaurs, plate tectonics, and ice ages. G.E. Integration IB. *Does not satisfy Division 1 pre-1999 G.E. curriculum.* (Formerly GEOL 112)

EES 113. Stream Habitat Restoration (3 units)
Prerequisites: EES 1 or BIOL 1A or BIOL 10 or instructor's consent. Investigation of stream geology, hydrology, and biology relevant to restoring stream habitat. Includes collecting and interpreting lab and field data. Field trips required. (2 lecture, 3 lab hours) (Formerly GEOL 113)

EES 114. Engineering Geology (3 units)
Prerequisites: EES 1 and MATH 5 or 72 or 75. Introduction to techniques and theory of geotechnical investigations. Includes field and lab techniques in soil and rock mechanics, rock logging, geophysics, slope stability, engineering hydrogeology, stereo analysis, seismic engineering. Recommended for students in geology or civil engineering. Field trips required. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 114)

EES 117. Hydrogeology (3 units)
Prerequisites: EES 1; MATH 72 or 75; and EES 124 and MATH 76 recommended. The hydrologic cycle; surface water processes; stream flow and hydrograph; properties of porous geologic materials; principles of groundwater flow; water wells; geology of groundwater occurrence; water quality and pollution. Field trip required. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 117)

EES 118. Applied Geophysics (3 units)
Prerequisites: EES 1, PHYS 2A and completion of or concurrent enrollment in PHYS 2B. Presents an overview of geophysics as applied to problems in exploration, engineering, and environmental geology. Emphasizes hands-on methods of data acquisition and interpretation that entry-level geologists will most likely encounter including gravity, magnetics, seismic refraction, ground-penetrating radar, down-hole surveys, and electrical resistivity. Field instrumentation is used throughout. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 118)

EES 122. Stratigraphy (3 units)
Prerequisites: EES 2, 30, 102 (may be taken concurrently). Stratigraphic principles and recognition of stratigraphic units. Emphasis on tectonostratigraphic concepts. (2 lecture, 3 lab/field hours) (Course fee, $35) (Formerly GEOL 122)

EES 124. Geochemistry (3 units)
Prerequisites: CHEM 1A and 1B and EES 1 or 15; EES 12 and 101 recommended. Chemistry applied to earth processes and evolution. Reactions involved in origin and transformations of natural waters, rocks, and minerals. Crystal chemistry and behavior of elements and isotopes. (3 lecture hours) (Formerly GEOL 124)

EES 125. Global Paleoclimates (3 units)
Prerequisite: EES 1 and either MATH 2, 5, or 75. Introduction to processes and mechanisms behind what is thought to be gradual and abrupt climate change over the last 500 million years. Discussion of investigation methods in paleobiology, paleogeography, and paleoceanography. Proxies interpretation for building age models and correlation of marine and terrestrial records. (Formerly GEOL 150T)

EES 130T. Advanced Problems in Geology (1-3; max total 6 if no topic repeated)
Prerequisite: senior standing in geology. Topics or problems in the following fields: engineering geology, geology of North America, field geology, micropaleontology, advanced ground water geology, sedimentation and sedimentary rocks, geochemistry, geophysics, volcanic geology and marine geology. Some topics may have labs. (Formerly GEOL 130T)

EES 135W. Dinosaurs (3 units)
Prerequisite: satisfactory completion (***C*** or better) of the ENGL 5B or 10 graduation requirement, to be taken no sooner than the term in which 60 units are completed. Introduction to dinosaur theory derived from sedimentary rocks and fossils, including evolution, diversity, habitats, extinction, and fossilization. Develops skills for scientific writing of proposals, abstracts, journal articles, and reviews. Meets the upper-division writing skills requirement for graduation. (3 lecture hours) (Formerly EES 130T)

EES 150T. Studies in Earth Science (1-3; max total 6 units)
Applicable to the geology major only with prior departmental approval. Prerequisite: EES 1. Earth science topics designed for students minoring in geology, with an interest in earth science, in teacher training, and for elementary and secondary teachers. (Formerly GEOL 150T)

EES 154. Introductory Earth Science (3 units)
Not applicable to the B.S. in Geology. Appropriate for liberal studies majors and K-6 teachers. Earth systems interactions demonstrated through hands-on activities, experiments, and field work. Topics include recognition, origin, and use of rocks and minerals; geologic time and fossils; interpretation of landscapes and the rock record; and plate tectonics. (2 lecture, 2 lab hours, 1 hour arranged) (Course fee, $10) (Formerly GEOL 154)

EES 155. Discovering Earth Science (3 units)
Not applicable to the B.S. in Geology. Prerequisites: EES 1 or 112, or instructor's permission. Appropriate for students and 7-12 teachers seeking a secondary school science credential. Activity-based discovery of earth science and its integration with other sciences. Topics include energy in the earth system, geochemical cycles, dynamic interactions between the lithosphere, atmosphere, and hydrosphere, and origin/evolution of the earth. (2 lecture, 2 lab hours, 1 hour arranged) (Course fee, $10) (Formerly GEOL 155)

EES 160. Field Studies (1-4; max total 4 units)
Prerequisite may be specified by instructor. Field trips during weekends or winter/spring recess to geologically important and significant areas such as the Grand Canyon, Baja California, the Sierra Nevada, Death Valley. (Formerly GEOL 160)

EES 167. Oceans, Atmosphere, and Climate Change (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Integrated introduction to oceans, atmosphere, and climate change: their origin and evolution; plate tectonics; ocean currents, waves, and tides; atmospheric circulation and El Niño; production and life; and environmental issues and concerns. G.E. Integration IB. (Formerly GEOL 167)

EES 168. California's Earth System (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Not applicable to B.S. in Geology. Interaction of earth, water, air, and life in California's earth system over geologic time. Human interaction with the environment. G.E. Integration IB. (Formerly GEOL 168)

EES 177. Quantitative Methods for Earth Science (3 units)
Prerequisites: EES 1; MATH 75. Applications of mathematical techniques and quantitative methods in earth science; introduction to basic skills, including statistical methods, numerical techniques, matrix operations, and spatial analysis. (2 lecture, 3 lab hours) (Formerly GEOL 177)

EES 178. Geostatistics (3 units)
Prerequisites: EES 1 or EES 4; MATH 75 recommended. Principles and application of geostatistics and visualization techniques in geo-environmental sciences. Topics include spatial and temporal correlation, variograms, kriging, and factor analysis. Techniques are used for evaluation of mineral deposits and characterization of an environment with limited sampling data. (2 lecture, 3 lab hours, 1 day required field tests) (Formerly GEOL 178)

EES 180. Computer Applications in Geology (3 units)
Use of computers in geology, focusing on such applications as multi-dimensional graphics, desktop mapping, communications, on-line resources, modeling. (2 lecture, 3 lab hours) (Formerly GEOL 180)

EES 185. Remote Sensing for the Natural Sciences (3 units)
Prerequisite: G.E. Breadth, Area B; GEOG 151 recommended. Introduction to remote sensing techniques, including ultraviolet, visible, and infrared electromagnetic sensors, both space and aircraft based, and acoustic methods. Laboratory exercises will use examples from geology, agriculture, and society. Familiarity with computers required. (2 lecture, 3 lab hours) (Formerly GEOL 185)

EES 186. Environmental GIS (3 units)
Prerequisite: GEOG 142 recommended. Spatial information management, analysis, interpretation, and display using computer methods. Map concepts, spatial relationships, database design, and spatial analysis of data. Laboratory exercises using geologic map data, faults, earthquake epicenters, stream habitats and restoration, and endangered species. Familiarity with computers required. (2 lecture, 3 lab hours) (Formerly GEOL 186)

EES 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly GEOL 190)

EES 199. Undergraduate Thesis (3 units)
Prerequisites: EES 102, 104, 106; senior standing. Independent research project in any geologic topic supervised by a faculty member and leading to completion of baccalaureate degree. (Formerly GEOL 199)

GRADUATE COURSES

(See *Catalog Numbering System*.)

Earth and Environmental Sciences (EES)

EES 201. Seminar in Geology (3 units)
Prerequisite: graduate standing. Seminar covering advanced and evolving topics in the earth sciences. Requirements include active discussion participation, frequent oral presentation, and written research papers. Satisfies Graduate Writing Skills requirement. (3 seminar hours) **S** (Formerly GEOL 201)

EES 202. Geology Laboratory Teaching Techniques (1 unit)
Laboratory safety, lab lecture techniques, earth and environmental science activity design, equipment setups, student evaluation methods and grading, peer teaching assessment, leading field trips, etc. Primarily for teaching associates in geology. ***CR/NC*** grading only. (One 2-hour lab) (Formerly GEOL 202)

EES 210. Analysis of Faults and Earthquakes (3 units)
Prerequisites: EES 106 and 107. Includes plate tectonic theory; kinematics and dynamics of fracturing and faulting; formation and propagation of seismic waves; recognizing and quantifying seismic potential; remote sensing and geophysics in applied fault studies. Field projects and oral presentations required. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 210)

EES 211. Fundamentals of GIS (3 units)
Fundamental concepts and techniques of GIS; hands-on labs on data exploration and analysis; advanced skills in spatial and 3-D analysis on terrain and watershed delineation; midterm and final term projects. Asynchronous online.

EES 212. Geospatial Technologies (3 units)
Introduces global positioning systems, remote sensing, and light detection and ranging technology and their integration with Geographic Information Systems. Asynchronous online.

EES 214: Advanced Spatial Analysis (3 units)
Prerequisites: EES 211 and 212. Spatial Analysis is an advanced course in GIS that exposes students to an array of spatial analysis theories, techniques and practices. Reading, demonstrations, applied assignments. Primarily asynchronous online.

EES 216. GIS Practicum (3 units)
Prerequisites: EES 211, EES 212; EES 214 corequisite. Culminating experience for Advanced Certificate in GIS designed to demonstrate advanced working knowledge of GIS. Proposal, data privacy and management, GIS project, documentation, write-up, and presentation. Primarily asynchronous online.

EES 217T. Topics in Hydrogeology and Environmental Geology (2-3; max total 6 if no topic repeated)
Prerequisite: major in geology and/or permission of instructor. Studies of current issues and recent research topics which may include groundwater contamination, environmental pollution, and hazardous and nuclear waste management. Readings from books, journals, and government publications. Independent research and oral presentation required. Laboratory activities may be required. (Formerly GEOL 217T)

EES 220. Groundwater Hydrology (3 units)
Prerequisites: EES 117. MATH 77 recommended. Principles of flow through porous and fractured media; groundwater hydraulics in the saturated and unsaturated zones; contaminant transport; introduction to groundwater models. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 220)

EES 230. Contaminant Transport (3 units)
Prerequisites: EES 117 or permission of instructor; MATH 76 and EES 178 recommended. A study of analytical methods to predict and draw maps of contaminant transport in water, air, and soil. MathCAD program are used to solve the governing equations of chemical diffusion, advection, and dispersion in the environment. (Formerly GEOL 217T)

EES 231. Depositional Systems (3 units)
Prerequisites: EES 102 and 105. Investigation of modern and ancient depositional systems. Field trip required. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 231)

EES 232. Basin Analysis Seminar (3 units)
Prerequisites: EES 102 and 106. Topics may include: basin styles, tectonics and sedimentation, seismic stratigraphy, subsidence and thermal history, and petroleum plays. Research paper and oral presentation required. (Course fee, $35) (Formerly GEOL 232)

EES 250T. Topics in Geology (1-3 units; may be taken more than once if no topic is repeated)
Prerequisite: major in geology and/or permission of instructor. Advanced studies of such areas as petrology, marine geology, and regional stratigraphy. Some topics may have labs and field trips. (Formerly GEOL 250T)

EES 251T. Topics in Engineering Geology (1-3 units; may be taken more than once if no topic is repeated)
Prerequisites: major or minor in geology; permission of instructor. Advanced studies in areas such as slope stability, ground water monitoring, drilling and core logging, water sampling, hazardous waste site investigations, and geophysical instrumentation. (Formerly GEOL 251T)

EES 271. Volcanology (3 units)
Prerequisite: EES 101. A study of volcanic activity, including classification, characteristics, products of eruptions, human interactions with volcanoes and related phenomena. Field trips required. (1 lecture, 6 lab hours) (Course fee, $35) (Formerly GEOL 271)

EES 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly GEOL 290)

EES 299. Thesis (2-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading. (Formerly GEOL 299)

* For 299C courses, see Graduate Studies.

Mathematics

Mathematics

Mathematics and related subjects play important dual roles in our culture. On the one hand, mathematics is a study in its own right; on the other hand, it is an indispensable tool for expressing and understanding ideas in the sciences, engineering, and an increasing number of other fields. As a consequence, employment opportunities for mathematicians have been expanding in recent years. The courses offered by the department are designed to develop skills in, and an appreciation and understanding of, both roles.

Because there are so many different areas in which a trained mathematician can find employment or continue studies, the department offers a large number of electives within the mathematics major. By selecting appropriate courses, students have considerable flexibility to accommodate their individual interests. Students should consult with a department adviser for specific recommendations as to which electives are suited to their career paths.

Electives in applied mathematics prepare students to assume positions in technical industries or government employment, or to continue advanced studies in the applied area.

Electives in pre-college teaching in mathematics provide students with the necessary background for obtaining a California Single Subject Teaching Credential in mathematics. In order to complete the credential requirements, a fifth year of education courses, classroom observation, and practice teaching is needed. At the present time, there is an increasing demand for well-trained people in this area.

Electives in pure mathematics prepare students for the pursuit of graduate studies leading to advanced degrees and employment at the college or university level, or research in industry.

Electives in statistics and probability provide a foundation for students planning to work as statisticians for industry or government agencies. They also can enhance employment opportunities in the bioscience and health-related fields. Statistics courses (in addition to MATH 75 [or MATH 75A and 75B], 76, and 77) are essential for the first two Actuarial Examinations offered by the Society of Actuaries.

Faculty

Larry W. Cusick, *Chair*

Doreen De Leon, *Graduate Coordinator*
Undergraduate Advisers:
All full-time faculty
Credential Advisers: Agnes Tuska, T. Rajee Amarasinghe, Lance Burger

Carmen Caprau
Comlan de Souza
Stefaan Delcroix
Della C. Duncan
Tamas Forgacs
Ernesto Franco
Katherine S. Kelm
Maria Nogin
Adnan Sabuwala
Oscar Vega
Ke Wu

Lecturers:
Paul Kryder
Bill Regonini

College of Science and Mathematics

Department of Mathematics
Larry W. Cusick, *Chair*
Sieumuoi Taing,
Administrative Support Coordinator
Peters Business Building, Room 381
559.278.2992
www.fresnostate.edu/math/

B.A. in Mathematics

M.A. in Mathematics
Option: Teaching

Minor in Mathematics

Single Subject Teaching Credential

Bachelor of Arts Degree Requirements

Mathematics Major

The requirement for entrance to the major and minor programs is completion of two years of algebra as well as courses in geometry and trigonometry, or a sequence of courses containing their equivalents, such as MATH 4R and 5.

It is strongly recommended that such study be completed before entrance to the university.

Total Course Requirements for the Bachelor's Degree: 120 units. See *Baccalaureate Degree Requirements* for complete details on general degree requirements. A minimum of 40 units must be upper division, including those required for the major, General Education, and upper-division writing skills.

	Units
Major requirements	**42-48**
Core curriculum	(30-31)
MATH 75 (or 75A and B), 76, 77	(12)
MATH 111	(3)
MATH 151, 152	(8)
MATH 171	(4)
MATH 128 or 165 or 172	(3-4)
Elective curriculum	(12-16)
Four mathematics courses, upper-division or MATH 81, excluding MATH 100, 133, 134, 137, 138, 139, 149	

Additional requirements 7
CSCI 40 ..... (4)
PHYS 4A[1] ..... (3)
General Education requirements .... 51[2]
Electives and remaining degree requirements 14-20
Total 120

Major Advising Notes

1. PHYS 4AL is not required for the math major. If students wish to include PHYS 4A as a General Education Breadth course, they must also take PHYS 4AL.
2. Three units of MATH 75 (or MATH 75A) also will satisfy the G.E. Foundation B4 requirement.
3. See Mathematics Road Map at *www.fresnostate.edu/degreeroadmap.*

Mathematics Minor

The minor requires 20 units in mathematics, MATH 75 (or MATH 75B) or above, excluding MATH 75A, 100, 133, 134, 137, 138, 139, and 149.

Minor Advising Note

1. Courses in the minor may be taken *CR/NC*, subject to university regulations.
2. The Mathematics Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Requirements

Mandatory advising at least once a semester is required of all majors in the degree programs. Students can find their assigned adviser in the Student Services Center on MyFresnoState at *https://my.fresnostate.edu*.

Grade Requirements

All courses required as prerequisites for a mathematics course must be completed with a grade of *C* or better before registration will be permitted. All courses taken to fulfill major or minor requirements must be completed with a grade of *C* or better.

Duplication of Courses

No credit will be allowed for:	*If taken after completion of:*
MATH 5	MATH 75 (or 75A and B)
MATH 6	MATH 75 (or 75A and B)
MATH 70	MATH 75 (or 75A and B)
MATH 75 (or 75A and B)	MATH 76
MATH 76	MATH 77
MATH 77	MATH 81
MATH 101	MATH 108

Single Subject Credential Program Subject Matter Competency in Mathematics*

Units

MATH 75 (or 75A and B), 76, 77, 101, 111, 116, 143, 145, 149, 151, 152, 161, 171; PHYS 4A; CSCI 40; MATH 81 or 114 or 128 or 165 or 172 or 181**
Total 59-60

See the description of the Single Subject Credential Program under *Curriculum, Teaching, and Educational Technology* in this catalog.

* As teacher education programs are subject to state and system legislative control, it is recommended that students consult department credential advisers for current program requirements.

**Math majors should take either MATH 128 or 165 or 172 to fulfill the major requirement.

Graduate Program

The Department of Mathematics offers a Master of Arts (M.A.) in Mathematics. A bachelor's degree is required in order to be admitted to a graduate program at California State University, Fresno.

In order to be admitted to classified graduate standing, applicants must have undergraduate preparation equivalent to a California State University, Fresno mathematics major and have a 3.0 grade point average in their upper-division mathematics courses. Applicants lacking the above preparation may be admitted conditionally. These students will become classified after meeting additional requirements as set by the graduate coordinator. Coursework taken to achieve classified standing may not be applied towards credits for the graduate program.

All applicants are required to take the GRE Mathematics subject test. Preference will be given to applicants who score 600 or better on the exam.

In addition, two letters of recommendation from faculty at the applicant's undergraduate institution are required. Letters should be sent directly to the graduate coordinator.

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements*, and *Criteria for Thesis and Project.)*

Master of Arts Degree Program

The M.A. in mathematics is designed for students who wish to study mathematics at an advanced level. Within this degree program, students may choose to complete the traditional track or the teaching option. The traditional track best satisfies the needs of students who wish to work in business or industry, teach at community college, or go on to pursue a Ph.D. in mathematics. The teaching option is designed especially for students who wish to enhance their high school mathematics teaching and/or assume a leadership role in high school mathematics education and beyond, or who wish to pursue a Ph.D. in mathematics education.

Course Requirements:

Master's Degree in Mathematics (M.A.) Traditional Track — *Units*

Core curriculum (MATH 251, 271)[2] ... **6**
Elective curriculum **21**
(A combination of approved courses)[1]
Project (MATH 298) or Thesis (MATH 299) **3**
Total 30

Master's Degree in Mathematics (M.A.) with a Teaching Option

Units

Core curriculum (CI 250[3], MATH 250, 260, 270[2]) **12**
Mathematics elective curriculum **12**
(A combination of approved courses)[1]
Education elective curriculum **3**
(CI 275 or an approved CI 280T course)
Project (MATH 298) or Thesis (MATH 299) **3**
Total 30

Additional Requirements:

- All students must attend a Plagiarism Workshop and sign the Mathematics Department's Honor Code Statement Regarding Academic Integrity and Plagiarism.
- In order to satisfy the University Graduate Writing Skills Requirement, the student must submit a formal paper demonstrating writing skill in mathematics at the graduate level. This graduate level paper may be a research proposal, a literature review in some mathematical area of interest, a paper from a directed research project, or some other paper that meets the objectives for the writing requirement as stated in "Satisfaction of the Graduate Writing Requirement," found in the Graduate Studies Handbook for the Master of Arts in Mathematics. Deadlines are given in that document.

Graduate Advising Notes

1. Under the direction of the department graduate adviser, each candidate should prepare and submit for approval a program of courses as early as possible.
2. All graduate students should obtain a copy of the Department of Mathematics Graduate Studies Handbook for more detailed information on the program requirements.
3. CI 250 has a prerequisite of CI 159.

COURSES

Mathematics (MATH)

MATH 1RA. Developmental Mathematics I (3 units)
The first semester in a two semester sequence preparing students for college level mathematics. See the online *Class Schedule* for restrictions on enrollment based on the Entry Level Math test. Properties of ordinary arithmetic, integers, rational numbers and linear equations. ***CR/NC*** grading only; not applicable towards baccalaureate degree requirements. **F**

MATH 1RB. Developmental Mathematics II (3 units)
Prerequisite: MATH 1RA. The second semester in a two semester sequence preparing students for college level mathematics. Systems of linear equations, exponents, rational expressions, polynomials and quadratic equations. ***CR/NC*** grading only; not applicable toward baccalaureate degree requirements. **S**

MATH 3. College Algebra (3 units)
Prerequisite: students must meet the ELM requirement. Equations and inequalities; rectangular coordinates; systems of equations and inequalities; polynomial, rational, exponential, and logarithmic functions and their graphs; complex numbers. **FS**

MATH 4R. Intermediate Algebra (3 units)
Prerequisite: see the online *Class Schedule* for restrictions on enrollment based on the Entry Level Math test. Covers radicals, rational exponents, quadratic equations, simultaneous linear equations, graphing, inequalities, and complex numbers. ***CR/NC*** grading only; not applicable toward baccalaureate degree requirements. **FS**

MATH 4RA. Intermediate Algebra (3 units)
Focuses on arithmetic review, linear equalities, inequalities, and graphing. Enrollment is limited to first-time freshmen who score 30 and below on the ELM exam. ***CR/NC*** grading only; not applicable toward baccalaureate degree requirements.

MATH 5. Trigonometry (3 units)
Prerequisite: students must meet the ELM requirement. Concept of a function, sine and cosine functions, tables and graphs, other trigonometric functions, identities and equations. Trigonometric functions of angles, solution of triangles. (See *Duplication of Courses*.)

MATH 6. Precalculus (4 units)
Prerequisite: students must meet the ELM requirement. Basic algebraic properties of real numbers; linear and quadratic equations and inequalities; functions and graphs; polynomials; exponential and logarithmic functions; analytic trigonometry and functions; conics; sequences, and series. **FS**

MATH 10A. Structure and Concepts in Mathematics I (3 units)
Prerequisite: students must meet the ELM requirement. Designed for prospective elementary school teachers. Development of real numbers including integers, rational and irrational numbers, computation, prime numbers and factorizations, and problem-solving strategies. Meets B4 G.E. requirement only for liberal studies majors. **FS**

MATH 10B. Structure and Concepts in Mathematics II (3 units)
Prerequisite: MATH 10A. Designed for prospective elementary school teachers. Counting methods, elementary probability and statistics. Topics in geometry to include polygons, congruence and similarity, measurement, geometric transformations, coordinate geometry, and connections between numbers and geometry with selected applications. **FS**

MATH 11. Elementary Statistics (3 units)
Prerequisite: students must meet the ELM requirement. Illustration of statistical concepts: elementary probability models, sampling, descriptive measures, confidence intervals, testing hypotheses, chi-square, nonparametric methods, regression. It is recommended that students with credit in MATH 72 or 75 (or 75A and B) take MATH 101. **FS**

MATH 45. What Is Mathematics? (3 units)
Prerequisite: students must meet the ELM requirement. Covers topics from the following areas: (I) The Mathematics of Social Choice; (II) Management Science and Optimization; (III) The Mathematics of Growth and Symmetry; and (IV) Statistics and Probability. G.E. Foundation B4. **FS**

MATH 70. Calculus for Life Sciences (4 units)
No credit if taken after MATH 75 or 75A and B. Prerequisite: students must meet the ELM requirement. Functions and graphs, limits, derivatives, antiderivatives, differential equations, and partial derivatives with applications in the Life Sciences. **FS**

MATH 75. Calculus I (4 units)
Prerequisites: elementary geometry, intermediate algebra, and trigonometry; or precalculus. Passing score on the department's Calculus Readiness Test required prior to enrollment. In addition, students must meet the ELM requirement. Functions, graphs, limits, continuity, derivatives and applications, definite and indefinite integrals. G.E. Foundation B4. **FS**

MATH 75A. Calculus with Review IA (4 units)
Prerequisites: elementary geometry, intermediate algebra, and trigonometry; or precalculus. Passing score on the department's Calculus Readiness Test required prior to enrollment. In addition, students must meet the ELM requirement. Functions, graphs, limits, continuity, derivatives, and applications, with extensive review of algebra and elementary functions. With MATH 75B, equivalent to MATH 75. G.E. Foundation B4. **FS**

MATH 75B. Calculus with Review IB (4 units)
Prerequisite: MATH 75A. Further applications of derivatives and definite and indefinite integrals, with extensive review of algebra and elementary functions. With MATH 75A, equivalent to MATH 75. **FS**

MATH 76. Calculus II (4 units)
Prerequisite: MATH 75 or 75A and B. Techniques and applications of integration, improper integrals, conic sections, polar coordinates, infinite series. **FS**

MATH 77. Calculus III (4 units)
Prerequisite: MATH 76. Vectors, three-dimensional calculus, partial derivatives, multiple integrals, Green's Theorem, Stokes' Theorem. **FS**

MATH 81. Applied Analysis (3 units)
Prerequisite: MATH 77. Introduction to ordinary linear differential equations and linear systems of differential equations; solutions by Laplace transforms. Solution of linear systems of equations; introduction to vector spaces; eigenvalues and eigenvectors. Using computer software as an exploratory tool. **FS**

MATH 90. Directed Study (1-3; max total 3 units)
Independently arranged course of study in some limited area of mathematics either to remove a deficiency or to investigate a topic in more depth. (1-3 hours, to be arranged)

MATH 100. Exploring Mathematics (3 units)
Prerequisite: MATH 10B. The development of mathematical reasoning, problem solving, and communication skills for effective teaching mathematics in elementary school. **FS**

MATH 101. Statistical Methods (4 units)
Prerequisite: MATH 70 or 75 or 75A and B; no credit if taken after MATH 108. Application of statistical procedures to examples from biology, engineering, and social science; one- and two-sample normal theory methods; chi-square, analysis of variance, and regression; nonparametric methods. Computerized statistical packages are used. **FS**

MATH 107. Introduction to Probability and Statistics (3 units)
Prerequisite: MATH 77 (may be taken concurrently). Basic concepts required for applications of probability theory; standard discrete and continuous models; random variables; conditional distributions; limit theorems. **F**

MATH 108. Statistics (3 units)
Prerequisite: MATH 107. Criteria used for selecting particular procedures of data analysis; derivation of commonly used procedures; topics from sampling, normal theory, nonparametrics, elementary decision theory. **S even**

MATH 109. Applied Probability (3 units)
Prerequisite: MATH 107. Introduction to stochastic processes and their applications in science and industry. Markov chains, queues, stationary time series. **S odd**

MATH 110. Symbolic Logic (3 units)
(Similar to PHIL 145; consult department.)
Prerequisite: MATH 75 or 75A and B. An informal treatment of the theory of logical inference, statement calculus, truth-tables, predicate calculus, interpretations applications. **S**

MATH 111. Transition to Advanced Mathematics (3 units)
Prerequisite: MATH 76. Introduction to the language and problems of mathematics. Topics include set theory, symbolic logic, types of proofs, and mathematical induction. Special emphasis is given to improving the student's ability to construct, explain, and justify mathematical arguments. **FS**

MATH 114. Discrete Structures (3 units)
Prerequisite: MATH 111. Counting techniques, matrix algebra, graphs, trees and networks, recurrence relations and generating functions, applied modern algebra. **F**

MATH 116. Theory of Numbers (4 units)
Prerequisite: MATH 111. Divisibility theory in the integers, primes and their distribution, congruence theory, Diophantine equations, number theoretic functions, primitive roots, indices, the quadratic reciprocity law. **FS**

MATH 118. Graph Theory (3 units)
Prerequisite: MATH 111. Trees, connectivity, Euler and Hamilton paths, matchings, chromatic problems, planar graphs, independence, directed graphs, networks. **S even**

MATH 121. Numerical Analysis I (3 units)
Prerequisites: MATH 77 and CSCI 40. Zeros of nonlinear equations, interpolation, quadrature, systems of equations, numerical ordinary differential equations, and eigenvalues. Use of numerical software libraries. **S**

MATH 123. Topics in Applied Mathematics (3 units)
Prerequisite: MATH 77. Vector spaces and linear transformations, eigenvalues and eigenfunctions. Special types of linear and nonlinear differential equations; solution by series. Fourier transforms. Special functions, including gamma, hypergeometric, Legendre, Bessel, Laguerre, and Hermite functions. Introduction to partial differential equations. **S odd**

MATH 128. Applied Complex Analysis (3 units)
Prerequisite: MATH 77. Analytic functions of a complex variable, contour integration, series, singularities of analytic functions, the residue theorems, conformal mappings; emphasis on engineering and physics applications. **F**

MATH 133. Number Theory for Liberal Studies (3 units)
Prerequisite: MATH 10B or permission of instructor. The historical development of the concept of number and arithmetic algorithms. The magnitude of numbers. Basic number theory. Special numbers and sequences. Number patterns. Modular arithmetic. **F**

MATH 134. Geometry for Liberal Studies (3 units)
Prerequisite: MATH 10B or permission of instructor. The use of computer technology to study and explore concepts in Euclidean geometry. Topics include, but are not restricted to, properties of polygons, tilings, and polyhedra. **S**

MATH 137. Exploring Statistics (3 units)
Prerequisite: MATH 10B or permission of instructor. Descriptive and inferential statistics with a focus on applications to mathematics education. Use of technology and activities for student discovery and understanding of data organization, collection, analysis, and inference. **F**

MATH 138. Exploring Algebra (3 units)
Prerequisite: MATH 10B or permission of instructor. Designed for prospective school teachers who wish to develop a deeper conceptual understanding of algebraic themes and ideas needed to become competent and effective mathematics teachers. **S**

MATH 139. Advanced Algebra for Middle School Teachers (4 units)
Prerequisite: MATH 6 or MATH 138. Basic structures of modern algebra from a middle school mathematics curriculum perspective. Algebraic structures, polynomial equations, and elementary linear algebra. (Formerly MATH 191T)

MATH 143. History of Mathematics (4 units)
Prerequisite: MATH 75 or 75A and B. History of the development of mathematical concepts in algebra, geometry, number theory, analytical geometry, and calculus from ancient times through modern times. Theorems with historical significance will be studied as they relate to the development of modern mathematics. **S**

MATH 145. Problem Solving (3 units)
Prerequisites: MATH 111; EHD 50 (may be enrolled concurrently). A study of formulation of problems into mathematical form; analysis of methods of attack such as specialization, generalization, analogy, induction, recursion, etc. applied to a variety of non-routine problems. Topics will be handled through student presentation. **F**

MATH 149. Capstone Mathematics for Teachers (4 units)
Prerequisites: MATH 151, 161, and 171. (MATH 161 and MATH 171 may be taken concurrently.) Secondary school mathematics from an advanced viewpoint. Builds on students' work in upper-division mathematics to deepen their understanding of the mathematics taught in secondary school. Students will actively explore topics in number theory, algebra, analysis, geometry.

MATH 151. Principles of Algebra (4 units)
Prerequisite: MATH 111. Equivalence relations; groups, cyclic groups, normal sub-groups, and factor groups; rings, ideals, and factor rings; integral domains and polynomial rings; fields and field extensions. **FS**

MATH 152. Linear Algebra (4 units)
Prerequisite: MATH 77. Vector spaces, linear transformations, matrices, determinants, eigenvalues and eigenvectors, linear functions, inner-product spaces, bilinear forms, quadratic forms, orthogonal and unitary transformations, selected applications. **FS**

MATH 161. Principles of Geometry (3 units)
Prerequisite: MATH 111. The classical elliptic, parabolic, and hyperbolic geometries developed on a framework of incidence, order and separation, congruence; coordinatization. Theory of parallels for parabolic and hyperbolic geometries. Selected topics of modern Euclidean geometry. **S**

MATH 165. Differential Geometry (3 units)
Prerequisite: MATH 77 and 111 or permission of instructor. Study of geometry in Euclidean space by means of calculus, including theory of curves and surfaces, curvature, theory of surfaces, and intrinsic geometry on a surface. **F**

MATH 171. Intermediate Mathematical Analysis I (4 units)
Prerequisite: MATH 111. Natural and rational numbers, real numbers as a complete ordered field, its usual topology, sequences and series of real numbers, functions of a real variable, limits, continuity, uniform continuity, differentiability, generalized mean value theorem, Riemann integrals, and power series. **FS**

MATH 172. Intermediate Mathematical Analysis II (4 units)
Prerequisite: MATH 77 and 171. Pointwise and uniform convergence of sequences and series of functions, convergence of sequences in higher dimensions, continuity and differentiability of functions of several variables. Inverse and implicit function theorems; topics in integration theory in higher dimensions. **S**

MATH 181. Differential Equations (3 units)
Prerequisite: MATH 81 or 123. Definition and classification of differential equations; general, particular, and singular solutions; existence theorems; theory and technique of solving certain differential equations; phase plane analysis, elementary stability theory; applications. **F**

MATH 182. Partial Differential Equations (3 units)
Prerequisites: MATH 81 or 123. Classical methods for solving partial differential equations including separation of variables, Green's functions, the Riemann-Volterra method and Cauchy's problem for elliptic, parabolic, and hyperbolic equations; applications to theoretical physics. **S even**

MATH 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

MATH 191T. Proseminar (1-3; max total 9 units)
Prerequisite: permission of instructor. Presentation of advanced topics in mathematics in the field of the student's interest.

MATH 198. Senior Project (3 units)
Prerequisites: senior standing or permission of instructor; MATH 151, 171, and 152. Independent investigation and presentation of an advanced topic in mathematics. Satisfies the senior major requirement for the B.A. in Mathematics.

GRADUATE COURSES

(See *Catalog Numbering System*.)

Mathematics (MATH)

MATH 202. Fundamental Concepts of Mathematics (3 units)
Prerequisites: MATH 151, 161, and 171. Fundamental notions regarding number theory, number systems, algebra of number fields; functions.

MATH 216T. Topics in Number Theory (3; max total 6 units)
Prerequisite: MATH 116. An investigation of topics having either historical or current research interest in the field of number theory.

MATH 220. Coding Theory (3 units)
Prerequisites: MATH 151 and MATH 152. Basic concepts in coding theory, properties of linear and non-linear codes, standard decoding algorithms, cyclic codes, BCH-codes. (Formerly MATH 291T)

MATH 223. Principles and Techniques of Applied Mathematics (3 units)
Prerequisite: graduate standing or permission of instructor. Linear spaces and spectral theory of operators.

MATH 228. Functions of a Complex Variable (3 units)
Prerequisite: MATH 128. Representation theorems of Weierstrass and Mittag-Leffler, normal families, conformal mapping and Riemann mapping theorem, analytic continuation, Dirichlet problem.

MATH 232. Mathematical Models with Technology (3 units)
Prerequisite: graduate standing in mathematics or permission of instructor. A technology-assisted study of the mathematics used to model phenomena in statistics, natural science, and engineering.

MATH 250. Perspectives in Algebra (3 units)
Prerequisite: graduate standing in mathematics or permission of instructor. Study of advanced topics in algebra, providing a higher perspective to concepts in the high school curriculum. Topics selected from, but not limited to, groups, rings, fields, and vector spaces.

MATH 251. Abstract Algebra I (3 units)
Prerequisite MATH 151. Direct and semi-direct products of groups; quotient/factor groups; isomorphism theorems. Group actions; Sylow theorems; classification of groups; finitely generated Abelian groups. Domains (ED, PID, UFD); polynomial rings. Quotient/factor rings; field extensions; automorphisms of fields.

MATH 252. Abstract Algebra II (3 units)
Prerequisite: MATH 251. Rings and ideals, modules, linear and multilinear algebras, representations.

MATH 260. Perspectives in Geometry (3 units)
Prerequisite: graduate standing in mathematics or permission of instructor. Geometry from a transformations point of view. Euclidean and noneuclidean geometries in two and three dimensions. Problem solving and proofs using transformations. Topics chosen to be relevant to geometrical concepts in the high school curriculum.

MATH 263. Point Set Topology (3 units)
Prerequisite: MATH 172. Basic concepts of point set topology, set theory, topological spaces, continuous functions; connectivity, compactness and separation properties of spaces. Topics selected from function spaces, metrization, dimension theory.

MATH 270. Perspectives in Analysis (3 units)
Prerequisite: graduate standing in mathematics or permission of instructor. An overview of the development of mathematical analysis, both real and complex. Emphasizes interrelation of the various areas of study, the use of technology, and relevance to the high school mathematics curriculum.

MATH 271. Real Variables (3 units)
Prerequisite: MATH 172. Theory of sets; cardinals; ordinals; function spaces, linear spaces; measure theory; modern theory of integration and differentiation.

MATH 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

MATH 291T. Seminar (1-3; max total 6 units)
Prerequisite: graduate standing. Seminar covering special topics in an area of mathematical research. (Formerly MATH 291)

MATH 298. Research Project in Mathematics (3 units)*
Prerequisite: graduate standing. Independent investigation of advanced character as the culminating requirement for the master's degree. Approved for ***RP*** grading.

MATH 299. Thesis in Mathematics (3 units)
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

Mathematics (MATH)

MATH 302. Topics in Mathematics for Teachers (1-3; max total 6 if topic not repeated)
Prerequisite: permission of instructor. Topics in modern mathematics with special emphasis for teachers.

Physics

The fascination of physics is that it is so fundamental: the continuing attempt to understand how things work. It combines observational and experimental grappling with nature to get the facts of behavior, with the creative synthesis of these facts into theories and laws of nature, often beautiful in their simplicity and universality.

Albert Einstein said, "They [the laws of theoretical physics] should form the basis from which a picture of all processes of nature can be derived by thoughtful deduction — and these include also the processes of life." He also said, "The deeper we search, the more we find there is to know, and as long as human life exists, I believe it will always be so."

More specifically, physics includes the study of the fundamental particles that make up all matter, of electromagnetic, gravitational, atomic and nuclear forces, of energy, of light and heat, of electronics and the structure and properties of materials, of the interiors of the Earth and the stars.

Faculty and Facilities

Our faculty members are here to teach and to do research. Several faculty members have research projects involving students. Two of our faculty members do theoretical work in particle physics and field theory while others are involved with numerous different experimental research fields; some of our faculty are involved in physics pedagogy.

Our classes are small; our upper-division and graduate classes usually have 10-15 students or less. Physics majors get to know each other very well. They develop friendships with peers, faculty, and staff, which extend well beyond graduation.

The Department of Physics has an active theoretical physics program that focuses on gravitational physics and field theory. We have ongoing collaborations with several international research groups including the Institute of Applied Physics of the Academy of Sciences of Moldova, Kyrgyz-Russian Slavic University, the Center for Gravitation and Fundamental Metrology (VNIIMS) at the Peoples' Friendship University of Russia, and the Universidad de Costa Rica. Our students in this area regularly attend national and international conferences to give talks, and they are active in publishing their research work in refereed journals. Several international researchers have visited our department and engaged in collaborative research, colloquia, and seminars.

Five new research laboratories are also part of our current experimental efforts: Radiation Measurements and Instrumentation; High Energy Physics (HEP); Strongly Correlated Electron; the Nanotechnology; and Astrophysics. Since 2009, our HEP program has been on the ATLAS experiment of the Large Hadron Collider (LHC) at the European Organization of Nuclear Research (CERN) near Geneva, Switzerland. The LHC started collisions in 2009 and will remain the most powerful collider in the world until at least 2030. We are the only CSU campus officially collaborating with ATLAS or CMS, the two flagship LHC experiments. A major goal of these LHC experiments is to discover new physics, and our ATLAS researchers and students contributed to the historical discovery of the Higgs boson announced at CERN in July of 2012. Our HEP program has been supported by National Science Foundation (NSF) Elementary Particle Physics (EPP) core grants and a Major Research Instrumentation (MRI) grant. We have been leading the effort in building a CSU Nuclear and Particle Physics Consortium (NUPAC) which currently consists of 14 CSU campuses. Since 2008, 25 CSU NUPAC students have worked at CERN with our ATLAS program for at least one summer.

The Strongly Correlated Electron and Nanotechnology laboratories are well equipped with both teaching and student research equipment, such as a pulsed NMR spectrometer, X-ray diffractometer, and Hall effect system. The lab is available for experiments on superconductivity, temperature-dependent measurements of electrical resistivity, semiconductor band structure, thermal conductivity, thermopower, and specific heat. Two new major pieces of equipment have been added for condensed matter physics research: an X-ray fluorescence spectrometer that is capable of sub ppm resolution and a Fourier Transform Infrared spectrometer (FTIR) that permits analysis of spectra in the mid-infrared region. We also have a three-stage high temperature furnace and a fume hood, which provide a sample preparation environment.

Our state-of-the-art facilities allow many sensitive measurements of condensed matter properties such as resistivity, conductivity, mobility, charge concentration, activation energy, the charge sign of majority carriers, and photoconductivity. It leads us to material science technologies, such as the study of nanowires and nanoparticles. It also leads to bulk samples of novel semiconductors and superconductors, which have great potential for technical applications such as solar cells, sensors, energy conservation, development of high-field magnets, and telecommunications. The condensed matter program has recently received Research Corporation.

Undergraduate and graduate students may participate in astrophysics research. They can also be involved in international campaigns with ground-based telescopes and with space observatories, including *Hubble Space Telescope* and other NASA spacecraft. The astrophysics laboratory is loaded with powerful computing equipment, all available to students. It is used for image processing and remote observatory operations.

College of Science and Mathematics

Department of Physics
Raymond Hall, *Chair*
Nancy Wright, *Administrative Support Coordinator*
McLane Hall, Room 173
559.278.2371
FAX: 559.278.7741
http://physics.csufresno.edu/

B.S. in Physics

B.S. in Biomedical Physics

B.A. in Natural Science
Teaching Credential
Option: Physics

M.S. in Physics

Minor in Astronomy

Minor in Medical Physics

Minor in Physics

Minor in Physical Science

Preprofessional advising in
- Premedical
- Preoptometry

We have upgraded instrumentation in our existing Radiation Laboratory and we have established a new program of research in biomedical physics. In general, the field is subdivided into four subspecialties: nuclear medicine, diagnostic radiology (use of X-rays, MRI, ultrasound, etc.), radiation therapy (the use of radioactive materials produced by accelerators for the treatment of cancer and other diseases), and radiation biology. With the establishment of affiliations with local area medical centers, research opportunities in this field are open for our students.

We have initiated one of the first medical physics/neuroimaging undergraduate programs in the nation with a grant from the National Institute of Mental Health (NIH/NIMH). Students enrolling in this special degree program will get a chance to intern at the end of their junior year in the finest state-of-the-art laboratories across the nation. Our department has a collaboration with the VA Medical Center, where students are provided with hands-on instruction on MR scanners and other imaging equipment. The curriculum ranges from courses in MRI/MRS, X-ray imaging, nuclear medicine, and neuroimaging to courses in radiation health physics. This program is designed to provide a solid foundation in physics, biology, and mathematics so that students can tackle the challenges of an interdisciplinary program of graduate instruction in the broad field of neurosciences. The program also aims to serve as a feeder program to graduate schools across the nation.

The Downing Planetarium, operated by the Physics Department, was completed in 2000. It has proven highly successful, with more than 300,000 visitors since opening. The planetarium features a computer controlled Minolta MS-10 star projector and a main theater with 74 reclining seats under a 30-foot dome. The facility presents multimedia shows on a daily basis.

Adjacent to the planetarium is a campus observatory equipped with a 16-inch Schmidt-Cassegrain telescope and CCD cameras. This observatory has been used for classes and for student research projects. A second observatory with a more advanced 16-inch telescope is at a dark site in the Sierra Nevada mountains. This telescope is remotely controlled from campus, and students can download images from it over the Internet without having to go to the telescope site.

Career Opportunities

Approximately half of our bachelor's and master's degree graduates have gone directly into graduate school at various institutions, pursuing master's or doctoral degrees in physics or related fields. The other half have found employment in teaching, in industry, in government, and in the medical professions. We have also observed a recent increase in the demand for high school physics teachers.

Physics graduates have the versatility, knowledge, and analytical skills necessary to adapt quickly to the opportunities which arise in the dynamic world of modern science and high technology. Our graduates report interesting, exciting careers with increasing levels of responsibility and satisfaction.

Faculty

Raymond Hall, *Chair*

Gerardo Munoz, *Graduate Coordinator*
Amir Huda, *Premedical Adviser*
Pei-Chun Ho,
Undergraduate Adviser
Steven J. White,
Downing Planetarium Director
Manfred Bucher
Yongsheng Gao
Vanvilai Katkanant
Frederick Ringwald
Douglas Singleton
Daqing Zhang

Lecturers:
Nima Kasraie
Karl Runde
Hans Vander Noordaa
Don Williams

Bachelor of Science in Physics

The B.S. in Physics offers preparation appropriate to employment in government and industry involving a range of activities from laboratory work to technical sales. It also offers appropriate background preparation for graduate study in physics and a large number of other fields. With an appropriate choice of electives, it provides a very strong engineering, premedical, predental, or preoptometry program.

Beyond professional goals, the study of physics provides a deep understanding of fundamental processes which underlie our physical world and fosters methods of inquiry which promote intelligent analysis generally.

Bachelor of Science Degree Requirements

Physics Major	*Units*
Physics requirements	**47**
(see *note 1*)	
Physics core	(33)
PHYS 4A, 4AL, 4B, 4BL, 4C, 102, 104, 105A, 105B, 107A, 110, 115	
Upper-division electives	(14)
Includes courses in physics and, with approval, in related fields. Students planning to pursue graduate study in physics are strongly encouraged to take courses from the following list: PHYS 107B, 135, 136, 137, 140, 162, and 170A (see *note 2*)	
Additional requirements	**27-29***
(see *notes 1 and 3*)	
MATH 75, 76, 77, 81; CHEM 1A, 1B	(25)
Plus one of the following	
IT 52 or CSCI 40	(2-4)
General Education requirements	**45****
Electives	**0-1**
Total units	**120***

* The 120 unit total assumes students will select IT 52 for this area.

** There are 51 units required for General Education. Of these 51 required units, 6 units will be satisfied by the following two courses in additional requirements: 3 units of CHEM 1A in G.E. Breadth B1 and 3 units of MATH 75 in G.E. Foundation B4.

Advising Notes

1. *CR/NC* grading is not permitted in the physics major. Additional requirements, however, may be taken *CR/NC* (see *Credit/No Credit Grading)*.
2. Courses outside the Department of Physics may be substituted for physics upper-division electives with prior approval of the department chair.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the university requirement of 40 upper-division units. It is important to fulfill the upper-division writing skills requirement by exam or *W* class after completing 60 units for which a student may request 1 unit of credit.

Suggested Sequence of Courses for the B.S. in Physics

The list below is a suggested schedule of courses for the major for students planning to complete the suggested pregraduate study sequence in four years.

In addition to the specific courses listed below, General Education requirements and electives should be included to bring the average total of units to 15 per semester. A minimum total of 120 units must be completed for the Bachelor of Science degree. (See *Degree Requirements*.)

1st Year:	PHYS 4A, 4AL; CHEM 1A, 1B; MATH 75, 76; Computer Programming
2nd Year:	PHYS 4B, 4BL, 4C; MATH 77, 81
3rd Year:	PHYS 102, 104, 105A, 105B, 110, 150, 151, 170A
4th Year:	PHYS 107A, 107B, 115, 140, 162; plus upper-division electives

Physics Minor

	Units
PHYS 4A, 4AL, 4B, 4BL, 4C	**11**
PHYS 102	**3**
Other upper-division physics	**6**
Total units	**20**

Note: The Physics Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Bachelor of Science in Biomedical Physics

The B.S. in Biomedical Physics is an interdisciplinary program developed with the assistance of the National Institute of Mental Health and the National Institute of Biomedical Imaging and Bioengineering to motivate students pursuing careers in applications of physics in medicine. The curriculum provides fundamental groundwork in physics, mathematics, and biology. For further details, please contact Dr. Amir Huda at 559.278.8427 or visit *http://medicalphysics.csufresno.edu*.

Bachelor of Science in Biomedical Physics Requirements. Those seeking admission to the B.S. in Biomedical Physics major must adhere to university admissions requirements, including submission of applications, official transcripts, and appropriate standardized test scores.

Biomedical Physics Major

	Units
Biomedical Physics Requirements (see note 1)	**46**
Physics core PHYS 4A, 4AL, 4B, 4BL, 4C, 102	(14)
Biology core BIOL 65, 144	(9)
Upper-division courses PHYS 135, 136, 137, 155, 156, 157, 158	(23)
Additional Requirements MATH 75, 76, 77, 81; CHEM 1A, 1B; CSCI 40	**29**
General Education Requirements	**51***
Total units	**120**

* There are 51 units required for General Education. Of these 51 required units, 6 units will be satisfied by the following two courses in additional requirements: 3 units of CHEM 1A in G.E. Breadth B1 and 3 units of MATH 75 in G.E. Foundation B4.

Advising Notes

1. CR/NC grading is not permitted in the biomedical physics major. Additional requirements, however, may be taken for *CR/NC* (see Credit/No Credit Grading),
2. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the university requirement of 40 upper-division units. It is important to fulfill the upper-division writing skills requirement by exam or "W" class after completing 60 units for which a student may request 1 unit of credit.

Bachelor of Arts in Natural Sciences

Physics Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 559.278.5173.

The degree is also a suitable choice for students with a general interest in physics and interest in pursuing a career in law, medicine, dentistry, optometry, and other areas for which the breadth of scientific coverage of this degree is advantageous.

The B.A. in Natural Sciences with the Physics Emphasis is as follows:

Bachelor of Arts Degree Requirements

Natural Sciences Major	*Units*
Core requirements	**36**
Biology BIOL 1A, 1B, 1BL, 101	(12)
Chemistry CHEM 1A, 1B	(10)
Geology EES 1 and 168	(7)
Natural Science NSCI 106	(3)
Physical Science PSCI 21	(4)
Physics Option	**41**
CHEM 128A	(3)
PSCI 168	(3)
MATH 75, 76, 77, 81	(15)
PHYS 4A, 4AL, 4B, 4BL, 4C	(11)
PHYS 102, 105A, 107A	(9)
General Education requirements[1,2]	**51**
Electives and remaining degree requirements	**4**
Total units	**120**

Advising Notes for the Natural Sciences Major

1. Of the 51 General Education units, 12 units may be satisfied as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units), and MATH 75 (3 units). Consult your major adviser for details.

2. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and upper-division writing skills.
3. No physical science Integration B course may be used to satisfy the General Education requirements for majors in physical science.

Waiver Program for the Single Subject Credential in the Sciences

Students interested in satisfying the waiver program in the Natural Sciences should consult an appropriate adviser early in their academic program.

Astronomy Minor

	Units
PHYS 150	3
PHYS 151	4
Remaining requirements: Choose two courses from EES 112 or 150T (Planetary Science), PHYS 110, 136, 137, 175T (Computational Physics), 175T (Galaxies and Cosmology), or 190 by approval	6
Total units	**13**

Note: Prerequisites may include MATH 75, 76, 77, 81, PHYS 4A, 4AL, 4B, BL, 4C, and 102. All prerequisites must also be completed. Courses in the Astronomy Minor may not count toward a physics major (or any other major), except as additional requirements to that major. PHYS 190 may not be counted for more than 2 credits for the Astronomy Minor.

Medical Physics Minor

	Units
PHYS 4A, 4AL, 4B, 4BL, 4C	11
PHYS 136	3
PHYS 137	3
Remaining requirement: Choose one course from PHYS 135 (Intro to MRI/MRS), PHYS 175T (Nuclear Medicine), or PHYS 175T (Radiation Biology)	4
Total units	**21**

Note: The Medical Physics Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Physical Science Minor

The Physical Science Minor offers an opportunity for both nonscience and science majors to diversify into important and interesting fields. It consists of 21-22 units of courses selected according to one of the patterns listed in the copy that follows:

	Units
A. CHEM 3A and 3B	7*
PHYS 2A and 2B	8*
Upper-division electives	6**
	21
B. CHEM 10	4
PHYS 2A and 2B	8*
EES 1	4
Upper-division electives	6**
	22
C CHEM 3A and 3B	7*
PHYS 10	4
EES 1	4
Upper-division electives	6**
	21

For chemistry, geology or physics majors, all courses must be outside the major department. The revised program must be approved by the chair of the major department.

Note: The Physical Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

* CHEM 1A may be substituted for CHEM 3A, and CHEM 1B may be substituted for CHEM 3B. PHYS 4A and 4AL may be substituted for PHYS 2A, and PHYS 4B and 4BL may be substituted for PHYS 2B.

** The upper-division electives may be any upper-division courses for which the student is qualified, from the three departments. Courses with very few prerequisites are EES 105, 114, 154, 168, 169; PHYS 100; PSCI 131, 168.

Graduate Program

The Department of Physics offers graduate instruction and research leading to the Master of Science.

For general information, read the *Graduate Studies* section in this catalog, and in particular, the sections on *Admission to Graduate Standing, Advancement to Candidacy, and Program Requirements*. The minimum entrance requirements are a GPA of 2.5 over the last 60 units, satisfactory scores on the GRE General Examination, and good references. Although the GRE scores are not the only, or most important, criteria used in the admission process, we generally look for scores above 150 on the quantitative portion of the exam or for a total above 300 on the combined quantitative and verbal portions. The GRE General Examination must be taken before applying for admission.

It is important to achieve classified standing quickly, before completion of 10 units. The next step is advancement to candidacy, after completion of at least 9 units of graduate study with a minimum GPA of 3.0 and satisfaction of the graduate writing requirement. To satisfy the writing requirement, students must submit a formal paper demonstrating writing skills at the graduate level. This graduate-level paper may be a research proposal, a literature review in their field, a paper from a graduate-directed research project, or another paper. Detailed writing requirement regulations are available from the department's graduate coordinator. Please contact the graduate coordinator for more information. Advancement also requires a score at or above the 25th percentile on the Advanced Physics GRE Subject Examination, or a score at or above the median in the Major Field Test (MFT) for Physics.

Teaching assistantships are usually available, as is general financial aid. For some forms of financial aid, applications must be completed before the end of February.

For specific questions, consult the chair of the department or the graduate adviser/coordinator.

Master of Science in Physics

The objective of our M.S. program is to build a firm basis for subsequent Ph.D. study in physics or in related fields, for positions in industry, and for teaching at the community college level. We offer a broad-based academic program with the opportunity for specialized theoretical or experimental research. Students completing degrees have successfully pursued all three of these career goals — with roughly equal numbers going to doctoral programs and industry, and a smaller number directly into teaching.

Areas of research in which our faculty are active include physics pedagogy, condensed matter theory and experiment, characterization of materials properties (amorphous semiconductors), dipolar magnetism, Fullerene research, laser Raman spectroscopy, radiation medical physics, classical and quantum field theory, and gravitation. Faculty also study forces and interaction of fundamental constituents of

matter with experiments using the world's most powerful particle accelerators at Fermi National Laboratory and CERN, Switzerland. Astronomy research includes observations of cataclysmic variables, black holes, and extrasolar planets. It is done with the most powerful instruments available today, including *Hubble Space Telescope*, and other NASA spacecraft, as well as many other telescopes around the world.

Under the direction of the graduate adviser and the graduate faculty, a coherent program, directed toward the student's goal in graduate study and designed within the framework outlined in the copy that follows, is prepared and submitted to the department. There is a standard core of classical mechanics (PHYS 203), classical electrodynamics (PHYS 220A, B) and quantum mechanics (PHYS 222A, B) which is strongly recommended for students planning to pursue further graduate study — and, at least in part, for all students. Other courses, both from within and from outside the department, can be used to complete the 30 unit master's program. A culminating experience, consisting of either a thesis (PHYS 299) or a project (PHYS 298) plus a competency examination, is required.

Undergraduate education equivalent to a physics major at California State University, Fresno is necessary for admission. Note the other requirements under *Graduate Program.*

	Units
Physics graduate courses	**21**
PHYS 290 (minimum 3 units); PHYS 298 or 299 (minimum 3 units)	(6)
Additional graduate courses in physics	(15)
Students planning further graduate study should include PHYS 203, 220A-B, 222A, and 222B.	
Upper-division or graduate electives in physics or related fields	**9**
Total	**30**

COURSES
Physics (PHYS)

PHYS 2A. General Physics (4 units)
Prerequisite: DS 71, or MATH 75, or MATH 70 (or permission to register from department office). Topics and concepts in Newtonian mechanics of point particles and rigid bodies, energy, properties of fluids, heat and thermodynamics, waves and sound. G.E. Breadth B1. (3 lecture, 3 lab hours) **FS SU**

PHYS 2B. General Physics (4 units)
Prerequisite: PHYS 2A. Topics and concepts in light, electricity, magnetism, atomic structure, relativity, quantum nature of light and matter, nuclear structure and radiation. (3 lecture, 3 lab hours) **FS**

PHYS 4A. Mechanics and Wave Motion (3 units)
Prerequisite: G.E. Foundation B4; MATH 76 (may be taken concurrently). Topics in classical Newtonian mechanics including linear and circular motion, energy, linear and angular momentum, systems of particles; rigid body motion; fluids; gravity; wave motion; and sound. G.E. Breadth B1 when taken with PHYS 4AL. **FS**

PHYS 4AL. Laboratory in Mechanics and Wave Motion (1 unit)
Corequisite: PHYS 4A; prerequisite: G.E. Foundation B4. Introduction to laboratory methods. Experiments in mechanics, waves, and sound. G.E. Breadth B1 when taken with PHYS 4A. (3 lab hours) **FS**

PHYS 4B. Electricity, Magnetism and Heat (3 units)
Prerequisites: PHYS 4A; MATH 77 (may be taken concurrently). Topics in classical physics including heat and thermodynamics, electrostatics, electric fields and potential, currents and AC and DC electric circuits, magnetic fields, electromagnetic induction. **FS**

PHYS 4BL. Laboratory in Electricity, Magnetism, and Heat (1 unit)
Corequisite: PHYS 4B. Experiments in electricity, magnetism, heat, and thermodynamics. (3 lab hours) **FS**

PHYS 4C. Light and Modern Physics (3 units)
Prerequisites: PHYS 4B, MATH 77. Maxwell's Equations, geometrical optics; electromagnetic radiation; physical optics; introduction to special relativity; quantum physics; and the physics of atoms, nuclei, and the solid state. **FS**

PHYS 10. Conceptual Physics (4 units)
Prerequisites: G.E. Foundation B4 (except for those with declared majors in the College of Science and Mathematics). Basic ideas of physics and their relationship to the everyday environment. Physical phenomena, misconceptions, terminology, scientific method, and metric system. Memorable demonstrations in lectures; household-related experiments in the lab. G.E. Breadth B1. (3 lecture, 2 lab hours) **FS**

PHYS 90. Directed Study (1-2; max total 3 units)
Prerequisite: any university-level physics or physical science course. Individually arranged course of study in some limited area of physics, either to remove a deficiency or to investigate in more depth. (1-2 hours to be arranged) **FS**

PHYS 100. Concepts of Quantum Physics (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Key discoveries in quantum physics and conceptual development of quantum theory. Lecture demonstration of experiments, graphical visualization of theory, and hi-tech applications. G.E. Integration IB. (3 lecture hours) **FS**

PHYS 102. Modern Physics (3 units)
Prerequisite: PHYS 4C; MATH 81 (may be taken concurrently). Fundamental concepts of atomic and nuclear structure, transitions and radiation. Includes discussions of relativistic mechanics, quantum mechanics, solid state physics. Special topics as they pertain to modern developments in physics, engineering, and chemistry. **F**

PHYS 104. Experimental Techniques in Condensed Matter Physics (4 units)
Prerequisite: PHYS 4C. Shop techniques and safety instructions. Basic concepts in condensed matter physics. Measurements of conductivity, energy gap in semiconductors, drift mobility, Hall coefficients, photoconductivity, magnetic susceptibilities, exciton spectra, dielectric loss. Experience in X-ray diffraction, vacuum technology, thin-film deposition, and low temperature techniques. (1 lecture, 9 lab hours) **S**

PHYS 105A-B. Analytical Mechanics (3-3)
Prerequisite: PHYS 4C; MATH 81 (may be taken concurrently). (A) Analytical and vector treatment of the fundamental principles of statics, kinematics, and dynamics. (B) Prerequisite: PHYS 105A. Advanced dynamics; harmonic motion, central force fields, and Lagrange's equations. 105A - **F**; 105B - **S**

PHYS 107A-B. Intermediate Electricity and Magnetism (3-3)
(A) Prerequisites: PHYS 105A, MATH 81. Mathematical analysis of electrostatics and magnetostatics, Gauss' law, solutions

of Laplace's equation, images, theory of conduction, magnetic potentials. (B) Prerequisite: PHYS 107A. Motion of ions in electric and magnetic fields, electromagnetic induction, Maxwell's equations and wave propagation, electron theory, and magnetic properties. 107A - **F**; 107B - **S**

PHYS 110. Physical Optics (3 units)
Prerequisites: PHYS 4C, MATH 81. Theory of optical phenomena; wave theory of light with applications to optical instruments; interference and diffraction phenomena, dispersion, polarization, coherence, and laser phenomena. Practical experience in using lasers and optical instruments. (2 lecture, 3 lab hours) **F**

PHYS 115. Quantum Mechanics (3 units)
Prerequisites: PHYS 102, 105A, MATH 81; PHYS 170A strongly recommended. Historical background, postulates, meaning, and methods of quantum mechanics; applications to atomic phenomena. **S**

PHYS 135. Introduction to MRI/MRS (4 units)
Prerequisite: PHYS 4A, 4AL, 4B, 4BL, and 4C. Introduction to fundamentals of nuclear magnetic resonance and application in imaging and spectroscopy in-vivo. T1, T2, PD-weighted images; spin echo sequence; artifacts in images; and clinical applications of cerebral metabolites in 1D neurospectroscopy. Lab at VACCHCS. (3 lecture, 3 lab hours) **F**

PHYS 136. Radiation Physics (3 units)
Prerequisite: PHYS 102. The interaction of radiation with matter: photoelectric, Compton and pair production processes, neutron and charged particle interactions, linear energy transfer, quality factor, attenuation coefficients, shielding. Biological effects, RBE, internal dose, permissible exposures, beneficial application. Instrumentation. **F**

PHYS 137. Radiation Measurements Laboratory (3 units)
Prerequisite: PHYS 136. Advanced experiments in atomic and nuclear physics. Radiation safety. Gamma ray, X-ray, and particle detection and spectroscopy. Applications of gas-filled detectors, scintillators, and high-purity germanium detectors. Statistics, error analysis. (1 lecture, 4 lab hours) **S**

PHYS 140. Thermodynamics and Kinetic Theory (3 units)
Prerequisite: PHYS 102, MATH 81. Fundamental concepts and laws of classical thermodynamics. Rudiments of kinetic theory and statistical thermodynamics with application to physical and chemical systems. **F odd**

PHYS 150. Astrophysics (3 units)
Prerequisite: PHYS 4C. Introduction to celestial mechanics, spectral classification, stellar atmospheres and interiors, star formation and evolution, variable stars, neutron stars, pulsars, black holes, the nature of galaxies, and the expansion of the universe. **S**

PHYS 151. Observational Astronomy (4 units)
Prerequisite: PHYS 4C. Celestial coordinates, time, stellar motions, constellations, star charts, catalogs, astronomical sources, observational limits, telescopes, detectors, atmospheric effects, digital image processing, photometry, and spectroscopy. (3 lecture, 3 lab hours) (Formerly PHYS 175T) **F**

PHYS 155. Seminar in Biomedical Physics/Neurosciences (1; max total 2 units)
Prerequisite: biomedical physics major or permission of the department chair. One-to-one interaction with invited speakers giving talks on state-of-the art medical imaging including MR, CT, PET, SPECT; new radiation oncology systems such as CYBERKNIFE, IMRT; neurobiology, radiobiology, and molecular imaging. (Formerly PHYS 175T)

PHYS 156. Diagnostic X-Ray Imaging Physics (4 units)
Prerequisite: PHYS 136. The fundamentals of X-ray production, image quality, digital radiography, fluoroscopy, and computed tomography. Image artifacts. Quality assurance of equipment and radiation dose. Lab at the VACCHCS. (3 lecture, 3 lab hours)

PHYS 157. Nuclear Medicine Physics (4 units)
Prerequisite: PHYS 136. Fundamentals of nuclear imaging. Gamma camera: basic principles and performance characteristics. Emission tomography: SPECT and PET, basic principles and performance characteristics. Clinical applications. Lab at the VACCHCS. (3 lecture, 3 lab hours) (Formerly PHYS 175T)

PHYS 158. Radiation Oncology Physics (3 units)
Prerequisite: PHYS 136. Introduction to linear accelerators, geometry of photon beams, photon beam and electron beam dosimetry, treatment planning, brachytherapy, clinical applications, and new techniques. (3 lecture hours). (Formerly PHYS 175T)

PHYS 162. Condensed Matter Physics (3 units)
Prerequisites: PHYS 102, or CHEM 110B and permission of instructor. Classification of solids; crystalline state and lattice vibrations; properties of metallic lattices and dielectrics; magnetic properties of solids; free electron theory and band theory of metals; semiconductors; imperfections. **F even**

PHYS 168S. Physics Pedagogy and Outreach (3 units)
Prerequisite: any one of the following courses — NSCI 1A, PHYS 10, PHYS 2A, PHYS 4A. Provides science majors and future teachers hands-on experience demonstrating physics in K-12 schools. Best practices based on education research, theories of science instruction, and core concepts in physics in a service-learning environment. (2 lecture, 3 lab hours) (Formerly PHYS 175T) **FS**

PHYS 170A. Mathematical Physics (3 units)
Prerequisite: PHYS 4A and MATH 81. Application of mathematical methods to the solution of problems in physics. **S**

PHYS 175T. Topics in Contemporary Physics (1-4; max total 12 units)
Designed to provide students with special work in such areas of physics as biophysics, modern optics, plasmas, high energy physics, solid state, chaos theory, nuclear structure, astrophysics, low temperature phenomena. Some topics may have labs. **FS**

PHYS 180. Seminar in Physics (1; max total 3 units)
Prerequisite: senior or graduate physics major or permission of department chair. **FS**

PHYS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

GRADUATE COURSES

(See *Catalog Numbering System*.)

Physics (PHYS)

PHYS 203. Classical Mechanics (4 units)
Prerequisites: PHYS 105B, 170A. Advanced treatment of classical analytical mechanics including Lagrange's and Hamilton's formulation of the laws of motion, special relativity, small oscillation theory, hydrodynamics.

PHYS 220A-B. Advanced Electricity and Magnetism (3-3)
Prerequisites: PHYS 107B, 170A. Electromagnetic theory and its applications; electrostatics, boundary-value problems in electrostatics, dielectrics, multipoles, magnetostatics, Maxwell's equations, electromagnetic radiation, optical properties of materials, wave guides and resonant cavities.

PHYS 222A. Quantum Mechanics I (3 units)
Prerequisite: PHYS 115, 170A. Quantum Dynamics: representations and pictures, path integrals, evolution operator, propagators. Angular Momentum: orbital and spin, addition. Perturbation Theory: time-independent and time-dependent problems, sudden and adiabatic approximations. Scattering: Lippman-Schwinger equations, scattering matrix, Born approximation, partial waves.

PHYS 222B. Quantum Mechanics II (3 units)
Prerequisite: PHYS 222A. Identical Particles: fermions and bosons, second quantization. Electromagnetic Fields: radiation field, photons, coherent states, vacuum state and Casimir effect, interactions with charged particles. Relativistic Quantum Mechanics: Klein-Gordon and Dirac equations, relativistic hydrogen atom, perturbation theory and Feynman diagrams.

PHYS 262. Advanced Condensed Matter Physics (3 units)
Prerequisites: PHYS 115, 162, 170A. Binding and crystal structure, crystal electron theories, elementary excitations, transport theories, crystal defects, superconductivity.

PHYS 270. Advanced Mathematical Physics (3 units)
Prerequisite: PHYS 170A. Group theory, including continuous (Lie) groups, Lie algebras, and an introduction to the theory of representations, Green's functions and their applications to physical problems, and integral equations including diagrammatic methods of solution.

PHYS 272. General Relativity (3 units)
Prerequisite: PHYS 203. The principle of equivalence, tensor calculus in curved space-times, the Einstein-Hilbert equations, the Schwarzschild solution, tests of general relativity, gravitational radiation, introduction to cosmology.

PHYS 275T. Topics in Contemporary Physics (1-3; max total 6 units)
Advanced topics in such areas as modern optics, plasma physics, high energy physics, astrophysics, nuclear physics, biophysics. Some topics may have labs.

PHYS 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

PHYS 298. Project (2-6; max total 6 units)*
Prerequisite: permission of instructor. Scholarly investigation by the advanced graduate student as a culminating experience for the master's degree, including a written project report and an oral defense, and followed by a competency exam. Approved for ***RP*** grading.

PHYS 299. Thesis (2-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

PHYSICAL SCIENCE COURSES

Physical Science (PSCI)

ASTRONOMY

PSCI 21. Elementary Astronomy (4 units)
Prerequisite: G.E. Foundation B4 (except for those with declared majors in the College of Science and Mathematics). Recommended: second-year high school algebra. Concepts, theories, important physical principles, and history of astronomy. Stellar properties, distances, and evolution. Three field trips for observing with telescopes. G.E. Breadth B1. (3 lecture, 2 lab hours) (Course fee, $34) **FS**

OTHER

PSCI 131. Concepts of Classical Physics from Babylon to Maxwell (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Concepts, theories, and laws of classical physics. Mathematics, astronomy, mechanics, light, electricity, magnetism, thermodynamics, chemistry, and the atom. G.E. Integration IB. **FS**

PSCI 168. Energy and the Environment (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Analysis of energy crisis; introduction to various forms of energy, energy conversion processes and environmental effects; present energy supply and energy projections; future energy demands and ways of evaluating alternatives. G.E. Integration IB. (3 lecture hours) **S**

PSCI 180T. Topics in Physical Science (1-3; max total 9 units)
Detailed discussion of special topics within the realm of physical science. **FS**

IN-SERVICE COURSES

(See *Catalog Numbering System*.)

Physical Science (PSCI)

PSCI 305. Physical Science for Secondary School Teachers (3; max total 6 in any one field)
Prerequisites: secondary credential and two years of teaching experience. Objectives, content, and instructional materials for the physical sciences; fundamental principles and recent developments. Emphasis may be on chemistry, geology, or physics.

PSCI 350. Physical Science for Elementary School Teachers (3-6; max total 6 in any one field)
Maximum total credit 12 units; not more than 6 units in one field. Prerequisite: elementary credential. Selection of source materials and aids available for illustration of fundamental concepts and principles in physical science; laboratory work in construction, operation, and use of demonstrations and experiments in the elementary school.

Psychology

College of Science and Mathematics

Department of Psychology
Constance Jones, *Chair*
Sheri Osborn, *Administrative Support Coordinator*
Science II Bldg., Room 312
559.278.2691
http://psych.csufresno.edu

B.A. in Psychology
Pre-M.B.A. Option

M.A. in Psychology
Option:
- Applied Behavior Analysis

Ed.S. in Psychology

Minor in Psychology

Pupil Personnel Credential with an Advanced Specialization in School Psychology

Psychology

Psychology is the scientific study of behavior — including human thought, emotion, and action — and the application of scientific knowledge to the solution of real-world problems. It includes a wide variety of topics, including perception, learning, memory, thinking, emotion, personality, social interaction, development, and abnormal behavior. Psychologists recognize that understanding behavior in all its complexity requires studying it from multiple perspectives. A thorough understanding of memory, for example, requires knowledge ranging from the neural structures and processes that underlie it to the social and cultural forces that influence it.

Students majoring in psychology take core courses in general psychology, statistics, and research methodology, along with additional courses in each of the primary areas of the discipline. There are also numerous opportunities for students to supplement their coursework with hands-on experience in faculty research labs and in the field under faculty supervision. Advanced and well-qualified students can participate in our senior honors program. These students design, conduct, and present an original research project as a senior thesis.

Psychology majors learn to think critically, write and speak clearly, identify and solve problems, and work effectively both individually and in groups. As a result, the study of psychology provides excellent preparation for graduate study and careers in a variety of fields.

Faculty and Facilities

All full-time faculty members in the department have a Ph.D. in psychology or a closely related field. Their areas of expertise represent the breadth of contemporary scientific psychology. In addition to being dedicated teachers, most faculty members also conduct and publish original research. Many are also licensed or certified as practitioners of clinical psychology, school psychology, or applied behavior analysis.

The department makes use of several smart classrooms and has a networked computer lab for teaching and for student use. There are extensive laboratory facilities within the department. They include space for observing and testing research participants, along with computers and other specialized equipment (e.g., for audio and video recording, physiological recording).

Career Opportunities

Many of our B.A. graduates pursue careers in business, education, and social services. Combined with other appropriate coursework, psychology is also a good major for those planning to go to professional school in business, law, public health, medicine, and other fields.

Working as a professional clinician or researcher generally requires at least a master's degree. Many of our students continue in our Ed.S. program in school psychology or in the applied behavior analysis track of our M.A. program. Others enter our M.A. program in general experimental psychology in preparation for careers in teaching or research. Psychology graduates also pursue master's degrees in counseling, social work, and related fields either at Fresno State or elsewhere. These students generally go on to work for school districts, state and local governments, health care organizations, and social service agencies.

Becoming an independent practitioner, researcher, or college teacher in psychology generally requires a Ph.D. The training students receive in our department — especially the hands-on research experience — has helped many of our graduates to gain admission to top Ph.D. programs.

Faculty

Constance Jones, *Chair*
Amanda Mortimer, *Undergraduate Advising Coordinator*
Lorin Lachs, *Graduate Adviser*

Amanda Adams
Michael Botwin
Christine Edmondson
Marianne Jackson
Spee Kosloff
Robert Levine
Hong Ni
Karl Oswald
Paul Price
Jean Ritter
Martin Shapiro
Matthew Sharps
Michael Thackrey
Marilyn Wilson
Ron Yockey

Bachelor of Arts Degree Requirements

Psychology Major *Units*

Major requirements 44-53

A. *Core Courses* (all required):
PSYCH 10, 42, 144.....(12)

B. *Basic Knowledge and Skills* (select 2): PSYCH 36, 60T, 145, 166..... (4-8)

C. *Basic Applications* (select 1): PSYCH 136, 162, 169, 175, 176..... (3-4)

D. *Advanced Applications* (select 1): PSYCH 143, 149, 172, 177, 179.....(4)

E. *Advanced Content* (select 2): PSYCH 154, 155, 156.....(8)

F. *Advanced Processes* (select 2): PSYCH 121, 122, 124, 125, 128.....(8)

G. *Integration:* PSYCH 182.....(4)

H. *Advanced Topics* (select 1): PSYCH 120T, 123, 140T, 150T, 160T, 163, 170T, 180T, 184A, 184B..... (1-5)

I. *Psychology Electives* (see *Advising Note 5)*

General Education requirements..... 51

Electives and remaining degree requirements 19-28*
(See *Degree Requirements*); may be used toward a double major or minor.

Total 120

*This total indicates that 3 units of PSYCH 10 in G.E. Breadth D3 also may be applied to the psychology major. In addition. G.E. certified courses that are equivalent to PSYCH 10 and PSYCH 42 taken at another CSU campus or a public California community or junior college may be applied to the major. Consult the department advising office for additional details.

Advising Notes

1. Students desiring to major in psychology must do the following before being permitted to enroll in restricted, 100-level psychology courses (courses with prerequisites):
   a. formally apply to the major, at which time they will be placed in a pre-psychology major category, and
   b. complete PSYCH 10, 42, and 144 (or their equivalents) with grades of ***C*** or better and have earned a cumulative grade point average of at least 2.0.

   Students may apply for upper-division psychology major status in the Psychology Department Office during the semester in which they expect to successfully complete the core course requirements. Approval will be contingent upon satisfactory fulfillment of these requirements.

   All students, including transfer students and students changing to the psychology major, must request the Psychology Department to screen their transcripts (to be provided by the student) for successful completion of the requirements before enrollment in restricted, 100-level psychology courses will be permitted. Currently enrolled students who wish to change to the psychology major must first obtain the change-of-major form in the north lobby, Joyal Administration Building.
2. Psychology majors may not receive General Education credit for G.E. Integration courses offered by the Department of Psychology.
3. ***CR/NC*** grading is not permitted in the psychology major.
4. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. Students who complete all courses required in the major may be cleared with a minimum of 44 units for the psychology major or 64 units for the pre-M.B.A. option. Although not required, psychology electives may be applied toward the major and may be used to meet the required minimum total of 44 units for the psychology major or 64 units for the pre-M.B.A. option.

Pre-M.B.A. Option

The pre-M.B.A. psychology major option is intended for students who wish to combine comprehensive training in the field of psychology with coursework preparing them for jobs in business and/or future graduate training in business administration. The option is aimed at two groups of students:

1. Students who wish to complete a major in psychology, while at the same time prepare for jobs in business, industry, and government that emphasize both psychology and business skills upon completion of their B.A.
2. Psychology majors who wish to enter an M.B.A. or other business-related graduate program upon completion of their B.A. The option is designed to allow students to complete many or all of the prerequisite courses required by typical M.B.A. programs, and all of those in the Craig program at Fresno State.

The option is especially designed for psychology majors who wish to apply for the Craig M.B.A. program at California State University, Fresno. By completing the requirements of the pre-M.B.A. option, students will generally be allowed to waive all of the Group 1 coursework usually required for the M.B.A. at Fresno State. Furthermore, students who maintain a GPA of 3.4 or more in their last 60 units and in the major, and who receive a suitable score on the GMAT, are reasonably assured of admission to the Craig M.B.A. program. Students not meeting these requirements will, however, also be considered and are encouraged to apply.

Psychology Pre-M.B.A. Option *Units*

Major option requirements..... 63-72

A. *Core Courses* (all required):
PSYCH 10, 42, 144.....(12)

B. *Basic Knowledge and Skills* (select 1): PSYCH 145 or IS 52 and 52L ***and*** (select 1): PSYCH 36, 60T, or 166 ..... (4-8)

C/D. *Applications*:
MKTG 100S and MGT 104; or MGT 110 .... (6-7)

E. *Advanced Content* (select 2): PSYCH 154, 155, 156.....(8)

F. *Advanced Processes* (select 2): PSYCH 121, 122, 124, 125, 128.....(8)

G. *Integration:* PSYCH 182.....(4)

H. *Advanced Topics* (select 1): PSYCH 120T, 123, 140T, 150T, 160T, 163, 170T, 180T, 184A, 184B..... (1-5)

I. *Psychology Electives* (see *Advising Note 5)*

J. *Additional pre-business requirements*: ECON 40, 50, ACCT 4A, FIN 120, BA 174, MGT 124.....(20)

General Education requirements..... 51
Electives and remaining degree requirements 0-9*
Total 120

* See footnote to the psychology major.

Preprofessional Preparation

A psychology major is often used as preparation for other professions. For pre-professional programs in law, dentistry, medicine, and the ministry, see the *Preprofessional Preparation* units section and consult an adviser in the psychology department.

Credential Programs

The Department of Psychology offers the Ed.S. degree requirements coinciding with those of the Pupil Personnel Services Credential with an Advanced Specialization in School Psychology.

Application forms and advising are available through the coordinator of the School Psychology Program within the Psychology Department.

Applied Behavior Analysis Training

Our Applied Behavior Analysis (ABA) program meets the academic content required for certification by the Behavior Analysis Certification Board. Behavior analysts and specialists design and implement behavior change programs in a variety of settings including schools, homes, group homes, care facilities, and hospitals. Our training gives students necessary coursework in theoretical foundations, basic research, and applications for applied behavior analysis. Courses can be applied to both the psychology major and to the ABA training. The following classes comprise the training program:

	Units
1. *Core Courses in Psychology* PSYCH 10, 42, 144	(12)
2. *ABA Content* PSYCH 136, 172, 184A	(10)
3. *Enhancement Content (choose one)* PSYCH 155 or 156	(4)
4. *Additional ABA Elective (choose one)* PSYCH 177 or 179 or 184B	(3-4)

For additional information or advising, contact the Department of Psychology.

The Department's Honors Program

The Department of Psychology Honors Program has two major components that are completed over the course of one year. Students participate in a seminar (PSYCH 183A and 183B - Honors Seminar) designed to provide an advanced survey of research and theory in several major substantive areas of psychology. In addition, over the course of the year, honors students conduct their own honors project under the supervision of a faculty mentor. The program provides the opportunity for highly qualified, advanced psychology students to sharpen their analytical abilities, refine their writing skills, and expand their knowledge of psychology. The honors project itself is an opportunity for students to apply the knowledge and skills they have acquired as psychology majors to a particular question. Minimum criteria for application to the program include at least 18 units in psychology courses completed, GPA of at least 3.5 in psychology and 3.5 for overall in last two years of coursework, and a letter of recommendation from the faculty mentor. Applications are accepted in the spring semester for the following academic year. See also the *Smittcamp Family Honors College* section of the catalog for further information about honors programs available at the university.

Psychology Minor

A Psychology Minor must have prior approval of the psychology department faculty adviser. The minor consists of 22 units of psychology courses, 15 of which must be upper division. The required courses for the minor are PSYCH 10 (Intro to Psychology) completed with a grade of ***C*** or better, one course from Area B (Basic Knowledge and Skills), and one course from Area C (Basic Applications). The remaining courses may be selected to satisfy the needs of individual students but must be worked out in advance with an adviser from the department and be approved.

Note: The Psychology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Graduate Programs

The Master of Arts and Educational Specialist degrees in Psychology are designed to provide students with a broad background in psychology while allowing them opportunities to pursue areas of special interest. Completion of the requirements for either master's degree prepares students for positions in community mental health service agencies, school settings, community college teaching, research, or entry into Ph.D. or Psy.D. programs in Psychology.

Admission to the Master of Arts and Ed.S. programs in Psychology is based upon the satisfactory completion of prerequisite courses selected from the core courses required for the California State University, Fresno undergraduate major in psychology, or their equivalent. Potential graduate students should submit transcripts of all academic work and three letters of recommendation. In addition, students must submit scores from the GRE general test to be considered for admission. School Psychology program applicants must submit scores from the CBEST as well and complete other prerequisites as outlined in the department's application. All students must submit applications to both the Division of Graduate Admissions and the Department of Psychology.

Admission to the graduate program in psychology is based on the evaluation of a student's capacity to successfully complete master's level work. The graduate committee uses multiple criteria to assess an applicant's qualifications including coursework completed, grades, test scores, essays, and letters of recommendation. In addition, an applicant's professional interests and goals are evaluated in terms of the interests of the faculty and the resources of the Department of Psychology. Separate evaluations of applicants are made for the M.A. general/experimental program and the Ed.S. School Psychology program. Although many applicants meet our minimum admission requirements, we are limited in the number of positions available and many qualified applicants cannot be offered admission.

Admission to classified graduate standing requires a minimum undergraduate grade point average of 3.0, as well as a minimum grade point average of 3.0 in undergraduate psychology courses. A combined score of 1,000 or higher on the Verbal and Quantitative sections of the GRE General Test is preferred. Applicants lacking minimum scores in one area with compensating strengths in other areas may apply. The

Department of Psychology does not typically admit unclassified students into the graduate program.

In order to apply for advancement to candidacy, students in psychology graduate programs must earn grades of *A* or *B* in PSYCH 244A and PSYCH 244B and pass the Psychology Department Graduate Writing Requirement.

The graduate writing requirement can be fulfilled in PSYCH 244A. Further information can be found in the course syllabus and graduate handbook.

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements,* and *Criteria for Thesis and Project* in the *Graduate Studies* section of the catalog.)

Under the direction of a graduate adviser, a coherent program is prepared and submitted, directed toward the achievement of the student's goal in graduate study.

Master of Arts Degree Requirements

Master of Arts
Applied Behavior Analysis Option

The Applied Behavior Analysis Option in the Master of Arts degree program in psychology is a two-year, full-time graduate program option that meets the degree, coursework, and experience requirements needed in preparation for national certification as a Board Certified Behavior Analyst (BCBA). Students are required to take 43 hours of coursework, including 3 thesis hours and 4 hours of practicum. A minimum of 1,000 contact hours of practicum are required over the two years of the program. Students must apply for admission to the ABA Option of the M.A. program during the graduate application process.

This program option emphasizes behavior analytic applications with typically developing and developmentally disabled children.

Course Requirements for the Applied Behavior Analysis Option

Core	*Units*
PSYCH 244A	4
PSYCH 244B	4
PSYCH 220T*	3
PSYCH 205	4
PSYCH 299 (Thesis)	3
Total	**18**

*Must take section entitled "Conditioning and Learning."

Additional requirements	*Units*
PSYCH 231	3
PSYCH 288	4
PSYCH 245	4
PSYCH 289	4
PSYCH 271	3
PSYCH 268 (Practicum)	4
Total	**22**

*Electives**	*Units*
Choose one: PSYCH 278, 282, or 286	4

*Substitutions may be made if approved by the program adviser.

Total	**44**

Master of Arts

The Master of Arts degree program in psychology may be arranged to include interest areas such as general experimental, developmental, and social psychology, as well as special master of arts programs for individuals. This 30-unit degree program is intended primarily to prepare graduates for entry into doctoral programs in general experimental, developmental, social, or clinical psychology, and may serve as preparation for community college teaching or professional employment requiring a master's degree.

Minimum Course Requirements for the M.A.

Core	*Units*
PSYCH 244A	4
PSYCH 244B	4
PSYCH 205 or 250T or 255T (one course)	3
PSYCH 220T or 225T (one course)	3
PSYCH 299 (Thesis)	3
Total	**17**

Electives	*Units*
Must include two additional courses in psychology or a related field; maximum of 6 units independent study. Program must be approved by graduate adviser	13
Total	**30**

Educational Specialist Degree Requirements

The Educational Specialist in School Psychology is a three-year, full-time graduate program and requires a minimum of 76 units. Practicum experience is required during the first two years of coursework. The internship experience, completed during the third year of the program, requires a minimum of 1,200 hours with at least half of these hours completed in a school setting.

Students who wish to become eligible for the Pupil Personnel Credential with a specialization in School Psychology as granted by the California Commission on Teacher Credentialing should contact the department for application materials and additional information.

Minimum Course Requirements for the Ed.S.

Units
PSYCH 205 — 4
PSYCH 225T — 3
PSYCH 244A — 4
PSYCH 244B — 4
PSYCH 267 — 12
PSYCH 274S — 4
PSYCH 277 — 4
PSYCH 278 — 4
PSYCH 279 — 4
PSYCH 282 — 4
PSYCH 284 — 4
PSYCH 285 — 4
PSYCH 286 — 4
PSYCH 287 — 4
PSYCH 288 — 4
PSYCH 299 (Thesis) or 298 (Project) — 6
COUN 200 — 3
Total — 76

COURSES

Psychology (PSYCH)

PSYCH 10. Introduction to Psychology (3 units)
Prerequisite: G.E. Foundation A2. Not open to students with more than 6 units in psychology. Introduction to psychology as an empirical science; biological and social bases of behavior; scientific principles of psychology in perception, learning, motivation, intelligence, and personality. G.E. Breadth D3. FS

PSYCH 36. Biological Psychology (3 units)
An introduction to the role of the nervous system in psychological processes, including the basis of nerve conduction, the role of neurotransmitters, and basic neuroanatomy. Also addresses the neurophysiology underlying sensory processes, motivation, emotion, sleep and dreaming, language, learning and memory, addiction, and mental disorders. **FS**

PSYCH 40T. Topics in Research Design and Statistics (2-8; max total 12 if no topic repeated)
Introductory research methods and statistics in psychology. Introduction to scientific procedures and empirical research. Participation in research, data analysis, and APA research report writing. (May include lab hours)

PSYCH 42. Introductory Statistics (4 units)
Basic statistical methods for analysis of data; parametric tests of significance; linear regression and correlation; analysis of variance; introduction to non-parametric techniques. (May include lab hours) **FS**

PSYCH 60T. Psychology as a Behavioral Science (1-5; max total 6 if no topic repeated)
Current topics in psychology that are not covered in other courses. (May include lab hours)

PSYCH 61. Personal Adjustment (3 units)
Not open to students with credit in PSYCH 171. General adjustment behavior with regard to health, social, academic, and emotional problems; application of principles for prevention of health, social, academic, and emotional problems. G.E. Breadth E1. **FS**

PSYCH 101. Child Psychology (3 units)
Not open to students with credit in PSYCH 155. The dynamics of infant and child development and adjustment.

PSYCH 102. Adolescent Psychology (3 units)
Adjustment of youth to self and society.

PSYCH 103. Psychology of Aging (3 units)
(See GERON 103.)

PSYCH 120T. Topics in Cognition, Perception, and Behavioral Neuroscience (2-5; max total 12 if no topic repeated)
Prerequisites: psychology major or minor status or permission of instructor. Empirical evidence and theoretical issues in learning, motivation, cognition, language, perception, sensory, and physiological processes. Sections may be limited to animal or human studies; research and reporting. (May include lab hours)

PSYCH 121. Learning and Memory (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Combined survey of (1) principles from the human and animal laboratory with theoretical interpretations and applications; and (2) principles of operation of the human memory system with theoretical interpretations. (May include lab hours)

PSYCH 122. Motivation (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Initiation and continuation of behavior, acquisition, and modification of motives. (May include lab hours)

PSYCH 123. Developmental Psychobiology (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Biological and psychological foundations of behavioral development. Topics include issues in developing systems, genetics and evolution of behavioral development, behavioral embryology, comparative development of nervous systems, development of cognitive and affective behaviors, and ecological and multicultural influences on biobehavioral development. (Formerly PSYCH 120T)

PSYCH 124. Sensation and Perception (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Study of sensory and perceptual processes in vision, touch, and hearing. Emphasis is placed on how basic perceptual principles operate in everyday life as well as in lab settings.

PSYCH 125. Behavioral Neuroscience (4 units)
Prerequisites: psychology major or minor status or permission of instructor. (PSYCH 36 recommended.) An in-depth look at the neuroanatomical, endocrine, molecular, and neurophysiological mechanisms that mediate behavior and the technologies used to study them. Places emphasis on the integration and critical analysis of original neuroscience literature. (May include lab hours)

PSYCH 126. Cognitive Neuroscience (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Biological mechanisms which mediate cognitive processes. Topics include the nervous system substrates for perception memory, language, cerebral s and specialization, attention, and consciousness. G.E. Integration IB.

PSYCH 128. Cognitive Psychology (4 units)
Prerequisites: psychology major or minor status or permission of instructor. An introduction to theory and research in human information processing. Topics include attention, memory neurocognition, mental representation, imagery, problem solving, reasoning, language, and other higher mental processes.

PSYCH 132. Psychology of Sexuality (3 units)
Prerequisite: upper-division standing. Psychological aspects of human sexual behavior: influence on personality, various behavioral manifestations and pathologies.

PSYCH 136. Human Learning and Behavior (3 units)
Introduction to learning principles as they interact with perception, cognition, and motivation. Relevance of these principles in understanding human adaptation to school, home, and social environments.

PSYCH 140T. Topics in Psychological Methods (4; max total 8 if no topics repeated)
Prerequisite: PSYCH 10. Research methods and statistics in psychology: introduction to scientific procedures, experimental research, survey research, and qualitative research. Participation in research, data analysis and APA research report writing. (May include lab hours)

PSYCH 143. Intermediate Computer-based Statistical Analysis (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Intensive computer-based study of analysis of variance with research emphasis. Topics include single and multifactor designs both with and without repeated measures, multiple comparisons, trend tests, analysis of covariance and multivariate analysis of variance. (May include lab hours)

PSYCH 144. Research Designs and Experimental Methods (5 units)
Prerequisite: PSYCH 10 and PSYCH 42. Basic course in experimental psychology:

research design and inferential statistics; introduction to scientific procedures and methods in psychology; participation in research, data analysis, and report writing. (May include lab hours) **FS**

PSYCH 145. Computer and Information Skills in Psychology (3 units)
A survey of computer and information skills in the behavioral sciences. Applications of information technology include use of word processors, electronic communications, spreadsheets, statistical packages, and other specialized computer programs for psychology. Emphasis will be on developing information competence including locating, gathering, organizing, and reporting computer-based information. (May include lab hours) **FS**

PSYCH 149. Psychological Testing (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Theories of psychological testing stressing the logic and limits of measurement. Emphasis on technical and individual tests. (May include lab hours)

PSYCH 150T. Problems in Personality, Developmental and Social Psychology (2-5; max total 12 if no topic repeated)
Prerequisites: psychology major or minor status or permission of instructor. Wholistic levels of analysis in psychology such as personality, social, individual differences, and developmental; conceptual and empirical issues. (May include lab hours)

PSYCH 153. Developmental Research and Inquiry for Practitioners (3 units)
PSYCH 101, PSYCH 155, or CFS 39 recommended prior to enrollment in this course. Empirical and theoretical treatment of developmental issues. Emphasizes understanding the process of scientific discovery and learning to accurately interpret and evaluate developmental research. Examines theories and methods that guide research on physical, social, cognitive, and emotional development. **FS**

PSYCH 154. Personality (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Major contemporary theories of personality; techniques for research in personality. (May include lab hours)

PSYCH 155. Developmental Psychology (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Empirical and theoretical treatment of human development throughout the life span; genetic, phys-iological, and sociocultural influences upon development; physical, emotional, motivational, intellectual-cognitive, and social facets of development. (May include lab hours)

PSYCH 156. Social Psychology (4 units)
Prerequisite: psychology major or minor status or permission of instructor. Examination of the interaction between social environments and behavior. Application of social psychological theories and principles to interpersonal relationships, education, work, health, and the media. (May include lab hours)

PSYCH 160T. Topics in Clinical Processes (2-5; max total 12 if no topic repeated)
Prerequisite: psychology major or minor status or permission of instructor. Examination of individual behavior and small-group processes; include such topics as clinical psychopathology, sensitivity training, and intragroup dynamics, consciousness, dreams, and imagination.

PSYCH 162. Introduction to Clinical Psychology (4 units)
Overview of clinical psychology, including history, ethics, applied roles, conceptual and technical approaches to assessment and intervention, applying to graduate school, and anticipated future developments.

PSYCH 163. Multicultural Psychology (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Reviews the field of multicultural psychology and emphasizes the development of critical thinking, cultural sensitivity, and cultural self-awareness. Major topics include world views, immigration and acculturation, stereotyping, prejudice, racism, privilege, cultural identity development, health disparities, and multicultural competence. (Formerly PSYCH 160T)

PSYCH 166. Abnormal Psychology (3 units)
Study of the origins, symptoms, and treatments of behavioral and personality disturbances from childhood through senescence; application of current DSM. **FS**

PSYCH 169. Psychological Aspects of Physical Disability (3 units)
Psychological theory and research pertaining to physical disability and disabled persons. Attitudes regarding disability and the impact of disability on individual behavior. Primarily deals with blindness, deafness, orthopedic handicap, and epilepsy, and secondarily with cardiovascular disease, cancer, and diabetes.

PSYCH 170T. Topics in Psychological Applications (2-5; max total 12 if no topic repeated)
Applications of psychology; human factors; clinical psychology, learning applications, clinical quantitative, learning, creativity, computer, and other applied topics. (May include lab hours)

PSYCH 172. Applied Behavior Analysis (4 units)
Prerequisite: psychology major or minor status or permission of instructor. Introduction to the philosophy and research of applied behavior analysis. Includes the methods of research, basic principles, and applied techniques used in the field. Presents ethical and legal standards under which behavior analysts work.

PSYCH 174. Introduction to Counseling (3 units)
(See COUN 174.)

PSYCH 175. Family Counseling (3 units)
Theory and application of major counseling models. Family problems, relationships and systems. Application of child development principles, relevant communication theory and current research to therapy with couples, families, children, and groups. **FS**

PSYCH 176. Industrial Psychology (3 units)
Occupational assessment, training procedures, production efficiency, morale determinants, human engineering, decision processes, organization theory.

PSYCH 177. Behavioral and Cognitive Change Techniques (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Introduction to learning principles and their applications to behavioral and cognitive change. Methods and techniques used for changing self, children, adolescents, and adults.

PSYCH 179. Supervised Field Experience (4 units)
Prerequisites: psychology major or minor status or permission of instructor. Super-

vised field experience in community settings. Placements may include schools, hospitals, institutions for the aged, community service agencies, and legal settings, depending on student interests. Regular class meetings.

PSYCH 180T. Seminar in Psychology (1-5; max total 12 if no topic repeated)
Prerequisites: 9 units in psychology, permission of instructor. Undergraduate seminar in specialized areas, new developments and synthesis of psychological processes, thought, and theory.

PSYCH 182. History and Systems (4 units)
Prerequisite: psychology major or minor status; senior standing or permission of instructor; 12 upper-division units in the major. Historical, philosophical, and scientific background in psychology; review and integration of theoretical issues and current systems in the field. Lecture and discussion. **FS**

PSYCH 183A-B. Honors Seminar (1-3; max total 6 units)
Prerequisite: application and acceptance into the department's honors program. Advanced experience in psychology for selected majors that includes critical and creative thinking about topics in psychology, individualized research training, and exploration of options in psychology. 183A - **F**; 183B - **S**

PSYCH 184A-B. Community Intervention and Behavior Support (3 units)
Prerequisites: one course in behavior analysis with a grade of ***B*** or higher. Meets content requirements for certification in applied behavior analysis at the associate level. Includes using and monitoring reinforcement systems, ethics and informed consent, training direct care workers, maintaining behavior change in natural settings, and establishing support from agencies and professionals. Students work directly with clients. (Formerly PSYCH 170T)

PSYCH 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

PSYCH 199. Senior Thesis (2-4; max total 4 units)
Concentrated empirical or theoretical study of specific topic in psychology; emphasis on independent and creative activity. Copy of thesis required for Psychology Department file. **S**

GRADUATE COURSES

(See *Catalog Numbering System*.)

Psychology (PSYCH)

PSYCH 200T. Seminar in Developmental Psychology (2-4; max total 15 if no topic repeated)
May be repeated with different topics. Prerequisite: permission of instructor. Seminars in development and genetic psychology, special topics for particular age ranges and problem areas. (May include lab hours)

PSYCH 205. Seminar in Child Development (4 units)
Prerequisite: a course in child or developmental psychology or permission of instructor. Advanced survey of current and classical research in child development. Examines issues such as nature/nurture, plasticity, direction-of-effect, continuity/discontinuity, and content relevant to theoretical and applied areas of social and cognitive development.

PSYCH 220T. Seminar in Learning and Related Problems (2-4; max total 15 if no topic repeated)
Prerequisite: undergraduate core. Advanced current developments in learning, perception, language, memory, and cognitive psychology. (May include lab hours)

PSYCH 225T. Seminar in Psychobiological Bases of Behavior (2-4; max total 15 if no topic repeated)
Prerequisite: permission of instructor. Recent advances in psychophysiology, physiological psychology, psychopharmacology, behavior genetics, sensory processes and related topics. (May include lab hours)

PSYCH 231. Ethics and Philosophy of Behaviorism (3 units)
(Same as AETH 200.) Familiarizes students with the ethical responsibilities for basic and applied behavior analysts required by leading organizations. Covers the philosophical underpinnings of behavior analysis along with the larger concepts of researching and practicing as a behavior analyst, professional, and member of society.

PSYCH 240T. Seminar in Quantitative Methods for Behavioral Research (2-4; max total 15 if no topic repeated)
Prerequisite: PSYCH 143. Methods for analysis of multivariate data; factor analysis; multiple regression; advanced analysis of variance procedures. Computer applications and use of computers for analysis of data. (May include lab hours)

PSYCH 244A-B. Measurement, Research Methods, and Statistics (4; 8 max total)
Prerequisite: PSYCH 143 or permission of instructor. Examination of measurement, advanced research design, and statistical techniques in behavioral research. Two-semester sequence. PSYCH 244A is offered in the fall and PSYCH 244B is offered in the spring. (May include lab hours) (Formerly PSYCH 244)

PSYCH 245. Research Methods in Behavior Analysis (4 units)
Prerequisite: PSYCH 288. Single subject research designs and behavioral measurement techniques, assessment of graphed data, social validity.

PSYCH 250T. Seminar in Personality and Related Areas (2-4; max total 12 if no topic repeated)
Prerequisite: undergraduate core in psychology. In-depth examination of the recent developments in personality and clinical psychology. (May include lab hours)

PSYCH 255T. Seminar in Social Psychology and Related Areas (2-4; max total 15 if no topic repeated)
Prerequisite: permission of instructor. Theories and research about individual functioning in society; also includes such topics as environment psychology and the psychology of women. (May include lab hours)

PSYCH 267. Internship in School Psychology (3-6; max total 12 units)
Prerequisites: PSYCH 281, 284, 285, 288, and permission of instructor. University and school-based supervised internship in school psychology.

PSYCH 268. Practicum in Applied Behavior Analysis (1; max total 4 units)
Prerequisite: PSYCH 288 and permission of instructor. University- and site-based supervision of practica in applied behavior analysis. ***CR/NC*** grading only.

PSYCH 270T. Seminar in Applied Behavioral Science (1-6; max total 15 if no topic repeated)
Prerequisite: permission of instructor. Topics in applied behavioral research; conflict management, group dynamics, organization development, sensitivity training, and multicultural issues. For students in the fields of business, communications, education, psychology, and the social sciences. (May include lab hours) ***CR/NC*** grading only.

PSYCH 271. Community Intervention and Behavior Support (3 units)
Designed to give students hands-on experience in the application of principles used by behavior analysts to train direct care workers in clinical, school, and home settings. (Formerly PSYCH 270T)

PSYCH 272. Seminar in Lab Teaching (1; max total 4 units)
Enrollment restricted to and required of graduate students teaching discussion sections in psychology laboratories. Class discussion of teaching techniques and procedures used to demonstrate principles in introductory psychology. Course may be repeated for a maximum of 4 units credit. ***CR/NC*** grading only.

PSYCH 274S. Multicultural Psychology (4 units)
Examines diverse cultural aspects related to psychology and education. Students explore multiple aspects of culture and investigate how they are manifested in our society and in educational settings through reading, writing, discussion, and service to the local communities. (Formerly PSYCH 270T)

PSYCH 277. Role and Function of the School Psychologist (4 units)
Prerequisites: graduate standing and admittance to School Psychology Program. State and federal education codes and court decisions related to the practice of school psychology; types of community resources and referral services. Includes supervised practicum experience in schools.

PSYCH 278. Intervention and Prevention in School Psychology (4 units)
Prerequisite: PSYCH 277, 279, 282, and 288. Roles and responsibilities of the school psychologist including prevention, individual and group techniques for early intervention, and strategies for modification of individual programs and educational environments. Includes supervised practicum experience.

PSYCH 279. Consultation and Supervision (4 units)
Prerequisite: PSYCH 277 and 288. Types of consultation services offered by school psychologists and variables which influence consultation effectiveness including organizational and systems issues. Emphasizes development of consultation and supervisory skills. Includes supervised practicum experience.

PSYCH 282. Cognitive and Behavior Therapy (4 units)
Prerequisites: a course in learning or behavior modification and permission of instructor. Historical and current trends, research issues, and designs. Application of the behavior approach in a variety of settings. Includes supervised practicum experience. (Course fee, $45)

PSYCH 283T. Topics in Clinical Intervention (1-4; max total 12 if no topic repeated)
Prerequisite: permission of instructor. Advanced study in specialized areas in clinical and school intervention. May include topics such as clinical hypnosis, health psychology, family therapy, group therapy, individual and group intervention in schools, etc. Practicum training usually included. Topics may not be repeated. ***CR/NC*** grading only.

PSYCH 284. Assessment of Intellectual Abilities (4 units)
Prerequisites: a course in psychological testing and permission of instructor. Review of theories of intelligence. Administration, scoring, and interpretation of individual and group measures of intelligence. Supervised practicum includes case studies of learning problems and the role of intelligence measures in assessment batteries. (Course fee, $130)

PSYCH 285. Assessment of Learning and Developmental Problems (4 units)
Prerequisite: PSYCH 284. Administration, scoring, and interpreting measures of learning disorders, physical-motor development, psychomotor abilities, social maturity, tests, school achievement, and vocational selection. Supervised practicum emphasizing proscriptive and rehabilitative recommendations in case studies. (Course fee, $30)

PSYCH 286. Instructional Consultation and Intervention (4 units)
Develops students' skills for using assessment data to target areas of student needs. After identifying student needs, course covers skills in consulting with teachers about how to develop, implement, and evaluate instructional interventions (e.g. materials, strategies, etc.)

PSYCH 287. Practicum in School Psychology (1; max total 6 units)
Prerequisite: enrollment in the M.S. in Psychology program. University- and school-based supervision of practica in school psychology. ***CR/NC*** grading only.

PSYCH 288. Advanced Applied Behavior Analysis (4 units)
Prerequisite: PSYCH 177. Applied use of classical and operant conditioning and social learning theory as behavior change techniques. Emphasis will be on functional assessment of behavior, including structured observations and behavior rating instruments. Students will also learn to develop and evaluate single subject research designs. Includes supervised practicum experience.

PSYCH 289. Functional Assessment and Intervention (4 units)
Prerequisite: PSYCH 288. Advanced strategies of functional behavioral assessment and intervention for adults and children across school, home, and community settings; ethical and procedural considerations of assessment and intervention; issues of system support and maintenance.

PSYCH 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

PSYCH 298. Project (3-6; max total 6 units)
Prerequisite: see *Criteria for Thesis and Project*. An individual scholarly investigation of an advanced topic in education or psychology as the culminating experience for the Ed.S. Approved for ***RP*** grading.

PSYCH 299. Thesis (3-6; max total 6 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree in compliance with Psychology Department regulations. Approved for ***RP*** grading.

* For 299C courses, see *Graduate Studies*.

Science and Math — Interdisciplinary

College of Science and Mathematics
David M. Andrews, *Director,*
Natural Sciences Degree Program
Jaime Arvizu, *Adviser*
Science I Building, Room 100
559.278.5173

B.A. in Natural Sciences

Biotechnology Certificate

Single Subject Teaching Credential

Science and Mathematics

The primary goal of the College of Science and Mathematics is to provide professional training at the undergraduate and graduate levels. To achieve this goal, our programs of study serve as foundations for careers in science and mathematics. They provide professional training in preparation for careers in medicine, dentistry, pharmacy, veterinary medicine, and other professions.

The college consists of the departments of Biology, Chemistry, Computer Science, Earth and Environmental Science, Mathematics, Physics, and Psychology. Degree programs are listed separately. The college provides study for students in the areas of biology, chemistry, computer science, geology and environmental science, mathematics, physics, and psychology by offering courses in the majors; support courses for non-science majors such as agriculture, engineering, and the health professions; and courses for the general education of all university students.

The college requires faculty members to possess the appropriate terminal degree recognized in their discipline. The college has 90 permanent faculty members; all hold the doctoral degree in their discipline. Doctorates held by faculty were granted by some of the most prestigious universities in the nation and abroad. Furthermore, students and faculty members conduct research and scholastic activities in their academic areas as well as solve applied scientific problems of the region. This research activity is carried out among campus scientists along with investigators at other regional research centers.

The College of Science and Mathematics also is collaboratively involved with the school systems in science/mathematics teacher education. Important emphasis is placed on the recruitment, retention, and education of underrepresented minorities and females in science and mathematics majors.

Math and Science Teacher Education

The college offers baccalaureate degree programs in mathematics and natural sciences that serve as subject matter preparation programs leading to the Single Subject Teaching Credential in Mathematics and Science. In science, a student can select the Single Subject Teaching Credential with an emphasis in Biology, Chemistry, Earth Science, or Physics.

Students can apply to the credential program after completing 90 or more units as undergraduates. Once accepted, they can begin to take credential courses simultaneously as they complete their undergraduate degree. For more information, call Agnes Tuska (Math Education) at 559.278.2992, or David Andrews or Jaime Arvizu (Science Education) at 559.278.5173.

Biotechnology Certificate Program

The college offers a one-year postbaccalaureate Certification of Advanced Study in Biotechnology. This intensive program of study emphasizes molecular biology and a wide range of laboratory skills at the forefront of modern biotechnology. The certificate program can lead to potential careers in expanding fields such as drug and hormone production in the pharmaceutical industry, monoclonal antibody production for medical diagnostics, crop improvement, industrial bioprocessing, and medical research. The program also provides a strong background for advanced studies in biochemistry, molecular biology, and agricultural biotechnology. For further information, call the Biology Department at 559.278.2001.

Marine Science

The college offers a Master of Science in Marine Science in cooperation with Moss Landing Marine Laboratories. The program at Moss Landing provides extensive field and laboratory work for advanced study to prepare students for careers as marine specialists, scientists, and teachers. For further information, call the Biology Department at 559.278.2001 or the Earth and Environmental Sciences Department at 559.278.3086.

Preprofessional Programs

Preprofessional programs are available for students who plan to transfer to other institutions for the completion of professional curricula in such fields as medicine, veterinary medicine, dentistry, pharmacy, optometry, and chiropractic. For further information call:

Prechiropractic
David Frank..... 559.278.2273
Predental
Saeed Attar 559.278.5239
Laurent Dejean 559.278.2008
Fred Schreiber..... 559.278.8756
Premedical
David Frank..... 559.278.2273
Amir Huda 559.278.8427
Preoptometry
Daqing Zhang 559.278.7096
Preosteopathic
David Frank..... 559.278.2273
Prepharmacy
Joy Goto 559.278.2530
Santanu Maitra 559.278.2961
Paul Crosbie 559.278.2074
Preveterinary
Paul Crosbie 559.278.2074

Bachelor of Arts Degree Requirements

Natural Sciences Major

The Bachelor of Arts in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. With the Science Credential, students are able to teach any introductory science class, i.e. earth, general, life, or physical science along with the courses in their chosen emphasis. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information, at 278-5173.

COURSES

Natural Science (NSCI)

NSCI 1. The Art and Practice of Medicine (1; max total 4 units)
Primarily for prehealth care students. Delivery of health care today. Concepts of the art of medicine presented by community physicians and specialists. *CR/NC* grading only.

NSCI 1A. Integrated Science: Physics and Chemistry (4 units)
Prerequisite: MATH 10A with a grade of *C* or higher. Integrated science: basic concepts and misconceptions in physics and chemistry and their relation to the everyday environment. Memorable demonstrations in lecture, household-related experiments, and experiments of special interest to K-6

teachers. (3 lecture, 2 lab hours) Meets G.E. B1 requirement only for liberal studies majors.

NSCI 4. Science and Nonsense: Facts, Fads, and Critical Thinking (3 units)
Use of language, thought, and logic in science, distinguishing science fact from science fiction. Inductive and deductive methods, judgment, opinion, belief, and knowledge. A critical examination of contemporary pseudoscientific issues (creation "science," UFOs, astrology, etc.) G.E. Foundation A3.

NSCI 15. Environmental Science: An Integrative Course (3 units)
A study of the interrelationships among the anthropological, biological, and geological aspects of man/woman and the natural environment. Team taught. ***CR/NC*** grading only. (Field trip fee, $300)

NSCI 40T. Topics in Natural Sciences (1-4; max total 12 units)
Prerequisite: permission of instructor. Interdisciplinary topics covering such subject matter areas as environmental studies and the impact of science on society.

NSCI 100 and 100S. Chemistry for Liberal Studies (3 units)
Not open to engineering students. Prerequisites: NSCI 1A and 1B. Emphasizes chemistry as a process rather than a collection of facts, laws, theories, and content in California K-8 Science Standards. Designed especially for students planning careers in K-8 teaching. S sections include a service-learning requirement.

NSCI 101. Biology for Liberal Studies (3 units)
Not open to engineering students. Prerequisites: NSCI 1A and 1B. Emphasizes biology as a process rather than a collection of facts, laws, and theories. Designed especially for students planning careers as elementary school teachers.

NSCI 102. Physics and Astronomy for Liberal Studies (3 units)
Not open to engineering students. Prerequisites: NSCI 1A and 1B. Introductory physics and astronomy with emphasis on hypothesis formation, analysis, and testing. Everyday observations and materials will be used to the extent possible to facilitate the transfer of concepts and techniques to the elementary classroom. (2 lecture, 2 lab hours)

NSCI 106. Reigning Theories of Science (3 units)
Examination of historically important scientific theories from the perspective of science as a human enterprise. Role of philosophy, religion, culture, and nationalism in the acceptance/rejection of theories. Research paper, class presentation required.

NSCI 110. Practicum in Medicine (1-2; max total 6 units)
Prerequisite: permission of instructor. The Academic Research Associate Program is offered in association with the UCSF Fresno Medical Education Program and the Department of Emergency Medicine. Premedical students, working at University Medical Center with health professionals, will aid biomedical research efforts and have opportunities for clinical observation. ***CR/NC*** grading only.

NSCI 115. Environmental Earth and Life Science (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Environmental problems related to population, energy and resource use, and pollution. Examines social and ethical issues along with technological and scientific factors. Independent work on case studies required. G.E. Integration IB.

NSCI 116. Energy, Technology, and Society (3 units)
Not open to engineering students. Prerequisites: NSCI 1A and 1B. Examines the role that chemistry, physics, and technology play in our society. Designed especially for students planning careers as elementary school teachers.

NSCI 120. Biotechnology and Its Impact on Society (3 units)
Prerequisites: G.E. Foundation and Breadth Area B; courses in biology and chemistry (high school or college) strongly recommended. Introduction to the tools of modern biotechnology including recombinant DNA, gene therapy, cloning, monoclonal antibodies, DNA fingerprinting, and the Polymerase Chain Reaction (PCR). Addresses applications of biotechnology to medicine, agriculture, the environment, and forensics, as well as their ethical implications. G.E. Integration IB.

NSCI 121. Blood: Science, Art, and Folklore (3 units)
Prerequisites: G.E. Foundation and Breadth Area B; courses in biology and chemistry (high school or college) strongly recommended. Introduction to blood — its unique chemical, physical, and biological properties and its importance in medicine and forensics. Explores the significance of blood images for artistic and religious symbolism in both contemporary and historical cultures. G.E. Integration IB.

NSCI 125. Revenge of the Killer Microbes (3 units)
Prerequisites: G.E. Foundation and Breadth Area B; courses in biology and chemistry (high school or college) strongly recommended. Introduction to the adversarial relationships between disease-causing microorganisms and human affairs, both currently and historically. Explores the unique defense and counter defense mechanisms that have developed in a variety of microbes and the human immune system. Addresses health care issues related to disease prevention and control. G.E. Integration IB.

NSCI 140T. Topics in Natural Sciences (1-6; max total 12 units)
Prerequisite: permission of instructor. Interdisciplinary topics covering such subject matter areas as medical technology and ecology. (May include lab hours)

NSCI 180. Practicum in Secondary Science Teaching (2 units)
Concurrent enrollment in EHD 155B required; for single subject life/physical science student teachers. Application of best science teaching research; practice; emphasis on reflection/discussion of current teaching, effective management of students/time, authentic assessments, laboratory/curriculum resources, sheltered techniques, student motivators.

GRADUATE COURSE
Natural Science (NSCI)

NSCI 240T. Topics in Natural Sciences (1-4; max total 8 units)
Prerequisite: permission of instructor. Interdisciplinary topics in the natural sciences at the graduate level covering such subjects as advanced techniques. Sample topics are *Radiation Techniques in Biology and the Physical Sciences* and *Recent Advances in Psychophysiology*. (May include lab hours)

IN-SERVICE COURSE
Natural Science (NSCI)

NSCI 380T. Topics in Natural Sciences (1-4; max total 6 units)
Studies in the natural sciences integrating topics from biology, chemistry, geology, mathematics, physics, and psychology.

The College of Social Sciences

Social Science Building, Room 108, 559.278.3013
Luz Gonzalez, *Dean*
www.fresnostate.edu/socsci/

The Mission of the College

The mission of the college is to seek and impart knowledge of human social experience in all its diversity in order to educate students and train leaders to benefit humanity.

Understanding the world and our place in it requires a well-rounded education. Accordingly, the college seeks to instill a concern for human values and civic responsibility and to provide substantial knowledge drawn from the social sciences. Such values and knowledge can help a student respond effectively to many challenges and opportunities. Indeed, applications of the social sciences are needed today more than ever throughout the world.

As students advance in their knowledge of societies and cultures, including their own, they learn communication skills and gain valuable understanding of people from different backgrounds. Global awareness, together with an appreciation of relationships between society and nature, is a fundamental aspect of learning in the social sciences. The college teaches students to think clearly, critically, and analytically; this allows students to engage in the solution of complex social problems. Our graduates know the worth of practical as well as professional skills. They realize that careers can be pursued successfully only with the benefit of humanistic values and social/cultural insights. The college also fosters respect for human diversity and a sense of responsibility for the enlightened stewardship of the ecosystems of which we are a part. Thus we endeavor to prepare students to adapt both wisely and resourcefully to the ever-changing world.

The College of Social Sciences offers an array of undergraduate and graduate programs from historical inquiry to projections for our future.

As a leader in liberal arts education, the College of Social Sciences provides excellent preparation for a wide range of careers in academia, government, business, and many other venues in the public and private sectors.

The College of Social Sciences includes the departments of Anthropology, Chicano and Latin American Studies, Criminology, Geography, History, Political Science, and Sociology. Africana Studies, American Indian Studies, American Humanics, Asian American Studies, International Relations, Peace and Conflict Studies, Public Administration, and Women's Studies are programs of the college.

Africana Studies

Africana Studies

The Africana Studies program (AFRS) at California State University, Fresno offers an interdisciplinary curriculum that illuminates the connectedness of the human experience and provides culturally-appropriate knowledge and skills. This helps students understand the experiences of African peoples all over the world and other ethnic groups in the United States. The program also involves its faculty and students in research, experiential learning, career counseling, computer technology, curriculum development, conference participation, and extended day, evening, and weekend courses.

The program offers interdisciplinary courses leading to the Bachelor of Arts in Africana Studies as well as minors in Africana Studies and Ethnic Studies. Students with a B.A. in Africana Studies can pursue a master's or doctoral degree in the humanities, social sciences, or health sciences. Students can also seek other professional degrees in such areas as business, human resources, teacher education, and law. The program teaches appreciation for the heritage of African peoples and their contributions to the shaping of the fabric of American life and history.

Faculty Specialties

The AFRS program is made up of faculty with backgrounds and expertise in Africana studies, business, English, history, education, and sociology. Professors have published in prestigious national and international peer reviewed academic journals and are recipients of numerous awards for teaching, research, and community service.

Africana Studies

Africana Studies emphasizes the study of the history and culture of African Americans as they relate to the experiences of Africans on the continent and other peoples of African descent in the Diaspora. The major in Africana Studies provides an epistemological basis for understanding issues that pertain to the experiences of African peoples and other minority ethnic groups in the American society. The curriculum promotes an awareness of the African heritage of African Americans and others throughout the Americas. Opportunities are provided for students to engage in study abroad and service-learning in Africa and the Caribbean to stimulate intellectual interest in, and linkage to, contemporary Africa and the African Diaspora while enhancing global understanding of the varied social realities of the human experience.

Student Life and Community Events

The offices of the AFRS program serve as a resource and information center for several African American student organizations and the community at large.

Faculty

Malik Simba, *Coordinator*

T. Hasan Johnson
Deanna Reese
Meta Schettler

Bachelor of Arts Degree Requirements

The Africana Studies major offers courses in the social sciences, humanities, and the arts as they relate to the experiences of peoples of African descent. The major provides an epistemological basis for the understanding of the social, political, and cultural reality of Africans, African Americans, and other African peoples in the Diaspora.

	Units
Major requirements	**33**
Lower-division requirements AFRS 10, 15, 27 or 36; SOC 125 or PLSI 90	(12)
Upper-division requirements AFRS 137, 104W, 144, 150 or 164, 189 (3 units)	(15)
Approved Africana electives *Consult your academic adviser for approval.*	(6)
General Education	**51**
Electives and remaining degree requirements (See *Degree Requirements*); it is recommended that units in this area be utilized to complete a second major or minor.	**36***
Total units	**120**

*This total indicates that AFRS 1 in G.E. Breadth D3 also may be applied to the Africana Studies major.

Advising Note

No General Education Integration or Multicultural/International course offered by the Africana and Studies Program may be used to satisfy the General Education requirements for Africana Studies majors.

Double B.A. Major in Africana Studies

A double B.A. major in Africana Studies will consist of 33 units, of which 24 units will be in Africana studies. Fifteen units of the 24 units must be upper division. Units can be double counted. Students are strongly encouraged to see an Africana and Studies academic adviser for assistance in planning the major.

College of Social Sciences

Africana Studies Program
Malik Simba, *Coordinator*
Paulette Morrow,
Administrative Support Coordinator
Science I Building, Room 182
559.278.2832
FAX: 559.278.7268
www.fresnostate.edu/aais

B.A. in Africana Studies

Minor in Africana Studies

Minor in Ethnic Studies

Certificate in Racial Understanding

Africana Studies Minor

	Units
Lower-division requirements AFRS 10, 27, 36	**6**
Upper-division requirements AFRS 137, 144	**6**
Approved Africana Studies electives	**6**
Total	**18**

For students interested in the general dimensions of the Africana experience, the following courses are recommended:

AFRS 10, 27, 36, 38, 135, 137, 140, 145, 150, 164, 178

For students interested in the following careers, the following courses are recommended:

Education: AFRS 38, 130T, 135
Performing Arts: AFRS 21, 24, 27, 35, 121, 130T, 144, 189
Business: AFRS 38, 130T, 135, 189, 190
Preprofessional (nursing, criminology, prelaw, etc.): AFRS 56, 130T, 135, 142, 144, 146, 189, 190
Writing: AFRS 104W, 127, 190
Social Sciences: AFRS 27, 38, 101, 135, 140, 178, 189

Ethnic Studies Minor

	Units
Lower-division requirements	**6**
AFRS 1, 42	
Upper-division requirements	**6**
AFRS 104W, 144	
Approved electives	**6**
Select electives from two of the following areas listed or by departmental approval: Africana Studies, American Indian Studies, Asian American Studies, Asian Studies, and Chicano and Latin American Studies	
Total	**18**

A student intending to pursue the Minor in Ethnic Studies should see the coordinator for assignment to a faculty adviser who assists the student in planning his or her program.

Certificate in Racial Understanding

The Africana Studies Program and the Department of Social Work Education jointly offer the Certificate of Special Study in Racial Understanding. This 12-unit program consists of three required courses and one related interdisciplinary elective. The certificate is designed to prepare students and practicing professionals to develop knowledge and skills necessary to understand racial difference and underlying racism and manage conflict resulting from it. The special study seeks to promote racial awareness and racial harmony, diversity competency, and cultural understanding in our multiracial and multicultural society.

	Units
Upper-division requirements	**9**
AFRS 104W, 144; SWRK 136	
Electives	**3**
Select one of the following courses: AFRS 137 (same as WS 137); AFRS 189; ANTH 120; CLS 170; CRIM 175, 176; SOC 111; SSCI 180; SWRK 137; WS 120	
Total	**12**

In addition, three units of field experience may be available from the National Coalition Building Institute (NCBI) Train-the-Trainer seminar offered through the Women's Resource Center.

Advising Notes

1. Open to all students.
2. Coursework must be completed with a minimum grade of 2.5.

COURSES

Africana Studies (AFRS)

AFRS 1. Ethnic Experience (3 units)
Prerequisite: G.E. Foundation A2. Examines the experiences of various ethnic minorities in the U.S., addresses the issue of race as it affects ethnic formation, analyzes public policy and ethnic experience, discusses the comparable idealogies of race and gender, and evaluates culture and ethnic experience. G.E. Breadth D3. (Formerly AAIS 1)

AFRS 10. Introduction to Africana Studies (3 units)
Prerequisite: G.E. Foundation A2. A survey course designed to introduce students to the vast array of scholarship examining African American experience as it relates to the experience of Africans on the continent and other peoples of African descent in the Diaspora. G.E. Breadth D3.(Formerly AAIS 10) **F**

AFRS 15. Slavery and the American Experience (3 units)
Prerequisite: G.E. Foundation A2. Survey course examining the role of slavery in the economic, political, and social development of the United States from the founding of the colonies through the revolutionary period to the Civil War and beyond. G.E. Breadth D3. (Formerly AAIS 15)

AFRS 20. Critical Thinking about Race (3 units)
Uses critical thinking skills to discuss, analyze, and critique centuries-old ideas on race/ethnicity and the social policies that were enacted to promote prejudice and discrimination against minorities. Special focus on peoples of African descent and American Indians. G.E. Foundation A3. (Formerly AAIS 20) **FS**

AFRS 21 and 121. Gospel Choir (1; max total 8 units)
(Same as MUSIC 102GC.) Performance of a variety of inspirational songs reflecting the African American cultural experience. Participation through rehearsals, activities, programs, and field trips. (Formerly AAIS 21 and 121) **FS**

AFRS 24. African American Music (3 units)
The origin and evolution of African American music from the perspective of social and cultural history. Emphasis on slave songs, gospel, jazz, rhythm and blues, and soul music. (Formerly AAIS 24)

AFRS 27. Africana Cultures and Images (3 units)
Prerequisite: G.E. Foundation A2. Introduction to the historical and contemporary experiences of African Americans and other peoples of African descent. Examines historical and social arrangements implicated in the experiences and the images these arrangements construct both in the United States and around the world. G.E. Breadth D3. (Formerly AAIS 27) **FS**

AFRS 35. Art and Music of Africa (3 units)
Comprehensive study of African artistry and music. (Formerly AAIS 35)

AFRS 36. Contemporary African Societies (3 units)
Prerequisite: G.E. Foundation A2. Analysis of the cultural and political structure of African societies; understanding the impact of colonialism in Africa; realizing the relationship of African Americans to Africa. G.E. Breadth D3. (Formerly AAIS 36) **F**

AFRS 38. Sociology of the Black Experience (3 units)
Basic principles of sociology and their application to the black experience. Uses the sociological approach to seek an understanding of the various experiences of black people in society. Involves participant observation, interviewing, and field trips. (Formerly AAIS 38)

AFRS 55T. Topics in African American Studies (1-3; max total 9 units)
Selected topics at the introductory level in African American Studies. (Formerly AAIS 55T)

AFRS 56. The African American Family (3 units)
Deals with the origin, development, and adaptations the African American family has created to sustain itself as a viable institution. Emphasis is on problems encountered and created by the American society and how the African American family handles these adversities. (Formerly AAIS 56) **F**

AFRS 60. Introduction to African American Theatre (3 units)
Study and practice in performance of African American drama and oral interpretation projects. Class will include poetry reading; dance performances; dramatic interpretations; comedic sketches. Previous experience not required. (Formerly AAIS 60)

AFRS 102A. African Dance (3 units)
Focuses on the history of African dance in the United States, uses of dance among Africans/African Americans. Activities include dance techniques; imagery/visualization, dance exercises; simple constructive rest techniques; African dance step techniques preparatory for advance class. (2 lecture, 2 activity hours) (Formerly AAIS 102A)

AFRS 104W. Writing about American Inequality (3 units)
Prerequisite: satisfactory completion (*C* or better) of the ENGL 5B or 10 graduation requirement. Analysis of poverty, social class, and inequality in America. Students receive feedback in preparing papers on poverty and inequality. Emphasis on research techniques, evaluation and documentation of evidence, and style and mechanics of writing. Meets the upper-division writing skills requirement for graduation. (Formerly AAIS 104W) **FS**

AFRS 129. African American Literary Classics (3 units)
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of significant poetry, drama, fiction, and nonfiction by African American writers representing a variety of views and perspectives. Historical and social contexts of literary works. G.E. Integration IC. (Formerly AAIS 129) **FS**

AFRS 130T. Topics in Ethnic Studies (1-3; max total 6 units)
In-depth research and writing on the past and contemporary situation of America's major ethnic minorities. (Formerly AAIS 130T)

AFRS 135. The African American Community (3 units)
Analysis of the various lifestyles and cultural patterns of African American communities. Emphasis on unique cultural features of the family, religion, foods, music, art, and folkways. (Formerly AAIS 135) **F**

AFRS 137. African American Women (3 units)
(Same as WS 137.) An overview of the accomplishments of African American women in the United States; their contributions to American culture; African influence; African American women as defined by a dominant society vs. legitimate definition designed to encourage a positive self-concept. (Formerly AAIS 137) **S**

AFRS 140. The African American Church (3 units)
History of the formation and development of African American religious institutions (Christianity, Islam, Judaism) in the African American community; their effect on the African American personality. (Formerly AAIS 140)

AFRS 144. Race Relations (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Analysis of the moral and intellectual issues surrounding the attitudes of whites toward blacks and other racial groups in the United States and elsewhere. Explores the functions of race relations and the social life that developed among non-white groups. G.E. Integration ID. (Formerly AAIS 144) **S**

AFRS 145. Life and Times of Martin Luther King Jr. (3 units)
Explores Dr. King's leadership in the nonviolent movement for racial equality and human dignity, from the Montgomery Bus Boycott to King's assassination (1955-68). Emphasis on philosophy, ideology. Format: lectures, films, slides, recorded speeches, and discussion. (Formerly AAIS 145)

AFRS 146. Law and the Minority Community (3 units)
Critical analysis of the foundation and changing structure of law and legal institutions as perceived by minority communities, with emphasis on equal employment and education, criminal justice, and political power. (Formerly AAIS 146) **S**

AFRS 148. Issues in the African American Community (3 units)
Prerequisite: AFRS 10 or permission of instructor. In-depth, comprehensive, critical analysis of the current social and economic structure of the African American community. Examination of the effects of institutional racism on current social policy. (Formerly AAIS 148)

AFRS 150. South Africa (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. An introductory analysis of the social, racial, political, and economic problems of people of South Africa, both past and present. G.E. Multicultural/International MI. (Formerly AAIS 150) **S**

AFRS 164. African Cultural Perspectives (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Explores the realities of the African cultural experiences through readings and films by Africans. The goal is to study the historical, political, economic, religious, and sociocultural conditions of the continent in the precolonial, colonial, and postcolonial periods. G.E. Multicultural/International MI. (Formerly AAIS 164) **F**

AFRS 165. African American Theatre Styles (3; max total 6 units)
(See DRAMA 187.) (Formerly AAIS 165)

AFRS 178. History of African Americans (3 units)
(Same as HIST 178.) Evolution of African American society from 1619 to the present; emphasis on the social, political, and economic aspects as they relate to cultural values, theories in the development and environment that contribute to the African American way of life. (Formerly AAIS 178) **S**

AFRS 189. Fieldwork in Community Relations (3; max total 6 units)
Supervised field observation, participation, and documentation in the operation of minority communities. (Formerly AAIS 189) **S**

AFRS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. (Formerly AAIS 190) **FS**

AFRS 191. History of Allensworth (1 unit)
An examination of the historical development of the African American town of Allensworth from its status as a town to its existence as a state historic park. Students will be exposed to various academic disciplines through lectures and a field trip to the park. (Formerly AAIS 191) **S**

Anthropology

College of Social Sciences

Department of Anthropology
John H. Pryor, *Chair*
Paulette Morrow, *Administrative Support Coordinator*
Julie Watson, *Administrative Assistant*
Peters Business Building, Room 385
559.278.3002
FAX 559.278.7234

B.A. in Anthropology

Minor in Anthropology

Minor in American Indian Studies

Minor in Asian American Studies

Minor in Southeast Asian Studies

Certificate in Southeast Asian Studies

Anthropology

Anthropology is concerned with everything that is human, in all parts of the world, both present and past. It is unique among the social sciences in its scope. Most disciplines focus only on modern civilization or concentrate on single aspects of life, such as government or the economy. Anthropology is interested in *all* human societies and views life as a complexly integrated whole that is more than the sum of its parts. It is the human experience as a whole that anthropology seeks to understand.

The breadth of anthropology is reflected in its four subfields. *Physical anthropology* studies biological evolution and how heredity conditions the ways we conduct life. *Cultural anthropology*, by studying the enormous diversity of lifeways in contemporary cultures throughout the world, attempts to explain both differences and similarities in the way different peoples carry out the process of living. *Archaeology* explores the human past far beyond the range of written records, using specialized techniques to probe human prehistory. *Linguistic anthropology* investigates the nature of language and the critical role it has played in developing our unique intellectual capabilities and behavior. The central concept in anthropology is "culture," and it is this vital idea which binds the subfields into an integrated discipline.

Our program has three goals:

- to provide students with a clear conception of human variability and its implications, enabling them to understand and deal with lifestyles other than those of "mainstream America;"
- to provide students with the broad intellectual skills that are essential to the widest range of professional careers; and
- to prepare students to use anthropological concepts in both applied and research careers.

Both the anthropology major and minor offer a varied but well-structured exposure to all four subfields of the discipline. The major consists of two parts. The *core curriculum* introduces both data and theory in a logical sequence of courses from basic to advanced and includes an introduction to anthropological fieldwork. The four degree tracks are intended to prepare students for specific careers in the following areas: education, cultural resources management, social services, or post-secondary teaching. The minor is a briefer but balanced survey of the discipline, designed to complement any major whose graduates need to understand and deal with people from different cultural backgrounds.

The faculty is committed to working closely with students to encourage their intellectual growth and the development of skills that are both personally satisfying and in demand by employers in many career settings. Anthropology courses, especially at the advanced level, teach students to read critically, write fluently, organize information cogently, and interrelate ideas logically and creatively.

Career Opportunities

Career opportunities for anthropology graduates are increasingly numerous and varied because cultural pluralism and international communication are on the increase. There is a growing need for people with cross-cultural sophistication and an ability to mediate between value systems. Graduates of our department have established successful careers in such fields as personnel work, mental health, social research, education, law enforcement, business, government, and medicine.

Students who contemplate graduate study, whether in anthropology or another field, find that our program is both rigorous and thorough. In fact, anthropological training at the undergraduate level is widely recognized as excellent preparation for advanced degrees in many professional fields. Graduates of this department have completed graduate programs in medicine, law, social work, international business, and international relations, to name a few.

Enterprising anthropologists throughout the nation have been remarkably successful in securing high-level positions in both government and business, usually under titles other than "anthropologist." These successes indicate that employers at the highest levels appreciate the unique training and capabilities of professional anthropologists. Imaginative anthropologists who can communicate their special abilities should be able to establish rewarding careers in a variety of settings.

Special Resources and Facilities

Directed by professors LaJeunesse and Pryor, the Anthropology Department provides data collection, analysis, and student training in both archaeological and ethnographic studies. Advanced students may also pursue specialized training and research into the chemical composition of archaeological materials in our chemistry laboratory, which is under the supervision of Professor LaJeunesse. C. Kristina Roper manages our contract archaeology program, which provides students with practical experience in public archaeology.

Faculty

John H. Pryor, *Chair*
Franklin Ng, *Coordinator for Asian American Studies*
Henry D. Delcore
Walter A. Dodd
Roger M. La Jeunesse
James J. Mullooly

Bachelor of Arts Degree Requirements

Anthropology Major	*Units*
Major requirements[1]	**34**
A. *Core curriculum*	(19)
(required of all majors)	
ANTH 2	(3)
ANTH 3	(3)
ANTH 100	(3)
ANTH 101 or ANTH 111	(6)[2]
ANTH 104	(3)
ANTH 195	(1)
In addition to the core curriculum, each student, in consultation with an adviser, will select the following:	
Elective curriculum (15 units minimum.) Three classes within the student's area of concentration (e.g. cultural, physical, or archaeology)	(9)
Two classes, one in each remaining sub-discipline (e.g., an archaeology student would take one cultural and one physical course)	(6)
B. *Additional electives* Students may benefit from additional courses to supplement their area of interest; please consult an adviser.	
General Education requirements	**51**
Second major, electives, and remaining degree requirements[3,4]	**35-38***
(See *Degree Requirements*); may be used toward a double major or minor	
Total	**120**

*This total indicates that ANTH 2 or 3 in G. E. Breadth D3 also may be applied to the anthropology major. Consult the department chair or faculty adviser for additional details.

Advising Notes

1. *CR/NC* grading is not permitted in the anthropology major or minor unless the grading method for the course is *CR/NC* only.
2. ANTH 101 and 111 must be taken for at least 6 units.
3. Units in this category as well as in General Education, may also be applied toward a double major or minor, as appropriate. (See *Double Major* or departmental minor.)
4. Students must complete 40 upper-division units as part of the requirements to earn a B.A.
5. No General Education Integration or Multicultural/International course offered by the Anthropology Department may be used to satisfy the General Education requirements for majors in the department.

Anthropology Minor	*Units*
A. *Core curriculum*	**9**
ANTH 2	(3)
ANTH 3	(3)
ANTH 100	(3)
B. *Elective curriculum*	**9**
Three upper-division courses	(9)
Total	**18**

See *Advising Note 1* above.

Note: The Anthropology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Minor in American Indian Studies

The American Indian Studies program (AIS) at California State University, Fresno offers an interdisciplinary curriculum that provides culturally-appropriate knowledge and skills through an understanding of the American Indians in North America. The program also involves its faculty and students in research, experiential learning, career counseling, computer technology, curriculum development, conference participation, and day, evening, and weekend courses.

The program offers courses leading to a minor in American Indian Studies. Students can seek other professional degrees in such areas as business, human resources, teacher education, and law. The program teaches appreciation for the heritage of American Indians and their contributions to the shaping of the fabric of American life and history.

Faculty Specialties

The AIS program is made up of faculty with backgrounds and expertise in business, English, history, education, Anthropology, and American Indian affairs.

American Indian Studies is a discipline within the Anthropology Department that focuses on the indigenous cultures of ancient, historical, and contemporary America. American Indian cultures include American Indians, Arctic Natives, as well as the indigenous populations of Northern Mexico. This program recognizes the artificiality of both the Canadian and the Mexican borders, but is primarily concerned with the indigenous populations of the USA. The courses offer a distinctively American perspectives that is crucial to an understanding of the historical and social processes that have led to the development of contemporary American society. This program is intended to strengthen the position of American Indian students and communities in this region as well as introduce these cultures to all students. Courses are interdisciplinary and are principally drawn from the social sciences and the humanities.

Student Life and Community Events

The office of the AIS program serves as a resource and information center for American Indian student organizations and the community at large.

First Nations American Indian Student Organization

First Nations is a student organization that works to bring awareness of indigenous cultures by building upon the camaraderie of the indigenous communities of the Americas. The organization actively seeks to raise social consciousness by creating an environment of awareness and understanding of First Nations peoples. First Nations members include those directly connected to a sovereign nation existing prior to colonization, and those who support First Nations through participating in cultural, political, and social events.

American Indian Studies Minor

	Units
Lower-division requirements	6
AIS 5, 50	
Upper-division requirements	6
AIS 103, 170	
Approved American Indian Studies electives	6
Total	**18**

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Minor in Asian American Studies

The Asian American Studies Program offers a minor with classes that focus upon the history and contemporary experience of Asians in the United States. These courses explore themes in local and ethnic history, trans-Pacific contact, cultural change and adaptation, and interethnic relations. Those who major in business, social science, international relations, and the human service professions recognize their relevance.

Courses in the Asian American Studies minor familiarize students with the historical, socioeconomic, and cultural adaptations that peoples from Asia make when coming to the United States. The curriculum is designed to enable professional men and women to understand and to interact with people from ethnic subcultures in our pluralistic society. The Asian American Studies Minor therefore complements any major dealing with human behavior. For more information, see *Asian American Studies*.

Asian American Organizations

The Asian American clubs on campus welcome new members. For further information about the Asian American Studies Program, contact the coordinator at 559.278.3002, or write to:

Asian American Studies Program
c/o Department of Anthropology
California State University, Fresno
Fresno, CA 93740

Asian American Studies Minor

	Units
Select from ANTH 2, ASAM 110, AFRS 1	6
Select from ASAM 15, 30	6
Select from ASAM 150, 180T; ANTH 123, 124	9
Total	**21**

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Southeast Asian Studies Minor

	Units
Lower-division courses	**6**
ASAM 15 and an additional course approved by coordinator	
Language courses	**6**
(Pre-approved by coordinator) HMONG 1A-B, 4, 100, 101; LING 40T	
Upper-division courses	**9**
ANTH 123, 190; ASAM 110, 138, 140, 190; GEOG 177T; LING 190; SWRK 181	
Total	**21**

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Certificate in Southeast Asian Studies

The Certificate of Southeast Asian Studies requires a minimum of 12 units. Select from the following upper-division courses:

ANTH 123, 190; ASAM 110, 138, 140, 190; GEOG 177T; HMONG 100, 101; LING 190; SWRK 181

The Minor and the Certificate in Southeast Asian Studies focus on the cultures and peoples of Southeast Asia, and on their communities outside Southeast Asia, especially those in the United States.

For further information contact Dr. Franklin Ng, Department of Anthropology, at 559.278.3002.

COURSES

American Indian Studies (AIS)

AIS 5. American Indian History (3 units)
An interpretive survey of American Indian history from the native point of view including accounts of American Indian origin and the arrival of immigrants from Asia, Africa, and Europe. (Formerly AAIS 5)

AIS 9T. Topics in American Indian Studies (1-3; max total 9 if no area repeated)
Selected topics at an introductory level in American Indian Studies. (Formerly AAIS 9T)

AIS 50. Contemporary Life of the American Indian (3 units)
Prerequisite: G.E. Foundation A2. Current problems of American Indians and Arctic Natives resulting from culture conflict, acculturation, minority status, and governmental policy. G.E. Breadth D3. (Formerly AAIS 50)

AIS 65T. Topics in Indian Education (3; max total 9 units)
Foundations and history of Indian education, methods of teaching Indian children, curriculum and practices for Indian education, guidance for the Indian student, problems of teachers of Indian children, education of Indian adults. (Formerly AAIS 65T)

AIS 90. Introduction to American Indian Religion (3 units)
Introduction to the concepts of religion and belief systems in American Indian societies. Examines American Indian religion as an integration of culture, geography, economic activity, social obligations, and environmental responsibilities. Explores conflicts and adaptations with non-native religious systems. (Formerly AAIS 90)

AIS 100. American Indian Religion (3 units)
American Indian religious systems, including basic concepts of religion and the sacred, ceremonial life, medicine, functions of religious institutions and practices, and contrast/conflict with non-Native religious systems. (Formerly AAIS 100)

AIS 101. American Indian Law (3 units)
Concepts of laws on Indian reservations, termination, litigation and complaints, strengthening tribal governments. Law related to Indian land and resources. (Formerly AAIS 101)

AIS 103. Indians of California (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Survey course on the ancient cultures of California, historical development of California Indian cultures according to regional resources, conflict between the California Indian people and various colonial forces, arts and culture of California Indian people, and contemporary issues of California Indians. G.E. Integration ID. (Formerly AAIS 103)

AIS 160. The Politics of Indian Education (3 units)
This seminar examines the interaction of politics, culture, and education, using case studies of federal financing of Indian education in the mission, Bureau of Indian Affairs, tribal, and public school systems. (Formerly AAIS 160)

AIS 170. Experience in American Indian Community (3; max total 6 units)
Offers students supervised field experience working for a tribe, tribal/Indian organization, tribal school or Indian education program, public agency, or the university's Indian organizations. (Formerly AAIS 170)

AIS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading. (Formerly AAIS 190) **FS**

COURSES

Anthropology (ANTH)

A. THE CORE CURRICULUM

ANTH 2. Introduction to Cultural Anthropology (3 units)
Prerequisite: G.E. Foundation A2. Examines the nature of culture, humanity's unique mechanism for adapting to the changing environment. Explores the varieties of human life and explains how culture has made possible the range of different and successful societies, from hunters and gatherers to industrial civilization. G.E. Breadth D3. **FS**

ANTH 3. Introduction to Prehistory and Physical Anthropology (3 units)
Prerequisite: G.E. Foundation A2. Examines the biological and cultural basis of being human. Compares us with our primate relatives, traces the biological and cultural evolution of our species from earliest ancestors, through the development of agriculture to the emergence of civilization. G.E. Breadth D3. **FS**

ANTH 100. Concepts and Applications (3 units)
This foundation course demonstrates the use of selected core concepts in research and analysis. Acquaints students with the conceptual framework of the discipline and the basic processes of anthropological inquiry and application of knowledge. **F**

ANTH 101. Introductory Fieldwork in Archaeology (6; max total 12 units)
An introduction to basic methods for archaeological excavation and site survey. Involves a block of time in the field away from campus. Can be repeated up to two times for credit. (Course fee, $75) (Formerly ANTH 101A) **S**

ANTH 101A-S. Introductory Fieldwork in Archaeology (6 units)
An introduction to basic methods and strategies for archeological excavation and site survey in a public service context. Involves a commitment by students of a block of time in the field away from campus. Not open to students who have taken 101A. **S**

ANTH 101B. Advanced Fieldwork in Archaeology (6 units)
Advanced methods and strategies for archaeological excavation and site survey. Involves a commitment by students of a block of time in the field away from campus. Not open to students who have taken 101B-S. **S**

ANTH 104. History and Theory of Anthropology (3 units)
Prerequisite: ANTH 100. A history of the growth of anthropological thought through an analysis of the informational and explanatory powers of five major theoretical schools: Nineteenth-century Evolutionists, British Functionalists, Boasian Historical Particularists, Neo-Evolutionists/Marxists, and Cognitivists. **S**

ANTH 111. Ethnographic Fieldwork (3; max total 12 units)
An introduction to ethnographic field methods. Topics include the ethics of fieldwork, organizing data, and ethnographic writing. Students will conduct fieldwork locally. Can be repeated up to four times for credit. (Formerly ANTH 111A) **F**

ANTH 111B. Intermediate Ethnographic Fieldwork (3 units)
Prerequisite ANTH 111. Students conduct an enthnographic field project under the direction of the instructor, employing participant observation. Involves field trips and weekend sessions. Involves a commitment of a block of time away from campus. Not open to students who have taken 111B-S. **S**

ANTH 195. Colloquium (1 unit)
Each spring semester students and department faculty will meet three times to discuss current problems in the field of anthropology. These three hour seminars will be led by a faculty member. Students will be expected to do all assigned readings and complete a paper on one of the topics discussed. **F**

B. CULTURAL CURRICULUM

ANTH 30. Critical Thinking in Anthropology (3 units)
Distinguish belief vs. knowledge and fact vs. opinion; examine relationship between language/logic; use inductive/deductive reasoning; recognize informal/formal fallacies; appreciate socio-cultural context of critical thinking. These skills are applied to topics of race/intelligence, religion/values, and social policy. Skills demonstrated/assessed through oral and written performance. G.E. Foundation A3. **FS SU**

ANTH 102. Introduction to Linguistic Anthropology (3 units)
A compendium of current thinking on language and culture from a variety of interdisciplinary perspectives. Examines the nature of language, language description, language and worldview, gendered speech, ethnicity and language, power and performance, verbal and nonverbal art, and associated theories and research methods. **S even**

ANTH 105W. Applied Anthropology (3 units)
Prerequisite: G.E. Foundation and Breadth Area D, satisfactory completion (**C** or better) of ENGL 5B or 10 graduation requirement, to be taken no sooner than the term in which 60 units are completed. Examination and assessment of the use of anthropological data and concepts to address contemporary issues in education, health care, law, environmental planning, and social services. Students work on applied problems and write observations, plans, reports, and research documents geared to the needs of professionals, service providers, and particularly planners in modern institutional contexts. Meets the upper-division writing skills requirement for graduation. G.E. Multicultural/International MI. **FS SU**

ANTH 115. World Cultures (3 units)
An examination of contemporary issues in anthropology based on evidence from both classical and modern ethnographies. Considers strategies of qualitative research and reporting, including ethics and the application of enthographic research in modern societies. **S even**

ANTH 116W. Anthropology of Religion (3 units)
Prerequisites: G.E. Foundation and Breadth Area D, satisfactory completion (**C** or better) of the ENGL 5B or 10 graduation requirement, to be taken no sooner than the term in which 60 units are completed. Examines the patterned belief systems of the world's tribal, peasant, and sectarian societies. Stresses the role of religion in individual and group perception, cognition, ritual, and social organization. Topics include myth, magic, shamanism, mysticism, witchcraft, trance, hallucinogens, and cultism. Meets the upper-division writing skills requirement for graduation. G.E. Integration ID. **FS SU**

ANTH 117. Anthropology of Health, Illness, and Healing (3 units)
A cross-cultural examination of health practices and of the cultural assumptions and attitudes on which they are based. Reviews ethnomedicine, ethnopsychiatry, and epidemiology in the health care systems of diverse cultures and of ethnic communities in pluralistic societies such as the United States. **S even**

ANTH 118. Women: Culture and Biology (3 units)
(Same as WS 170.) A cross-cultural and interdisciplinary analysis of the determinants of female statuses and circumstances. Examines theories, including biological and cultural determinism, which explain variations in the expression of sexuality, maturation, reproduction, and the life cycle. **F odd**

ANTH 119. Law and Culture (3 units)
A comparative, holistic perspective on the evolution of law. Examines its natures and origins, the basic assumptions behind legal systems, their cross-cultural expression and effects, and the directionality of legal evolution. **S even**

ANTH 120. Ethnic Relations and Cultures (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. The cultural and social origins of ethnicity, and its opportunities and problems for contemporary mass societies. Offers a critical review of major theories on ethnic politics, economics, and ideology in the light of cross-cultural evidence. G.E. Multicultural/International MI. **S even**

ANTH 123. Peoples and Cultures of Southeast Asia (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. An introductory survey of the cultural and historical adaptations of societies in Burma, Thailand, Laos, Cambodia, and Vietnam; and of Insular societies in Indonesia, Malaysia, and the Philippines. Examines the major effects of culture contact between East and West. G.E. Multicultural/International MI. **F odd**

ANTH 124. Peoples and Cultures of East Asia (3 units)
Examines cultural pluralism. Considers cultural adaptations and change among minorities such as Moslems, Tibetans, and Mongolians in China, and ethnic groups of Japan and Korea. Outlines kinship, religion, organization, and technological factors in the Asiatic culture complex. **S even**

ANTH 125. Tradition and Change in China and Japan (3 units)
(Same as HUM 140.) Prerequisites: G.E. Foundation and Breadth Area D. Examines the current aspirations and problems of the Chinese and Japanese in terms of their traditional cultures, and explains how their histories, values, world views, and intellectual traditions affect their lifestyles and their international relations today. G.E. Multicultural/International MI. **S even**

ANTH 128. Environmental Anthropology (3 units)
Examines the interactions between environment and human culture. Specific topics include theoretical and empirical trends in environmental anthropology, materialist and cognitive approaches to human-environment interactions, human culture in ecosystem perspective, religion and ecology, and contemporary environmental movements. **F even**

ANTH 130. Peoples and Cultures of the Southwest (3 units)
A survey of Native American cultures of the Southwestern United States and Northwestern Mexico from their prehistoric origins to the present. Emphasis is placed on cultural continuity and change during the past 400 years of contact with western culture. **F odd**

ANTH 135. Muslim Communities in the Middle East (3 units)
A survey of both rural and urban Muslim cultures and societies in the Middle East. Emphasizes the variety of lived experiences of Islam, gender and ethnic relations, and the impact of the West. **F odd**

ANTH 138T. Topics in Cultural Anthropology
(1-6; max total 12 if no topic repeated)
Prerequisite: varies with title. Special studies in the theory and practice of organized cooperation and conflict in nature and culture. **FS**

C. ARCHAEOLOGY CURRICULUM

ANTH 101A-S. Introductory Fieldwork in Archeology (6 units)
Introduces basic methods and strategies for archaeological excavation and site survey in a public service context. Involves a commitment by students to a block time in the field away from campus.

ANTH 101B-S. Advanced Fieldwork in Archaeology (6 units)
Advanced methods and strategies for archaeological excavation and site survey in a public service context. Involves a commitment by students to a block of time in the field away from campus.

ANTH 140. Contemporary Archaeology (3 units)
Examines archaeological theory (both historical and contemporary) as well as methods and techniques used by archaeologists to gather, analyze, and interpret data. **S odd**

ANTH 141. Prehistory of North America (3 units)
Traces the development of Native American cultures from the Arctic to Mesoamerica, from the peopling of the continent to early historic times. Examines the archaeological evidence for the antiquity, spread, and variation of cultural adaptations to changing ecological conditions. **F odd**

ANTH 142. Old World Prehistory (3 units)
Examination of current knowledge of the prehistory of one area of the Old World. Chronologies, current findings, and important issues in theory method are reviewed. Consideration of these matters in relation to work in archaeology throughout the world and to work in closely related disciplines such as biology and geology. Some historic archaeology may also be included. Areas include Europe, Asia, the Middle East, Africa, and Australia. **S even**

ANTH 143. Archaeology and Prehistory of California (3 units)
Origins and prehistory of the California Native Americans. Examination of the archaeological record, both statewide and regionally, with emphasis on adaptations to natural and social environments from 12,000 B.P. until early historic times. **S odd**

ANTH 145. Cultural Resources Management (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Provides an in-depth overview of historic and prehistoric cultural resources (districts, sites, buildings, and objects), their significance, and their management in the U.S. Topics include the legal context for CRM, identifying and evaluating cultural resources, assessing effects, treatment planning, and careers in CRM. G.E. Integration ID. **F even**

ANTH 159T. Topics in Archaeology (1-6; max total 12 if no topic repeated)
Prerequisite: varies with title. Special studies in archaeological methods, techniques, history and theory, or of prehistoric culture areas not covered in the regular curriculum. **FS**

D. PHYSICAL ANTHROPOLOGY CURRICULUM

ANTH 161. Bio/Behavioral Evolution of the Human Species (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Examines the evolution of the human species and its relationship to living and extinct primates. Explores the biological basis of human culture. Integrates evolutionary biology, geochronology, and anthropology in order to understand the bio/behavioral nature of modern man. G.E. Integration IB. **FS**

ANTH 162. Primates (3 units)
An introduction to the study of primate biological and behavioral evolution. Explores sociobiological theory in order to explain the unity and diversity of social behavior in prosimians, monkeys, and apes. **F odd**

ANTH 163. Human Variation (3 units)
A cross-cultural examination of variations in human morphology, physiology, and biochemistry. Establishes the correlation between variations in human biology and variations in climate, culture, nutrition, and disease. **F even**

ANTH 164. Human Osteology (3 units)
Introduces a range of analytic techniques for extracting information from human skeletal remains: sexing and aging, osteometry, odontometry, the examination and diagnosis of epigenetic traits and pathological lesion, and the statistical interpretation of skeletal data. **S odd**

ANTH 169T. Topics in Physical Anthropology (1-6; max total 12 if no topic repeated)
Special studies of the discovery and interpretation of information in physical anthropology, and of the application of this subdiscipline in legal, medical, and scientific research. **FS**

E. ADVANCED STUDY CURRICULUM

ANTH 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

ANTH 192. Directed Readings (1-3; max total 3 units)
Supervised reading on a student-selected topic outside the regular curriculum, conducted through regular consultation with a faculty sponsor. **FS**

ANTH 193. Internships in Anthropology (1-6; max total 6 units)
Interns will work on a variety of tasks involving the analysis and curation of archaeological collections; design and curation of museum displays; the collection and analysis of physical anthropological data, including working with primates at local zoos; and ethnographic data collection. *CR/NC* grading only. **FS**

ANTH 194. Honors Thesis (1-3; max total 3 units)
Development of a student report or paper into a manuscript of professional and publishable quality. Requires approval by an Honors Committee of three faculty members. **FS**

ANTH 197T. Current Topics in Anthropology (1-6; max total 12 if no topic repeated)
Subject matter of these courses combines topics from the various subfields of anthropology, providing the student with a more integrated view of the discipline. **FS**

COURSES

Asian American Studies (ASAM)

ASAM 15. Introduction to Asian Americans (3 units)
Prerequisite: G.E. Foundation A2. Historical, social, and psychological factors in the changing status and identity of Americans from Asia. Examines variables such as cultural heritage, family organization, intergenerational conflict, and the experience of racism in the changing world of Asian Americans. G.E. Breadth D3. **FS**

ASAM 30. Japanese Americans in the United States (3 units)
A survey of social adaptations and cultural changes among Japanese Americans in different communities such as California and Hawaii. Considers identity, marginality, acculturation, and cultural traditions in Japan and in American communities. **F odd**

ASAM 110. Asian American Communities (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. A multidisciplinary study of Asian American communities and their relations with the larger society. Analyzes values, lifestyles, processes of group identity and boundary maintenance, social organization, and cultural change. Examination of Chinese, Japanese, Filipino, and other Asian American subcultures. G.E. Multicultural/International MI. **FS**

ASAM 138. Asian American Women (3 units)
Addresses race, ethnic, and class issues from the vantage point of Asian American women. For Asian American and Southeast Asian communities, the status of women has long been neglected. Yet women play an important role in the family and its economy even as they enter new roles in U.S. society. Helpful to students in sciences and applied fields. **F even**

ASAM 140. Southeast Asian Americans (3 units)
Since the Immigration Act of 1965 the Asian American population has grown dramatically. This course focuses on recent issues that are facing new arrivals and supplements a history of Asian American communities (e.g., ASAM 110). Useful to students in education, social work, health sciences, the social sciences, and many other fields. **S odd**

ASAM 151. Cultures and Foods of East Asia (3 units)
(See ANTH 126.) **S even**

ASAM 180T. Topics in Asian American Studies (3; max total 6 units)
Prerequisites: ASAM 15, permission of instructor. Detailed consideration of a single topic concerning the past or present position of Asian Americans in U.S. society. **S even**

ASAM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

Chicano and Latin American Studies

College of Social Sciences

Department of Chicano and Latin American Studies
Victor M. Torres, *Chair*
Social Science Building, Room 211
559.278.2848

B.A. in Chicano Studies

B.A. in Latin American Studies

Minor in Chicano/Latino Studies

Minor in Latin American Studies

BCLAD Emphasis Program

Chicano and Latin American Studies

Chicano and Latin American Studies (CLAS) is an interdisciplinary department that has been successful in presenting a highly informed, active, and challenging view of the Chicano/Latino experience in the United States and in U.S./Latin American relations. Chicano and Latin American Studies provides an opportunity for a pluralistic exchange of ideas in an interdisciplinary academic setting, where faculty, students, and visiting Chicano and Latin American scholars can share experiences and create a dynamic, intellectual environment.

The Chicano and Latin American Studies Department is designed to meet the following objectives:

1. to promote an awareness of the historical and cultural roots of Chicanos/Latinos in the United States
2. to enhance an understanding of Latin America
3. to cultivate an appreciation of ethnic and national differences among all people
4. to critically analyze the Chicano and the Latin American experience in terms of significant issues, theories, current problems, and solutions, and
5. to provide students with a set of important professional skills to be utilized as they interact creatively and constructively with Chicano/Latino communities and multicultural society at large.

The department emphasizes an interdisciplinary approach to the study of family life, history, politics, culture, and the arts of Chicano and Latin American communities. The courses reflect an integrated approach in providing students with greater knowledge and understanding of the social reality and diversity of Chicanos and Latin Americans.

Faculty and Facilities

The Chicano and Latin American Studies Department consists of faculty whose teaching and research expertise cover a broad spectrum, including anthropology, education, history, sociology, political science, Latin America, Latino literature, and the arts. The department is home to one of Central California's premier Mexican folkloric dance programs, Los Danzantes de Aztlán. This performance troupe is the only group of its kind in the entire CSU system to be designated as an official representative of a CSU campus (Fresno). The offices of the department also serve as a resource center for many of the Chicano/Latino student organizations and as an information center for the community.

Career Opportunities

Chicanos and other Latinos will soon be the largest ethnic group in California. Demographers estimate that in California 40 percent of the population will be of Mexican or Latino ancestry by the year 2030. This segment of our population will have a major impact on our society, as its presence translates into an increasing economic and political influence. Crucial social, economic, and political decisions will be made that affect this group and the nation at large. The growth of Latino-owned businesses, Spanish language media networks, and political organizations are all indicators of the importance of the Spanish-speaking people in the U.S. economy.

Chicano Studies majors are trained to analyze social issues, to think critically, and to conduct research. All majors receive applied as well as theoretical training, by serving an internship with a school or community agency to observe firsthand the social issues and theories which they study. These skills are useful in professional life and are valued in the public and private sectors.

Students of non-Latino origin find that Chicano and Latin American Studies courses are personally rewarding because they enable them to understand and relate to persons of different social and cultural backgrounds. Chicano and other Latino students find these courses highly conducive to strengthening their sense of identity and pride in their heritage.

Students who graduate with a B.A. in Chicano Studies or minor in Chicano/Latino Studies or Latin American Studies work in such fields as education, public administration, psychology, marketing, journalism, social services, and throughout the public and private sectors. Physicians, educators, lawyers, counselors, civil service employees, and other professionals have found that training in Chicano and Latin American studies improves their abilities to serve their clients and enhance their employment and advancement opportunities.

Students with a B.A. in Chicano Studies can enter master's or doctoral programs in the humanities and social sciences and in professional schools in such areas as Chicano studies, ethnic studies, anthropology, political science, history, public administration, Latino literature, multimedia, social work, and education. Also, students are encouraged to pursue double majors; one in Chicano Studies and the second in a professional area of their preference. Students with questions related to their future careers or seeking advising assistance should consult with the major and minor advisers of the Chicano and Latin American Studies Department.

Faculty

Victor M. Torres, *Chair*
Annabella España-Nájera
Manuel Figueroa-Unda
Luz Gonzalez
Cristina Herrera
Maria-Aparecida Lopes
Carlos Pérez
Ramon Sanchez

Bachelor of Arts Degree Requirements

Students are strongly encouraged to pursue a double major and can take the Chicano Studies either as a primary or secondary major. Chicano Studies majors and double majors are required to see a CLAS adviser during their first semester on campus.

Chicano Studies Major	*Units*
Major requirements	**33**
• **Lower-division requirements**	**6**
Basic Content: CLAS 3 or 5	(3)
Latin America: CLAS 70	(3)
• **Upper-division requirements**	**21**
U.S.-Mexico Relations: CLAS 114 or 115	(3)
Political and Economic Issues: CLAS 128	(3)
Arts and Humanities: CLAS 100, 106 or 108 (see *note 1*)	(3)
Research Methods: CLAS 142 or 116	(3)
Family and Gender: CLAS 152, 160 or 162	(3)
Education: CLAS 143	(3)
Community Service/ Senior Project: CLAS 145 (see *note 1*)	(3)
• **Approved electives**	**6**
Consult your adviser.	
General Education	**51**
Electives and remaining degree requirements	**36-42***
It is recommended that units in this area be utilized to complete a second major or minor. See *Degree Requirements*.	
Total	**120**

*This total indicates that 6 units of the following courses in General Education also may be applied to the Chicano studies major: CLAS 9 in G.E. C1, and CLAS 3 or 5 in G.E. D3.

Advising Notes

1. Contact the department chair or CLAS adviser for list of approved electives. A maximum of 3 units from CLAS 106, 107, 108, 145, and 180T can be used to fulfill 3 units of electives, but students must secure proper and final approval from the department chair or CLAS adviser.
2. Consult your adviser or the *Class Schedule* to determine what CLAS courses also meet General Education requirements.
3. If the Chicano studies major is taken as a second major, CLAS courses taken to complete General Education Integration requirements also can be used to satisfy major requirements.
4. Chicano studies majors are not permitted to take CLAS courses by ***CR/NC*** grading (unless the courses are only offered on that basis).
5. General Education and elective units may be used toward a double major or minor (see *Double Major* or other departmental minor). Consult the appropriate department chair, program coordinator or faculty adviser for further information.
6. Students who are planning to do graduate work in Chicano or Latin American studies are advised to study Spanish and/or Portuguese.
7. Liberal Studies/BCLAD students may take CLAS 145 in lieu of EHD 50 or EHD 115, but not both.
8. No General Education Integration or Multicultural/International course offered by the Chicano and Latin American Studies Department may be used to satisfy the General Education requirements for majors in the department.

Bachelor of Arts Degree Requirements

The Bachelor of Arts in Latin American Studies requires a minimum of 120 units, which includes courses for the major, General Education, electives, and all university requirements. Students seeking a bachelor's degree in Latin American Studies must be in good standing with the university and must maintain a minimum GPA of 2.75. Before enrolling in upper-division courses, students must complete designated lower-division courses.

The B.A. in Latin American Studies is an interdisciplinary degree designed to give students an understanding of the region from diverse disciplines and perspectives. Students are strongly encouraged to spend a semester abroad studying in Latin America, Spain, or Portugal. Majors should also develop proficiency in either Spanish or Portuguese by graduation. High school students preparing to enter the program should not have less than three years of study in either Spanish or Portuguese.

The B.A. in Latin American Students prepares students for graduate studies or employment in government services or international organizations. It also provides a strong foundation for students who wish to teach at the secondary school level, at a two-year college, or at the university level. Students are also prepared for careers in the private sector with an emphasis in international business or specialized focus on Latin America.

Latin American Studies Major	*Units*
Major requirements	**33**
Core	**15**
15 units to be selected from the following:	
Chicano and Latin American Studies: CLAS 70, CLAS 72, CLAS 170	
Economics: ECON 181	
History: HIST 8, HIST 166	
Senior Project	**3**
Choose among: CLAS 142, HIST 169T, ECON 190	
Electives	**15**
AAIS 103, ANTH 130, ANTH 141, ANTH 143, CLAS 112, CLAS 114, CLAS 115, ECON 114, ECON 179, GEOG 170T, GEOG 172, HIST 145, HIST 160, HIST 162, HIST 165, HIST 167 , HIST 169T, HIST 183, PLSI 146T, PLSI 148, ARTH 170, ARTH 173, ARTH 175, HUM 130, SPAN 125, SPAN 129, SPAN 143, SPAN 145, SPAN 147	
General Education	**51**
Electives and remaining degree requirements	**36**
Total	**120**

* *Note*: A semester abroad in Spain, Portugal or a Latin American country can replace the senior project. The academic components of such a study abroad progam would include application of key concepts, comparative analysis of the culture, description and discussion of current political/social issues, and analysis of the impact of globalization on the country visited.

Double Major in Chicano Studies

A double major in Chicano studies must have prior and final approval of the Chicano and Latin American Studies Department. Students must see a CLAS adviser to plan their double major programs. The double major consists of 33 units of CLAS courses, 21 of which must be upper-division. However, up to 9 units may be double counted. The CLAS adviser, in consultation with the student, will select and approve courses that complement the student's other major.

Minors

The Chicano and Latin American Studies Department offers two minors — one in Chicano/Latino Studies and one in Latin American Studies. Students intending to pursue a minor in either area must see a CLAS adviser. The CLAS adviser must approve the selected courses.

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Chicano/Latino Studies

Students are encouraged to focus on an area of interest in Chicano/Latino studies or on a social issue affecting the Chicano/Latino population in the United States. General Education can be double-counted for the minor. See *Minor Advising Note 2* below.

	Units
Lower division: CLAS 3, 5, and 9	**9**
CLAS upper-division or acceptable substitutes	**12**
Total	**21**

Latin American Studies

Students are encouraged to focus on an area of interest in Latin America, such as a country, region, or social issue affecting a particular region. The Latin American Studies Minor is an interdisciplinary program consisting of courses dealing with Latin America and the Caribbean with course offerings from several departments.

	Units
Lower division: CLAS 3, 70	**6**
Choose one of the following: HIST 3 or 8	**3**
Upper-division courses	**12**
Select from CLAS 112, 114, 115, 180T*, 190*; AFRS 130T*; ARTH 173, 175; ECON 114, 178, 179, 181, 188T*; SPAN 125, 143, 145, 147, 148T*; GEOG 170T; HIST 145, 160, 162, 165, 166, 169T, 183; HUM 130; PHIL 132; PLSI 121, 126, 146T; WS 135	
Total	**21**

Minor Advising Notes

*1. Special topics or directed reading courses must have subject matter dealing with Latin America, the Caribbean, or must focus on issues affecting those areas.
2. Courses taken to complete major requirements *cannot* be double-counted for the minor.
3. Courses taken to complete General Education Integration requirements *can* be double-counted for the minor.
4. Other acceptable courses can be substituted to satisfy minor requirements with approval of your CLAS adviser.

Credential Program for Liberal Studies Students

The Bilingual Cross-Cultural Language and Academic Development (BCLAD) Emphasis program has replaced the Bilingual/Cross-Cultural Credential program. BCLAD will authorize teachers to provide academic instruction to limited-English proficient student in the primary language. See a CLAS adviser for specific details.

COURSES

Chicano and Latin American Studies (CLAS)

CLAS 3. Introduction to Chicano/Latino Studies (3 units)
Prerequisite: G.E. Foundation A2. Introduction to the historical and contemporary experiences of Chicanos and other Latinos in American society. Their contributions to the United States and their current economic, political, and social status are discussed. G.E. Breadth D3. **FS**

CLAS 5. Chicano Culture (3 units)
Prerequisite: G.E. Foundation A2. A historical examination of Chicano culture from the pre-Columbian period to the present. The customs, values, belief-systems, and their symbols are analyzed; important events and changes occurring through time are emphasized. G.E. Breadth D3. **FS**

CLAS 9. Chicano Artistic Expression (3 units)
Introduction to Chicano artistic expression, with special attention to cultural continuity and change; the interrelationships between popular music, dance, drama, literature, and the graphic arts are analyzed. G.E. Breadth C1. **FS**

CLAS 30. Critical Thinking in Chicano and Latin American Studies (3 units)
Distinguishes belief vs. knowledge and fact vs. opinion; examines relationship between language/logic in structuring around arguments; uses deductive/inductive reasoning; distinguishes and evaluates unsupported beliefs. Critical thinking skills are applied to topics concerning questions of race, ethnicity, gender, culture and class with a focus on Chicanos and Latin America. G.E. Foundation A3. **FS**

CLAS 42B. Introduction to Chicano-Latino Research Methods (3 units)
Prerequisite: CLAS 42A or permission of instructor. Introduces students to basic research methodologies and theories pertaining to Chicano/Latino communities. Focuses on identifying specific areas in need of further research; locating and formulating problems; basic techniques including methods of observation, gathering, and analysis of data; interpretation of data; access database programs; preparation of research paper.

CLAS 70. Introduction to Latin American Studies (3 units)
A basic overview of Latin America; its nations, history, problems, and realities. Discusses theoretical paradigms used to analyze Latin American issues. (Formerly CLS 70)

CLAS 100. Chicano Literature (3 units)
An interpretive analysis of written Chicano literature: poetry, drama, short story, novel, and essay. The relationship between literature and a changing Chicano sociocultural environment is explored.

CLAS 102W. Contemporary Chicana/Latina Writing and Culture (3 units)
Critical, written analysis of Chicana and Latina writing and culture with emphasis on gender, race, sexuality, and social class. Course satisfies the CSU Graduation Writing Assessment Requirement (GWAR).

CLAS 106. Folkloric Dance (3; repeatable up to 12 units)
History and performance of Mexican folk music and dance; Indian, African, Spanish, and European influences; contemporary relationships to Chicano culture. **F**

CLAS 107. Latino Dance (2; max total 4 units)
Examination of origins, composition, and performance of various types of Chicano/Latino music and dance: boleros, huapangos, cumbias, chachas, salsa; emphasis on contemporary and cross-cultural influences in Chicano/Latino music-and-dance. ***CR/NC*** grading only.

CLAS 108. Chicano Theatre (1-3; repeatable up to 12 units)
Production of Chicano Theatre for major performances. *Comedia del Arte*, Passion Plays, Theatre of the Absurd, Socially Popular Theatre: *Teatro Compesino.*

CLAS 112. Pre-Hispanic Civilizations (3 units)
Historical examination of the origins of the Maya-Aztec civilizations in Meso America until 1521. The values, social organization, religion and their daily lives, technological and scientific achievements will be examined.

CLAS 114. Mexico and the Southwest 1810-1910 (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Examines the development of the Mexican nation from the Independence period to the Mexican Revolution (1810-1910). Special attention is given to the nineteenth-century Mexican-American and Chicano experience in the Southwest United States before the Treaty of Guadalupe Hidalgo (1848). G.E. Integration ID. **FS SU**

CLAS 115. Mexico-U.S. Relations Since 1910 (3 units)
Historical perspective of the changing relationship between Mexico and the United States during the 20th century. Analysis of the Mexican Revolution, the Great Depression, World War II, immigration, and their impact on Mexico-U.S. relations. Special emphasis on status of Mexicanos/Chicanos in the United States.

CLAS 116. Cultural Change and the Latino (3 units)
Prerequisite: CLAS 5 for CLAS majors. Examines the growing complexity and diversity of the Latino population in the U.S. by analyzing its cultural, political, social, and economic manifestations. Emphasizes its contribution to the development of a multicultural nation during the late twentieth century. **S**

CLAS 128. Contemporary Political Issues (3 units)
Political philosophies, goals, and strategies of Chicanos and Latinos as reflected in their attempts to gain political power.

CLAS 130. Latina/o Culture and Media Studies (3 units)
Evaluates roles of mass media institutions in cultural/social development of Latina/o communities and vice versa. Observes media and Latina/o community social/cultural impacts in terms of gender, race/ethnicity, and social class constructs. Looks at ideological agendas in national and international media.

CLAS 142. Chicano Research: Issues and Analysis (3 units)
An interdisciplinary approach to research techniques with special emphasis upon issues, problems, and research designs appropriate to the study of Chicano communities. Field application of research plans, techniques including methods of observation, gathering, and analyzing data.

CLAS 143. Bilingual/Bicultural Education (3 units)
Prerequisite: CLAS 116 for CLAS majors; CLAS 116 recommended for CLAD/BCLAD students. Investigation into what it means to be bilingual and bicultural; review of programs scaled toward a more meaningful education for the Chicano child. (Bilingual Education majors see department chair for further prerequisites.) **S**

CLAS 145. Fieldwork in Community Settings (3; max total 6 units)
Prerequisite: CLAS 3 or permission of instructor. Supervised placement in community and educational settings. Provides a variety of learning experiences in community agencies, organizations, or educational institutions. (Liberal Studies Program and BCLAD students, see *Advising Notes*.) **FS**

CLAS 152. The Chicano Family (3 units)
(Same as WS 152.) Traditional and changing relationships in the family structure of the Chicano; interaction with wider institutional social system. **S**

CLAS 160. Sex, Race, and Class in American Society (3 units)
From an interdisciplinary perspective, focuses on ethnic identity and gender and their interrelationship with socioeconomic class structure in American society. Special attention is given to analyzing how inequities in race, gender, and class structures influence and shape social, economic, and political relations in society. G.E. Multicultural/International MI. **FS**

CLAS 162. Chicana Women in a Changing Society (3 units)
Focuses on current issues relevant to Chicana women in the workforce, the family, the health care system, and the educational system. The intersection of race, class, and gender will be the analytical context for examining both their historical and contemporary roles.

CLAS 170. Latin American Studies (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Overview of the dynamic changes in the nations of Latin America. Uses an interdisciplinary approach that integrates a cultural, political, social, and economic perspective to the study of Latin American countries. Helps students develop a better understanding of the historical roots and circumstances that are shaping the current realities of each nation. G.E. Multicultural/International MI. **FS**

CLAS 171. Brazilian Culture and Society (3 units)
Basic overview of the Brazilian culture in a historical perspective; concentrates on the study of topics such as race politics, gender relations, authoritarian and democratic regimes, and popular culture as they relate to different stages in the country's history.

CLAS 180T. Topics of Chicano Society (1-3; max total 3 if no topic repeated)
Culture, art forms, economy, and societal organization. Certain CLAS 180T classes are ***CR/NC*** grading only. See department for further information.

CLAS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for ***RP*** grading.

Criminology

Criminology

The Department of Criminology provides undergraduate and graduate education in criminology for students planning professional careers in the criminal justice field. The program is diversified and integrated, reflecting the wide range of job opportunities in the field, including direct service and administration in law enforcement, corrections, victimology/victim services, juvenile justice, and forensic behavioral sciences. The department offers the Bachelor of Science, Master of Science, and a minor. The department will not accept a student with a GPA less than 2.0 as an undergraduate major.

Undergraduate Program

Criminology courses at the undergraduate level include integration of theoretical and applied materials of an interdisciplinary nature. The undergraduate curriculum is designed to prepare students for beginning professional work in criminal justice and to provide preparation for graduate work.

The corrections option is designed for students interested in careers in probation, parole, correctional institutions, and other affiliated forms of work. The law enforcement option is designed for students interested in careers with federal, state, and local law enforcement agencies, or law enforcement careers within the private sector. The victimology option is designed for students interested in careers in domestic violence programs, rape counseling programs, victim/witness programs, or other victim-related programs at the local, state, or federal level; these programs can either be criminal justice based or community based. The Forensic Behavioral Sciences option prepares students interested in traditional criminal justice careers. However, it is also designed for students who are interested in the application of other behavioral sciences — such as psychology, anthropology, and linguistics — to the criminal justice system. An internship course is required in corrections, law enforcement, and victimology options.

Graduate Program

The Master of Science degree in Criminology is a 30-unit, flexible program which provides a solid core in the field of criminology while permitting students to pursue specialized areas of interest. The master's program is designed to prepare students for service and responsible administrative and professional positions in agencies in the criminal justice system. The master's program also prepares students for a wide variety of occupations including in-service education; administrative education and management; community college teaching; predoctoral studies; and research.

Off-Campus Degree Program

The department offers its B.S. via compressed video at the university satellite campuses located at College of the Sequoias in Visalia, California and West Hills College in Lemoore, California. This degree is also offered at law enforcement facilities in the city of Fresno.

Joint Center on Violence and Victim Studies

The Joint Center on Violence and Victim Studies (JCVVS), an inter-university consortium of California State University, Fresno, Washburn University, and the University of New Haven, addresses issues of violence and victimization. The Center offers professional development, consultation, education, training, and research and analysis to students and working professionals locally and nationally.

Career Opportunities

Many diversified local, state, federal, and private agencies employ our graduates in criminal justice. On the local level, career opportunities exist at municipal police departments, county sheriffs' offices, probation departments, halfway and prelease houses, group homes, crisis centers, juvenile halls, welfare fraud units, retail, industrial security agencies, and victim services organizations. At the state level, career opportunities include the State Police, Department of Corrections and Rehabilitation, Alcohol and Beverage Control, Office of Criminal Justice Planning, Department of Motor Vehicles, Departments of Justice, Fish and Game, and Forestry. Federal opportunities include the Border Patrol, FBI, Secret Service, Alcohol, Tobacco and Firearms, Internal Revenue Service, Park Service, Customs, Immigration, federal prisons, and Office for Victims of Crime.

Faculty

The Criminology Department consists of 13 full-time faculty members whose expertise includes numerous specialties in the criminal justice system, including corrections, counseling, victimology, juvenile delinquency, theory, legal studies, supervision and management, and criminal justice administration. Part-time faculty members from major criminal justice agencies also instruct in the department.

College of Social Sciences

Department of Criminology
Bernadette T. Muscat, *Chair*
Science II Building, Room 159
559.278.2305
FAX: 559.278.7265
www.fresnostate.edu/criminology/

B.S. in Criminology
Options:
- Corrections
- Law Enforcement
- Victimology
- Forensic Behavioral Sciences

M.S. in Criminology

Minor in Criminology

Victim Services Certificate

Criminal Justice Counseling Specialist Certificate of Advanced Study

Certificate in Alcohol/Drug Studies

Advanced Certificate of Study in Homeland Security

Bernadette T. Muscat, *Chair*
Keith Clement
R. Thomas Dull
Toni DuPont-Morales
John P.J. Dussich
Peter English
Eric W. Hickey
Emma Hughes
Jerome E. Jackson
George Kikuchi
Jason Kissner
Barbara Owen
Kenneth James Ryan
H. Otto Schweizer
Candice Skrapec
Mark Stevens
Yoshiko Takahashi
Steven D. Walker
Arthur V. N. Wint

Bachelor of Science Degree Requirements

A grade of *C* or higher is required for all courses to be counted toward the major (excluding *CR/NC* classes).

Criminology Major *Units*

Criminology — Corrections Option Major 53
Lower-division requirements .....(10)
(see *advising note 1*): CRIM 1 (see *advising note 9*), 2, 20, 50
Upper-division core
(see *advising note 2*) .....**(18)**
CRIM 100, 102, 109, 112, 170 (see *advising note 6*), 174
Upper-division requirements ... (19)
CRIM 119, 131, 133, 134, 135, 141, 181 or 181H
Electives ..... (6)
Select one course from each cluster
CRIM 175, 176, 177; PAX 100; PHIL 121; CRIM 113, 120; CRIM/WS 126; CRIM 136T, 137, 139, 140, 153, 160T, 190/192

Criminology — Forensic Behavioral Sciences Option Major 50
Lower-division requirements...(10)
CRIM 1[1], 2[1], 20[1], 50[1,2]
Upper-division core .....(9)
CRIM 100[1], 153, 170[1], or PSYCH 144
Upper-division requirements .... (18)
CRIM 113, 117, 118, 154, 155; PSYCH 126
Electives Clusters.....(13)
General electives: select at least two courses from CRIM 114, 120, 127, 131, 134, 141, 160T, 175; ANTH 138T; LING 149
Psychology electives: select at least two courses from PSYCH 128, 149, 156, 160T (Psychopathology); PSYCH 160T (other special topics)

1 These courses are also required for the other three options in the criminology major.
2 This requirement may also be met by completing PSYCH 42, PH 92, MATH 11, DS 73, or any equivalent statistics course from another university or community college.

Criminology — Law Enforcement Option Major 49
Lower-division requirements...(10)
(see *advising note 1*): CRIM 1 (see *advising note 9*), 2, 20, 50
Upper-division core
(see *advising note 2*) .....**(18)**
CRIM 100, 102, 109, 112, 170 (see *advising note 6*), 174
Upper-division requirements ... (12)
CRIM 108, 113, 117, 127, 180 or 180H
Electives ..... (9)
CRIM 114, 120; CRIM/WS 126; CRIM 131, 133, 134, 135, 136T, 137, 139, 140, 141, 153, 154, 155, 160T, 175, 176, 177, 190/192; AFRS 146; CLAS 116; PAX 100; PHIL 121

Criminology — Victimology Option Major.....52
Lower-division requirements...(10)
(see *advising note 1*): CRIM 1 (see *advising note 9*), 2, 20, 50
Upper-division core
(see *advising note 2*) .....**(18)**
CRIM 100, 109, 112, 150, 170 (see *advising note 6*), 174
Upper-division requirements ... (18)
CRIM 140, 173, 175, 176, 177, 182 or 182H
Elective Clusters ..... (6)
Select one course from each cluster
Criminology electives (3 units): CRIM 120, 133, 134, 135, 141, 152, 153, 190/192
PAX electives (3 units): PAX 100; AFRS 146; CLAS 116; CRIM/WS 126; PHIL 121

General Education requirements.....51
Electives and remaining degree requirements 16-20
(*see Degree Requirements)*; may be used toward a double major or minor
Total 120

Advising Notes

1. Lower-division courses should be taken before upper-division courses.
2. Upper-division core should be taken prior to upper-division electives.
3. Department policy requires that students should see their advisers prior to registration each semester.
4. No General Education Integration or Multicultural/International course offered by the Department of Criminology may be used to satisfy the General Education requirements for criminology majors.
5. *CR/NC* grading is not permitted in the major with the exceptions of CRIM 1, 108, 131, 180, 180H, 181, 181H, 182, 182H, and 281.
6. CRIM 170 should be taken the junior year.
7. Any course that meets the upper-division writing skills requirement cannot be applied to the major requirements.
8. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
9. Freshmen and transfer students majoring in criminology must take CRIM 1 during their first semester.

Criminology Minor *Units*

CRIM 2, 20, 100 .....**9**
Upper-division CRIM electives **12**
Total 21

CRIM 100, 120, and 153 may still be used to meet requirements for both General Education and the minor, for catalogs prior to the 1999-2000 *General Catalog*.

Note: The Criminology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

This interdisciplinary minor is open to students in any academic discipline or chosen profession.

Honors Program

The Department of Criminology Honors Program has several major components that are completed over the course of two years. Students will annually (during the fall semester) participate in an honors core course. They will take two of the following: CRIM 100H, 102H, and 170H. These courses are designed to provide advanced study of research, theory, and administration in criminology. In addition, students will annually (during the spring semester) participate in an honors seminar (CRIM 160H) that explores specialized areas, new developments, and syntheses of criminological processes and theory. During the senior year, members of the honors program will participate in a honors internship, which will be specialized to their degree concentration (law enforcement, corrections, or victimology.)

The program provides highly qualified advanced students with the opportunity to sharpen their analytical abilities and expand their knowledge of criminology. Minimum criteria for application to the

program include second semester sophomore standing, GPA of at least 3.25 prior to enrollment, GPA of 3.4 for each semester after enrollment, letters of recommendation, and acceptance by the Honors Committee. Applications are accepted in the spring semester for the following academic year. Successful students will graduate with a B.S. in Criminology with Honors Distinction, an inscribed Smittcamp bronze medallion awarded at graduation, and special recognition at convocation and commencement.

Graduate Education

A note about graduate education: Students considering careers in research should consult with their advisor regarding additional coursework to prepare for graduate schools in the social sciences. Such courses may include supplemental work in research methods, statistics and other forms of analysis; they may also be offered inter-departmentally. Students are also encouraged to consider developing a research-based independent study in consultation with faculty members.

Master of Science Degree Requirements

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the framework that follows.

	Units
Core	**15**
CRIM 200, 201, 202, 203, 204	
Electives	**12**
Select criminology or related areas 200-series (under special circumstances a maximum of 6 upper-division units may be allowed)	
Culminating experience	**3**
Thesis or Project: 298 or 299 (3 units) *or* Comprehensive Exam and CRIM 295 (3 units).	
Total	**30**

Graduate-Level Writing Competence. The university requires that students have graduate-level writing abilities before being advanced to candidacy for the master's degree. The Graduate Writing Skills requirement for the graduate program in criminology is met by passing the writing component of CRIM 200. Please see the program's Graduate Writing Requirement Policy for more information.

Advising Notes

1. Each student must see the graduate coordinator each semester prior to registering.
2. All students must complete required core courses as a condition of advancement to candidacy.
3. All students must meet the graduate writing requirement. See the program coordinator for details.

(See also *Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, Foreign Language Requirements,* and *Criteria for Thesis and Project.)*

Victim Services Certificate

The Department of Criminology and the School of Education and Human Development jointly offer the Victim Services Certificate. The purpose of this program is to provide appropriate educational experiences for matriculating students and practitioners. The certificate provides the opportunity for developing knowledge and skills necessary for individuals working with crime victims.

Program Prerequisites. (1) completion of 60 units of undergraduate coursework, and (2) completion of one general course in psychology, sociology, anthropology, health science, or child and family studies.

Program Requirements. A minimum of 12 units is required; three units must be taken in each of the four areas:

	Units
1. **Theory**	**3**
CRIM 175	
2. **Victim Issues**	**3**
CRIM 140; WS 108, 109, 116; EHD 107	
3. **Service Delivery**	**3**
CRIM 176; SWRK 128	
4. **Legal/Social Policy**	**3**
CRIM 177; CRIM/WS 126	

In addition, 3 units field experience (CRIM 182) is available. For additional information or advising, contact the Department of Criminology.

Note: All courses in the Victim Services Certificate Program must be taken for letter grade only.

Criminal Justice Counseling Specialist Certificate of Advanced Study

Individuals who are fully classified and advanced to candidacy in (or graduates of) the Master of Science in Criminology may elect to take courses leading to the Criminal Justice Counseling Specialist Certificate of Advanced Study. The certificate program is co-sponsored by the Department of Criminology and the Department of Counselor Education and Rehabilitation. It is designed to enhance professional skills for counseling service within the criminal justice system.

In addition to coursework required for the Master of Science in Criminology, students seeking the Criminal Justice Counseling Specialist Certificate of Advanced Study are required to take a total of 16 units in Counseling (in addition to prerequisite COUN 174/PSYCH 174 or equivalent), six of which may be used as electives in the Master of Science in Criminology. The certificate courses are COUN 176, 200, 208, 232, and 239. The required certificate courses for the M.S. in Counseling, Marriage and Family Therapy option, and Rehabilitation Counseling option students include CRIM 153, 201, 203, and 281 with CRIM 100 as a prerequisite. (***Please note***: Counseling students must meet with a criminology adviser a semester prior to enrolling in CRIM 281.)

Homeland Security Certificate of Advanced Study

The Department of Criminology and Division of Continuing and Global Education offer the Certificate of Advanced Study in Homeland Security. The primary objective of the program is the development of scientific and technical knowledge and research skills in this growing field of academic study. A secondary program objective is the preparation of graduate students for future professional careers and advanced education programs in Homeland Security and related doctoral programs. The Department of Criminology seeks to prepare administrative operational specialists, and policy analysts with a firm background in the role of government in protecting society; the strategy and assumptions driving homeland security policy; and related important principles of preventing, responding, mitigating and recovering from natural or human threats and hazards. In addition, the department also seeks to answer the important questions of balancing civil liberties and the protection of Constitutional rights within our liberal democracy with the needs of national security and homeland defense.

The Certificate of Advanced Study in Homeland Security is a multidisciplinary program designed to give students an understanding of the depth and complexity of this critical field. This 12-unit (four-course) graduate certificate program engages students who are seeking homeland security positions throughout federal, state, and local governments. These courses will help balance the perspective of first responders, middle-level supervisors, and executive managers and policy makers on the inherent challenges of societal protection from natural and human caused disasters. Up to three units of related homeland security courses may count. toward the completion of the certificate program based on individual evaluation by the program director.

Program Prerequisites. Admission is open to students with a bachelor's degree in a related field from an accredited university.

Program Requirements. A student must. complete the four course sequence including CRIM 216 (the core course), CRIM 217, CRIM 218, and CRIM 219 for a total of 12 units (four courses) as offered in the Homeland Security Program.

CRIM 216
Essentials of Homeland Security (3 units)

CRIM 217
Radical Ideologies (3 units)

CRIM 218
Intelligence Theory (3 units)

CRIM 219
Border and Homeland Security (3 units)

Certificate in Alcohol/Drug Studies

The Department of Criminology participates in a certificate of special study awarded to those students who successfully complete a minimum of 12 units of interdisciplinary academic coursework in the area of alcohol and drug abuse. (For complete details, see *Health and Human Services Interdisciplinary Courses*.)

COURSES

(CRIM 1 is required of all criminology majors, including freshmen and transfer students majoring in criminology. Not open to non-majors)

Criminology (CRIM)

CRIM 1. Strategies for Success in Criminology (1 unit)
Not open to non-crim majors; first semester major requirement. Program structure; faculty overview; degree requirements; support services; advising; grading; conduct and behavior; areas of academic knowledge and integration with emphasis upon critical thinking, decision-making and communication skills. *CR/NC* grading only. **FS**

CRIM 2. Administration of Justice (3 units)
Purpose, function, and history of agencies dealing with administration of justice; survey of criminal procedures; organization of law enforcement agencies at federal, state, and local levels; organization and functions of courts; probation, parole, and pardons; penology and prison administration; purpose and function of victim services. **FS**

CRIM 10. Crime, Criminology, and Justice (3 units)
Prerequisite: G.E. Foundation A2. An introduction to the concept of crime, emphasizing its contextual foundations as the product of evolving criminal laws and the institutions that shape them. A survey of the methodological approaches used to measure and study crime. Patterns of crime and victimization in relation to their impact on society's response in its quest for justice. G.E. Breadth D3. **FS**

CRIM 20. Criminal Law (3 units)
Highly recommended: CRIM 1. Introduction to the case method of studying criminal law, theory, concept, and philosophy of substantive law and criminal offenses; analysis of court decisions and opinions through case method. **FS**

CRIM 50. Statistical and Computer Applications in Criminal Justice (3 units)
Statistical and computer applications as they relate to criminological research and policy. Emphasis on descriptive and inferential statistical methods for the analysis of data and the application of appropriate computer statistical packages and other specialized computer programs for criminal justice. **FS**

CRIM 100. Criminology (3 units)
Sociological, biological, psychological theories of crime causation; crime measurement; schools of criminology; crime typologies.* **FS**

CRIM 101. Crime and Violence in America (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Introduces students to types of crime and violence in America within a sociological, cultural, economic, and political context. Emphasis on methodological approaches to crime measurement. Looks at how crime and violence impacts individuals and their environment. G.E. Integration ID. **FS**

CRIM 102. Criminal Justice Organization and Management (3 units)
Prerequisites: CRIM 2, 20. Highly recommended: CRIM 100 (the section for majors) and CRIM 170. Fundamentals of organization/management theory, principles, and processes relating to the operation and functioning of the criminal justice system, including victim services agencies.* **FS**

CRIM 108. Directed Policing (3; max total 12 units)
Open only to criminology majors. Prerequisite: Permission of instructor and sponsoring agency. Supervised field experience in police work for interpreting theories developed in parallel criminology courses. Purchase of uniform required. Approved for *RP* grading. *CR/NC* grading only. (Minimum of 6 field hours per unit.) **FS**

CRIM 109. Comparative Systems of Criminal Justice (3 units)
Prerequisites: CRIM 2. Highly recommended: CRIM 20, 100, and 170. Study of selected criminal justice systems in other jurisdictions; examination of the organization; administration and operations of criminal justice agencies in the United States, Europe, the United Kingdom, and Asia.* **FS**

CRIM 110. Police in America (3 units)
A basic survey course on the functions, roles, personnel systems, and operation management issues in law enforcement. Explores issues faced by municipal, county, state, and federal law enforcement in detail. Analyzes contemporary programs and trends in policing. Explores community policing. Studies issues of less-than-lethal technology and computerized information systems. Discusses history of police in America. (Formerly CRIM 160T)

CRIM 112. Professionalism in Criminal Justice (3 units)
Prerequisites: CRIM 2, 20. Highly recommended: CRIM 100 and 170. Professionalism in criminal justice including formal and informal control; political activity; use of discretion; conflict of interest; rights of clients; ethical, gender, and ethnic issues; and other current topics.* **FS**

CRIM 113. Forensic Science (3 units)
Prerequisite: CRIM 2. Open only to criminology majors. Advanced study of scientific crime investigation, identification, and detection methods.* **FS**

CRIM 114. Ethics in Forensic Behavioral Sciences (3 units)
Prerequisite: CRIM 2. Explores ethical aspects of the conduct of forensic behavioral scientists in the civil and criminal justice

* Graduating criminology seniors have first priority; other students may receive priority status by permission of instructor.

systems. Designed to provide the student with an informed basis for critically evaluating the behavior of behavioral scientists relative to legal proceedings.

CRIM 117. Criminal Legal Process (3 units)
Prerequisite: CRIM 20. Specific emphasis on the laws of arrest, search and seizure, interrogation and confession, procedure prior to and during trial, postconviction procedures, limitations on criminal prosecutions and juvenile proceedings.* **FS**

CRIM 118. Courts and Legal Procedure (3 units)
Prerequisites: CRIM 20. Structure and function of trial and appellate courts. Procedural requirements of the judicial process. Rules of evidence as they apply to admissibility of behavioral and forensic evidence.

CRIM 119. Legal Aspects of Corrections (3 units)
Prerequisite: CRIM 20. Legal issues affecting corrections; constitutional issues involving rights of the convicted and civil liability of staff. Origin, development, and classification of criminal law in corrections. Rules of evidence, search and seizure, etc.

CRIM 120. Juvenile Delinquency (3 units)
The problem of juvenile delinquency; portrait of delinquency; causal factors; agencies of justice; treatment process; programs for control and prevention. G.E. Integration ID. **FS**

CRIM 120S. Juvenile Delinquency (3 units)
The problem of juvenile delinquency; portrait of delinquency; causal factors; agencies of justice; treatment process; programs for control and prevention. G.E. Integration ID. **FS**

CRIM 126. Women and Violence: Public Policy and the Law (3 units)
(See WS 126.) **FS**

CRIM 127. Evidence (3 units)
Prerequisite: CRIM 117. Advanced problems in arrest, search, seizure, interrogation, and prosecution. The law of evidence, including problems of relevancy, hearsay, opinion, privilege, and scientific evidence. Juvenile law and procedure from detention to disposition.* **FS**

CRIM 131. Correctional Institution Visitations (1-3; max total 3 units)
The opportunity to visit, examine, and investigate various correctional institutions within the state of California. Visitations will be mandatory. ***CR/NC*** grading only. **FS**

CRIM 133. Institutional Corrections (3 units)
Prerequisites: CRIM 2 and 20. Prison and issues of corrections in terms of historical development and current applications; various perspectives and definitions of social control; philosophical underpinnings of the system; prisoner and societal implications of social control.

CRIM 134. Criminal Justice Counseling (3 units)
An overview of counseling modalities and counseling techniques in criminal justice settings.* **FS**

CRIM 135. Community-Based Corrections (3 units)
Prerequisites: CRIM 2 and 20. History and contemporary applications of community-based corrections. Juvenile and adult supervision at all three levels: local, state, and federal; probation, parole, electronic monitoring, residential treatment, drug/mental health courts, boot camps, intensive supervision.

CRIM 136T. Topics in Criminology (1-3; max total 12 if no topic repeated)
Analysis of selected areas of criminology; deviant behavior; institutional and noninstitutional treatment; corrections; administration and management; law enforcement; criminalistics. **FS**

CRIM 137. Women, Girls, and the Criminal Justice System (3 units)
Prerequisite: CRIM 2. Analysis of women and girls in the criminal justice system; understanding of the role of gender in terms of female pathways to crime, nature of female offending, victimization, and incarceration. Gender-responsive criminal justice policy and practice. **FS**

CRIM 139. Criminal Justice Counseling Skills Practicum (3 units)
Highly recommended: CRIM 134 or permission of instructor. An experiential course designed to teach students essential skills in structuring counseling sessions with offenders. Emphasis on listening, validation, empathy, interviewing, probing, concreteness, self-disclosure, summarizing, confrontation, goal-setting, taking action, closure, and resistance.

CRIM 140. Family Violence (3 units)
Typology and history of family abuse, including: legal guidelines; treatment approaches; emotional abuse; sexual abuse; spousal abuse; elderly abuse; and child abuse as a criminogenic factor.* **FS**

CRIM 141. Alcohol, Drugs, and Criminality (3 units)
Analysis of the composition, manufacture, use, and misuse of drugs (including alcohol); their relationship to criminality, and current responses by governmental and private organizations. Exposure to treatment programs may be required. **FS**

CRIM 150. Victim Services Program Management (3 units)
Examines the management techniques and skills needed to operate non-profit/government based victim service organizations. Explores the various technologies that ensure victims' rights and efficient/effective service provision. Discusses advocacy regarding organizations, coalitions, and policies. (Formerly CRIM 160T)

CRIM 152. Elder Abuse (3 units)
Provides students with an overview of the history, theories, concepts, and practices concerning elder abuse. Also covers measurement; prevention; intervention; victim non-reporting practices; victims' rights, laws, and policies; victim recovery; and restorative justice practices. (Formerly CRIM 160T)

CRIM 153. Psychology of Crime (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Explores the psychological bases of criminal behavior as they relate to the biology of criminality, as well as to the numerous and varied contributions from cultural economic, and geographic aspects of the social environment. G.E. Integration ID. **FS**

CRIM 154. Forensic Behavioral Sciences (3 units)
Prerequisite: CRIM 2. Examines applications of behavioral sciences to the study and investigation of behaviors and their implications for civil and criminal judicial proceedings. Evaluation of issues related to behavioral sciences as they pertain to civil liability and criminal responsibility. (Formerly CRIM 160T)

CRIM 155. Biology of Criminality (3 units)
Examines criminal behavior in terms of physiological and psychophysiological factors, neurobiological and neuropsychological factors, and genetic factors in order to understand the biology that underlies criminal behavioral responses to specific environmental factors.

---

* Graduating criminology seniors have first priority; other students may receive priority status by permission of instructor.

** Relates the student's classroom studies with occupational and professional experiences. Permission of instructor and a sponsoring agency. Graduating criminology seniors have first priority; other students may receive priority status by permission of instructor. Weekly conference with field supervisor. Transfer students should be aware that 12-unit total must include internship units previously earned; check with departmental adviser. Of the 12 units, 6 can be applied to the student's major and 6 can be used as degree electives.

CRIM 160T. Topics in Crimes (1-3; max total 12 if no topic repeated)
Intensive focus on particular crime categories, e.g., political, corruption, terrorism; corporate, computer, white collar, fraud, embezzlement; homicide, assassination, mass murder, sex crimes, violence, assault, rape, mayhem; property, burglary, robbery, piracy, professional pickpocketing, swindling, safe-cracking; organized; arson; and environmental. **FS**

CRIM 170. Research Methods in Criminal Justice (3 units)
Highly recommended: PH 92, PSYCH 42, MATH 11, SOC 125, or DS 73. Research methodology; use of library resources; electronic resources; preparation and handling of materials in criminology; written report required. **FS**

CRIM 173. Trauma and Crisis Intervention (3 units)
Prerequisites: CRIM 175 and 176. Physiological and psychological aspects of trauma; analysis of Stress Theory, Crisis Theory, and PTSD; short-term and long-term trauma; advocate intervention techniques and referral sources. **S**

CRIM 174. Ethnic and Gender Issues in Criminal Justice (3 units)
The impact of ethnicity, gender, and race on criminal justice personnel, offenders, and victims. Special problems experienced by various groups in obtaining services within the criminal justice system.* **FS**

CRIM 175. Victimology (3 units)
Major theoretical issues and debates in victimology. Victim blaming and defending, research and victim statistics, legal and policy dilemmas, bureaucratic responses to victims, and evaluation of victim compensation and restitution.* **FS**

CRIM 176. Victim Services (3 units)
Survey of community services for victims. Focus on victim services as a new subsystem. Theoretical, social, and legal issues that affect delivery of victim services.* **FS**

CRIM 177. Legal Policy in Victim Services (3 units)
Analysis of legislation and specific legal policies regarding victim services. Victim rights, the process of changing attitudes, and current laws will be a major focus.* **FS**

CRIM 180. Internship in Law Enforcement (1-3; max total 12 units)
Prerequisite: mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. Open only to criminology majors. Prerequisites (may be taken concurrently): CRIM 2, 20, 102 and 112. ***CR/NC*** grading only. (Minimum of 3 field hours per unit.)** **FS**

CRIM 181. Internship in Corrections (1-3; max total 12 units)
Prerequisite: mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section.Open only to criminology majors. Prerequisites (may be taken concurrently): CRIM 2, 20, 102, and 112. ***CR/NC*** grading only. (Minimum of 3 field hours per unit.)** **FS**

CRIM 182. Internship in Victimology (1-3; max total 12 units)
Prerequisite: mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section.Open only to criminology majors. Prerequisites (may be taken concurrently): CRIM 2, 20, 102, 112, and 175. ***CR/NC*** grading only. (Minimum of 3 field hours per unit.)** **FS**

CRIM 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

CRIM 192. Readings in Criminology (1-3; max total 3 units)
Prerequisite: upper-division standing and permission of the instructor. Supervised readings in a selected field relating to criminology. **FS**

Criminology Honors (CRIM)

CRIM 100H. Honors Criminology (3 units)
Prerequisite: open only to students who are qualified members of the Criminology Honors Program. An advanced exploration of the etiology of crime. Places emphasis on primary literature with analysis and criticism of both classical and modern criminological theories. **F**

CRIM 102H. Honors Criminal Justice Organization and Management (3 units)
Prerequisite: open only to students who are qualified members of the Criminology Honors Program. A comprehensive examination of the structure and process of the American Criminal Justice System from an organizational management perspective. Conceptual thinking is essential in this exploration of current and future organizational challenges. **F**

CRIM 160H. Honors Seminar in Criminology (3; max total 6 units)
Prerequisite: open only to students who are qualified members of the Criminology Honors Program. Honors seminar in specialized areas, new development, and synthesis of criminological processes, thought, and theory. **S**

CRIM 170H. Honors Research Methods (3 units)
Prerequisite: open only to students who are qualified members of the Criminology Honors Program. Introduction to social science research. Goal is to develop a literature review and research design. Involves an intense library search, development of a literature review, and implementation of a research project. **F**

CRIM 180H. Honors Internship in Law Enforcement (3; max total 6 units)
Prerequisite: mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. Open only to students who are qualified members of the Criminology Honors Program with senior standing. Relates the student's classroom studies with occupational and professional experiences. Students will be referred to related agencies where they will engage in activities requiring significant responsibility. ***CR/NC*** grading only. **FS**

CRIM 181H. Honors Internship in Corrections (3; max total 6 units)
Prerequisite: mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. Open only to students who are qualified members of the Criminology Honors Program with senior standing. Relates the student's classroom studies with occupational and professional experiences. Students will be referred to related agencies where they will engage in activities requiring significant responsibility. ***CR/NC*** grading only. **FS**

CRIM 182H. Honors Internship in Victimology (3; max total 6 units)
Prerequisite: mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. Open only to students who are qualified members of the Criminology Honors Program with senior standing. Relates the student's classroom studies with occupational and professional experiences. Students will be referred to related agencies where they will engage in activities requiring significant responsibility. ***CR/NC*** grading only. **FS**

GRADUATE COURSES

(See *Catalog Numbering System*.)

Criminology (CRIM)

CRIM 200. Research Methods in Criminology (3 units)
Prerequisite: CRIM 170. Methods and techniques of research in criminology; research designs and models; preparation and critique of a research paper.

CRIM 201. Advanced Criminological Theory (3 units)
Prerequisite: CRIM 100. A historical approach to the study of criminological theory. Special treatment of the theoretical underpinnings of contemporary theoretical thought. Detailed analysis of major 18th, 19th, and early 21st century criminological thought.

CRIM 202. Law and the Criminal Justice System (3 units)
Prerequisite: CRIM 117. The nature and philosophy of law; the common law tradition and our judicial system; the role of legislation and rules of statutory interpretation; Constitutional Law concepts and their applications in the Criminal Justice System and our society.

CRIM 203. Criminal Justice Systems (3 units)
Prerequisite: CRIM 102. A comprehensive assessment of the historical evolution of the criminal justice system, including current status, victim rights, future growth, theory and rationale for the various systems, and common practices relating to each system.

CRIM 204. Quantitative Methods and Analysis (3 units)
Prerequisite: CRIM 170. Methods for analysis of multivariate data, including multiple regression, logistic regression, and factor analysis. Computer statistical packages, applications, and analysis of data.

CRIM 205. Qualitative Methods and Analysis (3 units)
Examines a range of qualitative research methods and analysis, including theory and strategies, techniques of data collection, and writing strategies relevant to qualitative research. Topics covered include interpretative theories, instrument development, interview techniques, ethnography, content analysis, and inductive analytic methods. (Formerly CRIM 270T)

CRIM 216. Essentials of Homeland Security (3 units)
Focuses on homeland security, terrorism, and theories of security, risk management, and national security strategy. Provides an overview of key agencies and the legal and privacy issues inherent in balancing law and order with Constitutional rights and liberties. (Formerly CRIM 270T)

CRIM 217. Radical Ideologies (3 units)
Students will acquire an understanding of how ordinary individuals can acquire extraordinary philosophies that disrupt governance, derail the status quo, and often erupt into violent conflict. (Formerly CRIM 260T)

CRIM 218. Intelligence Theory (3 units)
Intended to help students acquire an understanding of how to generate criminal intelligence in a free society through the acquisition, analysis, and dissemination of information. (Formerly CRIM 270T)

CRIM 219. Border and Homeland Security (3 units)
Focuses on border and homeland security, terrorism, risk management, and national security strategy. Uses comparative approach to key agencies, policies, and legal issues in securing international borders. Looks at critical infrastructure protection and economic analysis in security, transportation, and immigration policy. (Formerly CRIM 260T)

CRIM 220. Seminar in Group Therapy in Criminal Justice Agencies (3 units)
Prerequisite: admission to the criminology graduate program. The theory and practice of group therapy in criminal justice agencies. Use of transactional analysis concepts in describing group interactions.

CRIM 252. Seminar in Criminal Justice Personnel Administration (3 units)
Prerequisite: admission to the criminology graduate program. The historical development of modern personnel theory and practice in criminal justice agencies; manpower, merit concepts, concepts of man and work, classification, training and compensation, collective bargaining, and organizational communication.

CRIM 265. Sex Crimes (3 units)
Explores the topic of sex offenders from epidemiological, psychological, and etiological underpinnings and constraints as they relate to power, sex, gender, and psychopathology. Gives attention to the role of paraphilia and the vast array of sexual predators, lust killers, paraphilic stalkers, and the mentally disordered sex offender.

CRIM 270T. Problems in Criminology (1-6; max total 12 if no topic repeated)
Prerequisite: admission to the criminology graduate program. Special problems in law enforcement or corrections; individual research in laboratory, library, or fieldwork; formal written reports. Weekly conference with instructor.

CRIM 275. Victimology and Social Change (3 units)
Prerequisite: admission to the criminology graduate program. Theories and scientific research on the effects of crime on victims. An analysis of victim rights and services with specific review of victim agencies and programs of community change. Models and strategies of understanding and assisting crime victims will be analyzed.

CRIM 281. Supervised Professional Experience (1-6; max total 6 units)
Open only to criminology majors. Prerequisite: permission of instructor and selected agency. Supervised professional experience in law enforcement or correctional work. Approved for *RP* grading. *CR/NC* grading only.

CRIM 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study.* Approved for *RP* grading.

CRIM 292. Readings in Criminology (1-3; max total 3 units)
Prerequisites: permission of instructor and chair, Criminology Graduate Committee. Individually directed readings in an area of special concern to the student's graduate program; appropriate written reports and evaluation required, individual student conferences. Approved for *RP* grading.

CRIM 295. Controversial Issues in Crime, Criminology, and Law (3 units)
Prerequisites: CRIM 200, 201, 202, and 203. An inclusive overview of controversial issues in criminology and law with an emphasis upon critical thinking, organization, decision-making, and writing skills. An apogean experience involving the integration of graduate-level scholarly knowledge related to the study of criminology.

CRIM 298. Project (3-6; max total 6 units)*
Prerequisites: CRIM 200, 201, 202, and 203. See *Criteria for Thesis and Project.* Preparation and completion of a project demonstrating a significant undertaking such as implementing a program, evaluating an ongoing program, developing pilot studies of innovative ideas or implementing organizational change in the field of criminology, and submission of a written abstract. Approved for *RP* grading.

CRIM 299. Thesis (3-6; max total 6 units)*
Prerequisites: CRIM 200, 201, 202, and 203. See *Criteria for Thesis and Project.* Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for *RP* grading.

* For 298C and 299C courses, see *Graduate Studies.*

IN-SERVICE COURSE

(See *Catalog Numbering System.*)

Criminology (CRIM)

CRIM 302. Topics in Criminology (1-3; max total 3 units)
May be repeated for credit provided different fields are covered. Prerequisite: permission of instructor. Selected areas in the organization, administration, and management of agencies engaged in the administration of justice; the police function; prosecution of criminal offenses; the correctional process, deviant behavior.

Geography

College of Social Sciences

Department of Geography
Segun O. Ogunjemiyo, *Chair*
Paulette Morrow,
Administrative Support Coordinator
Science Building, Room 182
559.278.2797

B.A. in Geography

Minor in Geography

Minor in Meteorology

Minor in Urban Studies

Subject Matter Preparation for Single Subject Teaching Credential in Social Sciences

Certificate in Geographic Information Systems (GIS)

Geography

The world of the 21st century is a place where there are very complex interactions between an increasingly fragile environment and the people who make up the many varied and diverse cultures on it. Geographers are uniquely trained to "see the big picture" so that they can more fully understand these complex interactions of the environment and the many cultures of humankind.

The Geography Department offers a Bachelor of Arts degree in geography, a minor in geography, a minor in meteorology, and an interdisciplinary minor in urban studies. The geography course offerings support undergraduate preparation for careers in environmental study, teaching, weather, regional and urban planning, and preparation for graduate work.

Central to geographic inquiry is a concern with the human occupancy of the earth, the character of the human environment, and the interrelationships that link humans and the physical world. In sum, geography seeks to provide a broad understanding of the world, its people, and its problems. Geography seeks to provide applied specializations and technical skills that can address economic, social, and environmental problems at scales that range from local to global by employing a spatial framework for organizational purposes analogous to the chronological framework employed in history.

Geography integrates much information from the natural and social sciences and because of the diversity of subject matter from which it obtains data, offers a broad, liberal education applicable to many fields of employment.

The department offers a variety of courses that allow students to address different objectives. First, we provide, for both majors and non-majors alike, a greater understanding of the world as an element of a liberal education which has become an increasingly important component of a complete university education. Second, we provide courses that assure a depth of knowledge in subject matter and technique for majors and minors in geography. Third, we serve those students in related disciplines who wish to strengthen programs of study through a selection of courses in geography.

Although there are no options in the degree program, students may select courses that focus on various areas of study.

Examples of such focused study areas could include the following.

Geographic Studies: Course work for the student interested in the world and its spatial patterns. Traditional study which may lead to graduate work and a career in higher education, or with local, state, and federal agencies utilizing geographic analysis, including the use of geographic information systems (GIS).

Environmental Studies: Course work to develop competence in environmental techniques with particular emphasis on such topics as meteorology, pollution, environmental impact analysis, geographic information systems (GIS), and human-environment relationships may lead to graduate work in geography, or employment in various state and federal agencies dealing with environmental problems.

Urban and Regional Planning: Course work for the student interested in the study of how to create communities that balance new development and essential services, environmental protection and innovative change and which may lead to graduate work and a career with local or state agencies. Courses could cover a wide range of subjects including planning, environmental studies, legal issues, and geographic information systems (GIS).

Students must regularly consult with their academic adviser to facilitate course selection and enable the student to develop a program consistent with individual interests and needs.

Career Opportunities

Geographers are employed in government and the private sector. Their knowledge and skills have applications in a variety of fields including teaching, planning, cartography, GIS, locational analysis, intelligence and security, land and resource management, policy research, transportation, and industrial development.

Agencies of federal, state, and local governments are major employers of geographers. At the federal level many agencies employ geographers. At state and local levels most geographers are involved in planning, land and resource management, and community development. Because many businesses and industries have important geographical dimensions to their operations, there is demand for geographers in the private sector. Geographers are employed in banking, transportation, international trade, utilities, wholesaling and retailing, and a number of other fields. Finally, teaching is a major occupation for individuals with training in geography. The department welcomes inquiries about career opportunities.

Faculty and Facilities

Instruction at introductory and advanced levels is conducted by a faculty whose teaching and research interests are diverse. All major facets of the discipline are represented as are a number of specializations, which include medical geography, economic studies of China, urban revitalization, political ecology of natural resource management, environmental monitoring using remote sensing, urban air quality, urban and regional planning, environmental planning, and climate change and global governance.

A laboratory facility is available for student use. The Urban Planning and Environmental Research Laboratory is a 32-station, state-of-the-art, computer laboratory used for instruction and research in urban planning, geographic information systems (GIS), environmental studies, remote sensing, and a variety of other applications.

Faculty

Segun O. Ogunjemiyo, *Chair*

Michelle Calvarese
Mohan B. Dangi
Hongwei Dong
Chi Kin Leung
Stuart K. McFeeters
Aribilola S. Omolayo

Bachelor of Arts Degree Requirements

Geography Major

The Bachelor of Arts degree with a major in geography requires the completion of 120 units, at least 42 of which shall be in geography.

	Units
Major requirements	**42**
Core courses	(12)
GEOG 4, 5, 7, 30	
Areas of Concentration	(18)
Majors should complete 3 units in each area.	
Atmospheric Sciences: GEOG 111, 112, 114, 115, 118	
Environmental Studies: GEOG 127, 128, 135, 139T	
Geographic Information Systems (GIS) and Remote Sensing: GEOG 140, 141, 142, 143, 149, 150, 151, 152	
International Development Studies: GEOG 160, 161, 162, 163, 164, 165, 166, 167	
Global and Regional Studies: GEOG 170T, 171T, 173, 174, 175T, 177T, 178, 179	
Urban and Regional Planning: GEOG 181, 184, 187T	
Approved geography electives	(12)
12 units of upper-division courses	
Additional requirements	**3**
3 units from one of the following: IS 52 (with 52L), SOC 172	
General Education requirements	**51**
Electives and remaining degree requirements	**24***
(See *Degree Requirements*); may be used toward a double major or minor	
Total	**120**

*This total reflects the use of GEOG 4 in G.E. Breadth D3. Consult the department chair or faculty adviser for additional details.

Advising Notes

1. No more than 3 units of GEOG 195 may be applied to the geography major.
2. No General Education Integration or Multicultural/International course offered by the Department of Geography may be used to satisfy the General Education requirements for geography majors.
3. ***CR/NC*** grading is not permitted in the geography major with the exception of GEOG 192 and 195.
4. General Education and elective units may be applied to a second major or a minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. Students must complete 40 upper-division units as part of the requirements to earn a B.A.
6. It is strongly recommended that students interested in professional careers in geography select the emphasis in Geographic Information Systems and Remote Sensing and complete a minor in a related field.
7. Students must regularly consult with their academic adviser. Such consultation will facilitate course selection and enable the student to develop a program consistent with individual interests and needs.
8. The selection of electives within the major should be strongly influenced by career goals, interests in graduate study, and related matters. Whether one's interest focuses on environmental protection, planning, cartography, GIS, locational analysis, or any one of a wide array of geographic competencies, the department can provide current applicable information. Inquiries are welcomed.

Geography Minor

	Units
GEOG 4	**3**
GEOG 5 or 7	**3**
GEOG 167	**3**
Select from upper-division geography	**12***
Total	**21**

*No more than 3 units earned in GEOG 195 may be applied to the minor. Students completing a minor in geography are encouraged to seek faculty advice relative to course selection and program planning.

Meteorology Minor

The Meteorology Minor requires the successful completion of four meteorology/climatology courses within the Geography Department and three other elective courses that are drawn from Chemistry, Computer Science, Engineering, Environmental Sciences, Geography, and Physics departments.

	Units
Core courses: GEOG 5, 111, 112, 114	**12**
Electives	**9***
With the approval of a program adviser, elect 9 units from the following list of courses: CHEM 3A, CSCI 40, EES 109, EES 125, EES 167, GEOG 118, PHYS 2A.	
Total	**21**

*All courses must be passed with a letter grade of ***C*** or better to count as credit toward the undergraduate Minor in Meteorology.

Urban Studies Minor

The interdisciplinary Urban Studies Minor provides exposure to the analysis of urban and regional problems and serves as an excellent supplement to other academic degree programs offered throughout the university. A special major in urban studies may be designed to meet the needs of students with an interest in this area. See *Special Major* under *Degree Requirements*.

Coordinator: Consult department chair, Geography Department.

Faculty Advisers: Undergraduate advisers of the Geography Department, Anthropology Department, and Sociology Department.

Required Courses	*Units*
Concepts and Issues	**9***
GEOG 160 or SOC 163	(3)
PLSI 181	(3)
GEOG 181	(3)
Methods and Techniques	**6-9***
Select from the following list of courses: GEOG 30, 132, 141; PLSI 90; SOC 175	

Electives 3-6
With the approval of a program adviser, elect 3-6 units with no more than 3 lower-division units from the following list of courses: AFRS 1, 104W, 135; ANTH 120; BA 120, 154; CLAS 3; CRIM 2; ECON 40, 50; FIN 180; GEOG 128, 132, 141, 142, 143, 146, 149, 160, 181, 187T, 190, 192; HIST 137; PLSI 90, 103, 160, 163; SOC 2, 111, 125, 131, 163. Senior students may elect internship by registering for SSCI 185 (1-3 units).

Total 21

* Students with a course equivalent to one in this category, taken in their major, may, with the approval of the coordinator, substitute additional units from the electives list for the units required here.

Note: The minors also require a minimum of 2.0 GPA and 6 upper-division units in residence.

Credential Program

See the Social Sciences credential adviser, Social Science Building, Room 118, for advising, and refer to *Secondary Teaching Credential* under Social Sciences Programs.

Certificate in Geographic Information Systems (GIS)

The Geography Department offers a certificate of special study in Geographic Information Systems. This 12-unit program consists of four required courses. The certificate is designed for students seeking employment opportunities, those considering postbaccalaureate studies, and professionals who wish to further their careers in GIS.

Units

Required Upper-Division Courses 9
GEOG 141, 142, 143

Electives 3
GEOG 152; FIN 123; IS 140; CE 261, 283; GME 174, 175; EES 185, 186

Total 12

Advising Notes

1. Open to all students and professionals.
2. A grade of ***C*** or better must be earned in each course to receive the certificate.

Note: For the graduate Certificate of Advanced Study in Geographic Information Systems, see the *Department of Earth and Environmental Sciences*.

COURSES

Introductory Geography (GEOG)

GEOG 2. Introduction to Cultural Geography (3 units)
Prerequisite: G.E. Foundation A2. General background to cultural geography, including origins of cultural landscapes, man's modification of the natural environment, and problems of population and settlement geography. G.E. Breadth D3. **F even**

GEOG 4. World Geography (3 units)
Prerequisite: G.E. Foundation A2. Survey of world-wide social, cultural, economic and political forces; earth's physical features; economic development; cultural and natural resources; man-land relationships. Applicable concepts and methodologies. Approach is by continents and/or cultural realms. G.E. Breadth D3. **FS**

GEOG 5. Physical Geography: Global Concepts, Weather and Climate (3 units)
The earth as a planet, map projections, location on the earth's surface, time, oceans, weather, and climate. **F**

GEOG 7. Physical Geography: The Earth's Surface (3 units)
A survey of those elements of the physical environment at the earth-atmosphere contact. Fundamentals of landform features, soils, natural vegetation, and water bodies. **S**

GEOG 20. Introduction to Spatial Techniques (3 units)
Introduction to spatial/geographical techniques, including cartography, topographical map reading, geographical information systems, and aerial photo interpretation. **S**

GEOG 25. Critical Thinking in Geography (3 units)
Fundamentals of critical thinking with emphasis on evaluating claims, examining geographical and cultural influences on perception, constructing arguments, using deductive and inductive reasoning, recognizing fallacies and persuasive rhetoric, and exploring explanations. These skills are applied to select topics drawn from various geographic contexts. G.E. Foundation A3.

GEOG 30. Introduction to Spatial Statistics (3 units)
Introduction of elementary statistical principles and techniques: probability theory, sampling, descriptive statistics, spatial statistics, hypothesis testing, correlation analysis, bivariate regression, and forecasting. (2 lecture, 2 lab hours) (Formerly GEOG 110) **S**

Atmospheric Sciences (GEOG)

GEOG 111. Meteorology (3 units)
Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent). Study of the earth's atmosphere; energy exchanges and temperature; pressure and air circulation; fog, clouds, precipitation and the hydrologic cycle; cyclonic storms and orographic processes; stability and thunderstorms; weather modification and predictions with application to agriculture, aviation, and other activities. **F even**

GEOG 112. Climatology (3 units)
Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent). Study of various systems of climate classification. Climates as they exist throughout the world and the reasons for their occurrence. **S odd**

GEOG 114. Micrometeorology (3 units)
(Same as PLANT 134.) Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent) or permission of instructor. Micrometeorological influences on local climates including natural ecosystems and varying agricultural canopies. Local climate influences on wildlife, domestic animals, and humans. Manipulation of local climate including frost protection, irrigation and wind sheltering. Microclimates of non-uniform terrain and urban environment. **S even**

GEOG 115. Violent Weather/ Climatic Hazards (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. Studies hurricanes, tornadoes, thunderstorms, lightning, destructive winds, heat waves, drought, severe winter storms, and floods. Looks at physical laws and processes that account for their formation and behavior; examines human impacts. G.E. Integration IB. **FS**

GEOG 118. Air Quality Meteorology (3 units)
Examines the sources, effects, and regulation of air pollutants and the roles of meteorology in air pollution. Topics covered include air pollution sources and sinks, atmospheric systems and pollutant transport, and welfare and health effects of air pollution. (Formerly GEOG 191T)

Environmental Sciences (GEOG)

GEOG 122. Introduction to Biogeography (3 units)
Prerequisites: G.E. Foundation and Breadth Area B and GEOG 30 (or equivalent). Examination of the living planet and global patterns of life. Topics covered include evolution, biodiversity, extinction, conservation, and impacts of global change on our planet's biosphere. (Formerly GEOG 117) **F even**

GEOG 127. Global Environmental Change (3 units)
Prerequisite: G.E. Foundation and Breadth Area B. Effects of human activities on the natural world, from ancient times to the present, with emphasis on local, regional, and global environmental changes and their implications for the future. **S even**

GEOG 128. Environmental Pollution (3 units)
Prerequisites: G.E. Foundation and Breadth Area B. A discussion of current environmental pollution problems involving the atmosphere, land, and water. The adverse effects of transportation, surface mining, sewage and waste disposal, noise, the use of pesticides, energy production and consumption, and related topics are examined. G.E. Integration IB. **FS**

GEOG 132. U.S. Environmental Law (3 units)
Prerequisites: G.E. Foundation and Breadth Area D and junior standing. Contemporary environmental problems and their interrelationships. The conceptual, constitutional, and administrative framework for environmental protection and management. Legislation and case law for the protection and enhancement of the environment with emphasis on natural resources. (Formerly CRP 135) **S odd**

GEOG 135. Environmental Protection (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. An examination of the plight of nature; the values of nature preserved; man's attempt to preserve nature. Attention focuses on the national park movement, wilderness, endangered species, the management of lands for the purpose of preservation, and related topics. **S odd**

GEOG 139T. Environmental Regions (1-3; max total 9 if no area repeated)
Prerequisite: G.E. Foundation and Breadth Area D. Systematic and regional investigation of the physical and cultural complexes of various environmental regions. Regions to be discussed include the Humid Tropics, Arid Lands, Polar Lands, Coastal Lands, Mountain Environments, Island Environments. (Formerly GEOG 145T)

Geographic Information Systems and Remote Sensing (GEOG)

GEOG 140. Computer Cartography (3 units)
Introduction to computer applications in geography. Fundamental concepts of computers, Internet, word processing, programming, database, computer mapping, remote sensing, and GIS applications. No computer and statistical experience required. (2 lecture, 2 lab hours) (Formerly GEOG 102) **S odd**

GEOG 141. GIS I: Data Display and Manipulation (3 units)
Prerequisite: GEOG 30 (or equivalent) or permission of instructor. Use of computers in mapping and geographic information systems applications. Operational knowledge of boundary and attribute data manipulation, spatial query, geocoding, and layout using state-of-the-art mapping and geographic information systems software. (2 lecture, 2 lab hours) (Formerly GEOG 101) **F**

GEOG 142. GIS II: Data Creation and Project Implementation (3 units)
Prerequisite: GEOG 141 or permission of instructor. Fundamental concepts of acquisition, structure, manipulation, and analysis of GIS data. Practice in the design, management, and implementation of GIS. Specific operational knowledge may include georegistration, boundary and attribute file creation, map development, spatial query, and spatial analysis. (2 lecture, 2 lab hours) (Formerly GEOG 107) **S**

GEOG 143. GIS III: Spatial Analysis and Modeling (3 units)
Prerequisite: GEOG 142 or permission of instructor. Spatial analysis and modeling in a GIS environment. Spatial geometry, pattern analysis, terrain analysis, path analysis, network analysis, surface modeling, spatial autocorrelation, and spatial interpolation. (2 lecture, 2 lab hours) (Formerly GEOG 108) **F odd**

GEOG 149. Technical Field Geography (3 units)
Prerequisite: geography major or permission of instructor. Gathering and analysis of data pertaining to topics in physical or human geography. Includes an on-campus seminar to discuss issues and concepts. (1 lecture, 4-8 field hours) (Formerly GEOG 109) **S odd**

GEOG 150. Map Interpretation (3 units)
Prerequisites: G.E. Foundation B4, MATH 5 (or equivalent), GEOG 7, and GEOG 30 or permission of instructor. Reading and interpretation of USGS-type topographic maps. Emphasis on interpretative inference concerning both physical and cultural landscapes. (2 lecture, 2 lab hours) (Formerly GEOG 104) **F**

GEOG 151. Aerial Photograph Interpretation (3 units)
Prerequisites: G.E. Foundation B4, MATH 5 (or equivalent), GEOG 7, GEOG 30 (or equivalent) or permission of instructor. Introduction to aerial imagery interpretation, videography, and multispectral scanner technology; computer-based digital processing; monitoring and mapping of terrain features; georeferencing (GPS); GIS applications. (2 lecture, 2 lab hours) (Formerly GEOG 105) **S**

GEOG 152. Remote Sensing I: Introduction to Remote Sensing of Environment (3 units)
Prerequisites: G.E. Foundation B4, MATH 5 (or equivalent), GEOG 7, GEOG 30 (or equivalent) or permission of instructor. Introductory techniques of remote sensing, including digital image processing, and advanced GIS applications. (2 lecture, 2 lab hours) (Formerly GEOG 106) **S even**

International Development Studies (GEOG)

GEOG 160. Urban Geography (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. The city environment. An understanding of the changing urban environments from ancient through medieval to modern times; the relationship of the urban center to its surrounding hinterland; the interdependence of its functional parts; its problems and future. **F even**

GEOG 161. Historical Geography of the United States (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Regional settlement of the United States; peopling of physiographic regions, creation of economic (cultural) regions, and geographic factors related to broad trends in American history. **F**

GEOG 162. Political Geography (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Systematic treatment of the nature and structure of states, boundary problems, political policy for the oceans, international power, air space. **F even**

GEOG 163. World Crises (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Current major political, economic, and environmental crises occurring on either a global or a regional level. **S odd**

GEOG 164. American Ethnic Geography (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Geographical analysis of selected American ethnic groups to include their

cultural hearths, cultural landscapes, cultural evolutions, migrations, and current spatial distributions. Economic, social, and political correlates will be explored. **F odd**

GEOG 165. Medical Geography (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Examination of spatial patterns of diseases worldwide, with special emphasis on diffusion patterns for infectious diseases. Analysis of global health care delivery systems including health care resources, accessibility, and uses. (Formerly GEOG 155) **S even**

GEOG 166. Geography of World Economy (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. An examination of the organization of world economy and human economic activities from a geographical perspective. Discussion of contemporary economic issues may include industrial restructuring, technological innovation, foreign trade and investment, Pacific Asia dynamism, Third World crisis, new international economic order, regional inequality, and local area development. (Formerly GEOG 130) **F odd**

GEOG 167. People and Places — A Global Perspective (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Contrasting characteristics of a diverse world; influence of major social, cultural, economic, and political forces on societal behavior and institutions; impacts of geographical factors including location, climate, natural resources, urbanization, diffusion/adoption of innovations, and rural/urban life styles on development. G.E. Multicultural/International MI. **FS**

Global and Regional Studies (GEOG)

GEOG 170T. Latin American Regions (1-3; max total 9 if no area repeated)
Prerequisite: G.E. Foundation and Breadth Area D. Geography of Latin America. Relationship of cultural and natural features; social and economic development; man-land relationships. Regions to be discussed include Mexico, Central America, Caribbean Islands, and South America.

GEOG 171T. Anglo-American Regions (1-3; max total 9 if no area repeated)
Prerequisite: G.E. Foundation and Breadth Area D. Examination of the physical, economic, and cultural geographic foundations of major Anglo-American regions. Regions to be discussed include Canada, the United States, the American West, the South, the Middle West, and the North East. (Formerly GEOG 166T)

GEOG 173. The American West (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Physical and human geography of the western continental United States. Occupancy of the region, both historically and in contemporary times, by different peoples including Indians, Hispanics, Anglos, and others. Examines population, land and resource use, urban centers, and subdivision of the American West. G.E. Integration ID. (Formerly GEOG 169) **FS**

GEOG 174. European Regions (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Geographic regions of Europe emphasizing the relation of human activities to physical factors areal in their distribution and influence. Regions to be discussed include Mediterranean lands, Western Europe, Eastern Europe, Central Europe, Northern Europe, the British isles**.** (Formerly GEOG 174T)

GEOG 175T. African Regions (1-3; max total 9 if no region repeated)
Prerequisite: G.E. Foundation and Breadth Area D. Study of major African regions relating to basic physical, cultural, economic, and political geographic conditions and problems. Regions to be discussed include Developing Black Africa, North Africa, West Africa, East Africa, Central Africa, and Southern Africa. (Formerly GEOG 181T)

GEOG 177T. Asian Regions (1-3; max total 9 if no area repeated)
Prerequisite: G.E. Foundation and Breadth Area D. Geographic regions of Asia emphasizing physical and cultural features. Regions to be discussed include Southeast Asia, South Asia, China, and the Far East.

GEOG 178. Geography of California (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Natural and cultural patterns of California; historical and regional geography of the state. (Formerly GEOG 168) **S even**

GEOG 179. Geography of the Middle East (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Comprehensive study of the physical features of the Middle East and the cultural traits of its people. The area under consideration extends from the Turkish Straits to the Pamir Knot, and from the Caucasus to the Sudan. **F odd**

Urban and Regional Planning (GEOG)

GEOG 181. Introduction to Urban Planning (3 units)
Prerequisite: G.E. Foundation and Breadth Area D. Introduction to and critical analysis of theory and practice of community planning; traditional and alternative roles of planning in contemporary society; perspectives on community problems; evaluation of concepts, literature, and history. (Formerly CRP 100) **F**

GEOG 184. Environmental Planning (3 units)
Introductory course that covers the fundamental concepts of environmental planning at the federal, state, and local level. Covers the interrelationships among residents, working landscapes, and protected areas, as well as society's need to protect valuable natural resources. (Formerly GEOG 188T)

GEOG 187T. Topics in Urban Planning Techniques (1-3; max total 6 units)
Selected topics such as analytical techniques; means for management of urban development, including transportation, public facilities, and activities in the private sector; public policy concerning issues of local and regional significance. (Formerly CRP 110T) **S even**

Geographic Topics, Research, and Field Trips (GEOG)

GEOG 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

GEOG 191T. Topics in Geography (1-3; max total 9 units)
Prerequisite: G.E. Foundation and Breadth Area D. Selected topics in cultural, physical, environmental, or economic geography or in geographic techniques. (Formerly GEOG 188T) **FS**

GEOG 192. Directed Readings (1-3; max total 6 units)
Prerequisite: permission of instructor. Supervised readings in a selected field of geography. Combined units of GEOG 190 and 192 may not exceed 6 units. ***CR/NC*** grading only. **FS**

GEOG 195. Field Geography (1-6; max total 6 units)
Prerequisite: permission of instructor. Weekend, semester break, or summer field trips. ***CR/NC*** grading only. **FS**

History

History is the study of humanity's recorded past. It encompasses all aspects of human behavior, social organization, and cultural development. The arts and the sciences, the development of technology, and changing economic forces are as much a part of history as is politics or social conflict.

Students of history are engaged in a journey through time in which they can witness and compare the development of a variety of cultures and the interrelations between people in many different circumstances. Through the study of past events, history provides a great storehouse of experience by which the theories of the other social sciences can be tested. And through its analysis of the development of institutions and cultures, it provides one of our best tools for understanding social phenomena.

History is also one of the broadest and most universal of the humanities. Just as the personalities of individuals are shaped through the totality of their past experiences, so cultures and institutions also develop in time. The study of history can help students understand themselves and their culture better and develop a more tolerant and humane spirit toward others. In this way, as in so many others, a knowledge of the past can help all of us meet the problems of today with greater understanding and compassion.

Faculty and Program

The Department of History has more than 15 faculty members offering a wide variety of courses in the history of Europe, the United States, Latin America, the British Empire, Africa, the Middle East, and the Far East, as well as courses in intellectual and cultural history, social history, military history, and the history of women.

The History Department offers a major and minor in history for the Bachelor of Arts degree, a graduate program leading to the Master of Arts, and courses for use in the teaching credential program. It participates in the interdisciplinary programs and minors in Armenian studies, Asian studies, classical studies, Latin American studies, Russian area studies, and women's studies. History courses may also be used as electives toward graduation in most other majors, and the History Department encourages students to take minors and second majors in other fields as well.

The History Department is a chartered member of Phi Alpha Theta National History Honor Society. Our chapter is Alpha Kappa Beta.

Career Opportunities

History majors are trained to read with comprehension and to compare and analyze both written and oral material. In addition they must know how to evaluate evidence and sources, how to critique the writing of others, and how to do research and writing on their own. These are highly valued skills in many occupations and professions today, and the History Department offers preparation for careers in teaching, law, government service, librarianship, journalism, publishing, and business. Career opportunities may also be found in such diverse fields as marketing, advertising, insurance, public relations, social services, urban planning, and the foreign service.

Students with questions related to their future careers are encouraged to consult with the faculty advisers of the History Department, as well as with the Office of Advising Services and the Office of Career Planning and Placement Services, which can provide much useful information with regard to career planning and current job market trends.

Faculty

William Skuban, *Chair*

Bradley Jones, *Graduate Coordinator*
Lori Clune, *Social Science Credential Adviser*

Mark Arvanigian
David Berkey
Daniel Cady
Lori Clune
Michelle DenBeste
Jill S. Fields
Bradley Jones
Melissa Jordine
Ethan Kytle
Maria-Aparecida Lopes
Maritere López
Jesus Luna
De Anna Reese
Blain Roberts
Malik Simba

College of Social Sciences

Department of History
William Skuban, *Chair*
Susan Sandoval, *Department Administrative Assistant*
Social Science Building, Room 101
559.278.2153

B.A. in History

M.A. in History
Option:
- Teaching

Minor in History

Subject Matter Preparation for Single Subject Teaching Credential in Social Science

Jewish Studies Certificate

Teaching American History Certificate of Advanced Study

Bachelor of Arts Degree Requirements

A grade of *C* or higher is required for all courses to be counted toward the major.

History Major	*Units*
Major requirements	**45**
Lower-division requirements:	
HIST 1, 2, and 4	(9)
Select two: HIST 3, 6, 7, 8, 9	(6)
Upper-division requirements:	
HIST 100W	(3)
Select nine courses from the fields listed on this page	(27)
General Education requirements	**51**
Electives and remaining degree requirements	**24**
(See *Degree Requirements*); may be used toward a double major or minor.	
Total	**120**

Advising Notes

1. HIST 4 is required before enrollment in HIST 100W for all students catalog year 2004-05 to present.
2. It is strongly recommended that history majors take both HIST 11 and 12.

3. No General Education Integration or Multicultural/International course offered by the Department of History may be used to satisfy the General Education requirements for history majors.
4. History majors are not permitted to take history courses by ***CR/NC*** grading.
5. General Education and elective units may be used toward a double major or minor (see *Double Major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
6. Students who are planning to do graduate work in history are advised to take a foreign language as an undergraduate in consultation with the History Department.
7. HIST 100W should be scheduled in consultation with faculty.
8. All majors must take a total of 27 units from the three fields listed below, taking into account the following requirements:
   - Students must take a minimum of two courses (6 units) in each field, with at least one from A and one from B in the European History Field.
   - Up to 3 units of HIST 190 may be applied toward the major.
   - HIST 190 may not be taken in lieu of a course offered by the department. Students should have taken courses in the appropriate field prior to taking HIST 190.
   - No more than 3 units of HIST 193 can be applied to any one field.

Fields

United States History: HIST 101, 102T, 137, 158, 159, 171, 172, 173, 174, 175, 177, 178, 179T, 182, 183, 186, 187, 188, 190, 193.

European History: (A) HIST 103, 111, 112, 116, 119T, 121, 122, 124T, 125, 126, 127, 130, 131, 144, 150, 190, 193. (B) HIST 104, 129T, 132, 133, 134, 135, 138, 141, 142, 143, 144, 145, 149T, 151, 152, 190, 193.

World Regions: HIST 105, 106, 107, 108A, 108B, 109T, 110, 115, 157, 160, 162, 164, 165, 166, 167, 168, 169T, 176, 190, 191, 192, 193, 199T.

History Minor

The History Minor consists of 18-21 units of upper-division history courses. Students will choose six upper-division courses from the three fields (U.S., European, and World Regions). Students may take HIST 100W as one of the six courses, but in order to do so they must take the prerequisite of HIST 4. Therefore, students who take HIST 100W will take a total of seven classes for the minor. History minors are not permitted to take history courses by ***CR/NC*** grading.

Note: The History Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Jewish Studies Certificate Program

Jewish Studies Certificate Program Coordinator:

Jill Fields, *Professor of History*

Jewish Studies Program Committee:

Yishaiya Abosch, *Associate Professor of Political Science*

Jacques Benninga, *Professor of Curriculum and Instruction*

Doreen De Leon, *Assistant Professor of Mathematics*

Gina Strumwasser, *Professor of Art History*

Tom Wein, *Associate Professor of English*

The interdisciplinary Jewish Studies Certificate Program provides students with opportunities to explore the long history, rich culture, diverse communities, and distinctive religious practices of this global minority group from ancient times to the present. Students enrolled in certificate courses will gain understanding of the many dimensions of Jewish heritage and also of issues of contemporary concern for Jews of the diaspora, including the United States, and in Israel.

Candidates for the Jewish Studies Certificate must complete a minimum of 12 units of approved coursework with a grade of ***C*** or better in at least two areas of Jewish history, religion, culture, politics, and/or Hebrew language. Students who complete a minimum of 15 units of approved coursework with a grade of ***B*** or better will earn a Certificate in Jewish Studies with honors.

Students of all ethnic and religious backgrounds, including non-matriculating community members who are permitted to enroll in classes at the university, are welcome to enroll in the Jewish Studies Program to earn a certificate. Certificate coursework may include a supervised internship undertaken for credit that will fulfill one certificate course requirement. Courses taken to fulfill the requirements of the Jewish Studies Certificate may be used to fulfill requirements of other degree or certificate programs. The certificate will only be issued after students consult with a co-director of the Jewish Studies Program to ensure that courses taken meet certificate requirements.

Course offerings for the Jewish Studies Certificate may include, but are not limited to, the following:

COMMUNITY SERVICE 101: Community Service Internship or an approved internship course in any major (of 3 units or more) may satisfy the service learning internship option for this certificate (subject to approval by a Jewish Studies Program director)

ENGLISH 116: Literature of Old Testament

ENGLISH 179: Multi-Ethnic American Literature

HISTORY 103. History of Early Christianity

HISTORY 107: Modern Middle East

HISTORY 115: Ancient Israel

HISTORY 140: Holocaust

HISTORY 186: American Immigration and Ethnic History

PHILOSOPHY 134: Literature of the Old Testament

PHILOSOPHY 158: Judaism

SOCIOLOGY 169: Sociology of Religion

"T" (TOPICS) CLASSES: Special topics classes with a Jewish Studies focus offered in English, history, philosophy, political science, or any other relevant discipline.

Credential Program

See the Social Sciences credential adviser, Social Science Building, Room 129A, for advising, and refer to *Secondary Teaching Credential* under Social Sciences Programs.

American History Requirement

The American history requirement for graduation may be fulfilled by passing (a) the Advanced Placement Examination (see *Advanced Placement*) or (b) HIST 11 or 12.

Graduate Program

The Master of Arts program in History is designed to extend the competence of persons engaged in a wide variety of fields requiring a broad grasp of historical knowledge, techniques, and interpretation. Within this degree program, students may choose to complete either a traditional track or a teaching option. The traditional track, which offers both thesis and examination as possible culminating experiences, best satisfies the needs of those interested in public service, teaching at the community college level, or pursuing advanced graduate study in history. The teaching option best satisfies the needs of those interested in enhancing their teaching of history primarily at the secondary level.

The Graduate Certificate program is most suitable for those teachers who would like to update their professional credentials, those seeking supplemental certification, those seeking to prepare for the CSET, and/or those who would simply like to continue their study of history but who do not require an M.A.

Prerequisites. Admission to the Master of Arts degree program in History assumes undergraduate preparation equivalent to this university's major in history. Majors from other disciplines may qualify for admission depending on grade point average and other factors deemed pertinent for success in historical studies. The department determines in each case whether the applicant needs additional preparation before receiving classified standing. Applicants to the Teaching Option must have either a teaching credential or special approval from the graduate coordinator prior to applying.

Graduate Writing Requirement. The graduate writing requirement will be met by submission of a 15- to 20-page research paper formatted according to disciplinary style. The graduate writing committee will meet twice a year — November 15 and March 14 — to assess student writing. Detailed guidelines can be found in the Department of History's *Graduate Student Handbook* or by consulting the graduate coordinator.

Master of Arts Degree Requirements

(See *Division of Graduate Studies.*)

Graduate history courses are open only to program students or by instructor's permission.

The History Department offers a 30-unit Master of Arts program with a traditional track and a teaching option. The traditional track offers two different Culminating Experience choices, as described:

Traditional Track — *Units*

A. Core 15
HIST 200A, 200B, 210T, 220T, 230T
Note: HIST 200A/B must be taken within the first year of enrollment in the history program.

B. Electives 6
Students will select 6 additional units from HIST 210T, 220T, 230T. (Students may repeat course numbers but may not repeat topics.)

C. Independent Study 3
Students will select 3 units of either HIST 290 or 292.

D. Culminating Experience 6
1. Thesis option: 6 units of HIST 299A-B
2. Examination option: 6 additional units from HIST 210T, 220T, or 230T, plus a written comprehensive examination in three fields chosen from among the following. (No more than two fields may be taken from any group.)

Group I: (a) Ancient History, (b) Medieval History, (c) Early Modern Europe to 1815, (d) Modern Europe since 1815.
Group II: (a) The United States to Reconstruction, (b) The United States since Reconstruction.
Group III: (a) Latin America, (b) Asia, (c) Africa.

Total 30

No more than two examinations may be taken from any group. Not all fields will be available at all times.

Comprehensive examinations are given during the first week in November and the first week in April of each year. If students fail an exam they will be allowed to retake it once. For other specifics, consult the department graduate adviser; for general requirements see the *Division of Graduate Studies.*

Teaching Option — *Units*

A. Core 15
HIST 200A, 200B, 210T, 220T, 230T
Note: HIST 200A/B must be taken within the first year of enrollment in the history program.

B. Electives 6
Students will select 6 additional units from HIST 210T, 220T, 230T. (Students may repeat course numbers but may not repeat topics.)

C. Practicum 6
HIST 296 and 297

D. Culminating Experience 3
Project: HIST 298

Total 30

Foreign Language Requirement. Students on the traditional track (either Thesis or Examination choice) must pass a reading competency examination in at least one foreign language approved by the graduate adviser before being advanced to candidacy. With the prior approval of the graduate adviser, a foreign language readings course may be substituted for the exam.

Graduate Writing Requirement. History graduate students in all tracks/options must fulfill the Graduate Writing Requirement (see graduate program coordinator for more information.)

Certificate of Advanced Study in Teaching American History

The graduate certificate is a 12 unit program comprised of the following courses:

Required Courses: HIST 200C and HIST 296

Electives: 6 units of additional coursework chosen from among HIST 210T, 220T, and 230T

COURSES

History (HIST)

HIST 1. Western Civilization I (3 units)
The Mediterranean and European world from prehistoric to early modern times. Social, political, intellectual, and artistic movements in the ancient Fertile Crescent, classical Greece and Rome, and in Medieval, Renaissance, and Reformation Europe. FS

HIST 2. Western Civilization II (3 units)
Survey of modern European culture since the 17th century. Impact of industrialization and urbanization; political revolutions and ideologies; intellectual, artistic, and religious movements; European imperialism; the two world wars and changing patterns in contemporary European life. FS

HIST 3. Colonial Americas (3 units)
Examines the colonial history of North and South America. Analyzes the impact of European colonization of Native American societies, the African slave trade, the evolution of colonial societies, and the independence movements in the 18th/19th centuries.

HIST 4. Introduction to Historical Skills (3 units)
Prerequisite: history major or have permission of instructor. Students receive careful guidance in basic historical skills: writing book reviews, taking notes, conducting research, quoting and documenting sources, formulating thesis statements, and presenting research in both oral and written forms. **FS**

HIST 6. East Asian Civilization (3 units)
Introduction to the history and cultures of the East Asian countries, particularly China, Japan, and Korea. Examination of the East Asian mind as reflected in Confucianism, Taoism, Buddhism, and in resistance to the challenges of the West.

HIST 7. African Civilization (3 units)
Not open to students with credit in HIST 157 prior to fall 1983. Survey of African history from ancient times to the present. Emphasis is on political, economic, and religious movements which have contributed to the rich diversity and the distinctive unity of African civilization. **S**

HIST 8. Republics of Latin America (3 units)
Rise of the modern Hispanic American states since 1800: political, social, economic development. **FS**

HIST 9. Russian and Eurasian Civilization (3 units)
Introduction to the history, culture, literature, and visual and performing arts of Russia and Eurasia from the late medieval period to the present. **FS**

HIST 11. American History to 1877 (3 units)
Prerequisite: G.E. Foundation A2. Examines the history of the United States through 1877, looking at the significant events from the founding of the colonies through Reconstruction, including the role of major ethnic and social groups in the formation of the American nation. G.E. Breadth D1. **FS**

HIST 12. American History from 1877 (3 units)
Prerequisite: G.E. Foundation A2. Examines the history of the United States from 1877, looking at the significant events from the end of the Civil War to the present, including the role of major ethnic and social groups in the formation of the American nation. G.E. Breadth D1. **FS**

HIST 20. World History I (3 units)
Prerequisite: G.E. Foundation A2. The economic, political and social development in world history from the earliest times to the modern period (1500). G.E. Breadth D3. **FS**

HIST 21. World History II (3 units)
Prerequisite: G.E. Foundation A2. The economic, political, and social development in world history from 1500 to the present. G.E. Breadth D3. **FS**

HIST 100W. Historical Research and Writing (3 units)
Prerequisites: HIST 4, ENGL 5B or 10, upper-division standing. Individual guidance and criticism in research, writing, argumentation, and documentation. While engaging in historical research and writing, students gain a deeper appreciation of the discipline's theoretical and methodological concerns. Meets the upper-division writing skills requirement for graduation. (Formerly HIST 100) **FS**

HIST 101. Women in History (3 units)
(Same as WS 101.) Prerequisites: G.E. Foundation and Breadth Area D. Historical survey of women's roles in history, with an emphasis on the emergence of the feminist movement. G.E. Integration ID. **FS**

HIST 102T. Topics in Women's History (3; max total 6 units if no topic repeated)
(See WS 102T.)

HIST 103. History of Early Christianity (3 units)
Early Christianity from the first century to eve of Reformation.

HIST 104. History of Women and Men in Modern Europe (3 units)
Studies everyday lives of modern European women and men in historical context. Examines how gender identities and relations developed and changed through industrialization, revolution, wars, and social and political movements.

HIST 105. Armenian Genocide in Comparative Context (3 units)
(Same as ARMS 105.) Review of theory and characteristics of genocide. Study of the Armenian Genocide as an example and show comparison with other genocides in the 20th century. Discusses role of international constituencies and prevention and lessons of genocide.

HIST 106. Armenians in North America (3 units)
Study of six waves of Armenian migration to North America from 1870-1995. Topics discussed include entry, settlement, work, family, community organizations, church, politics, culture, and integration in U.S. Society.

HIST 107. Modern Middle East (3 units)
Analysis of Middle Eastern history since Muhammad, with emphasis upon the 19th and 20th centuries. The Middle East under European imperial domination; nationalist movements and revolutions; the Arab-Israeli conflict; the Middle East in contemporary world politics.

HIST 108A. Armenian History I: Ancient and Medieval (3 units)
(Same as ARMS 108A.) History of Armenia and Armenians from prehistoric times to the beginning of the modern era. The historical process will be considered from Armenia's point of view as well as from that of its neighbors: Assyria, Iran, Rome, Byzantium, the Arabs, the Seljuk Turks, the Crusades, the Mongols, and various Turkic dynasties.

HIST 108B. Armenian History II: Modern and Contemporary (3 units)
(Same as ARMS 108B.) Overview of modern and contemporary Armenian history, including Armenia's relations with Persian, Turkish, and Russian empires, the Armenian Renaissance, the "Armenian Question," the Genocide, the Armenian Republic, Soviet Armenia, the Second Armenian Republic, and diasporan communities in America, Europe, and the Middle East.

HIST 109T. Studies in Middle East and Africa (1-3; max total 6 if no topic repeated)
Intensive study of special topics.

HIST 110. Ancient Near East (3 units)
Ancient civilizations of the Middle East. History and culture of the Sumerians, Assyrians, Babylonians, and Persians from the dawn of history to Alexander the Great and the ascendance of Greece.

HIST 111. Ancient Greece (3 units)
The history and culture of ancient Greece from the Minoan-Mycenaean periods through the Golden Age of Athens to the dissolution of the empire of Alexander the Great.

HIST 112. Ancient Rome (3 units)
The early history of Rome and the evolution of Roman society, politics, and culture through the republican and imperial periods.

HIST 115. Ancient Israel (3 units)
Ancient Israel from Abraham to the destruction of Jerusalem in 70 A.D. Jewish religious thought is discussed by placing the books of the Old Testament in their historical context.

HIST 116. Greek and Roman Religion (3 units)
Analysis of the religious ideas, customs, and practices of ancient Greeks and Romans from the time of Homer to the establishment of Christianity.

HIST 117. Alexander the Great and the Hellenistic World (3 units)
Examines the rise of Macedon, the conquests of Alexander the Great, and his successors' establishment of Hellenistic kingdoms in the remnants of the Persian Empire. Explores cultural, social, economic, and political interactions between Greek and Near Eastern societies. (Formerly HIST 119T)

HIST 118. Augustus and Rome (3 units)
Examines the history of the rise to power, rule, and influence of Augustus. Beginning with the late republican era, the course traces Augustus' consolidation of power, his transformation of Roman politics and culture, and his search for a successor. (Formerly HIST 119T)

HIST 119T. Studies in Ancient History (1-3; max total 6 if no topic repeated)
Intensive study of special topics.

HIST 121. The Middle Ages (3 units)
Prerequisite: HIST 1 or permission of instructor. Medieval Europe from the fall of the Roman Empire in the West to the Renaissance.

HIST 122. Medieval Culture (3 units)
Selected aspects of medieval life and culture such as warfare, commerce, art and architecture, learning and the university presented as manifestations of the medieval mind. Extensive use of visual materials.

HIST 124T. Studies in Medieval History (1-3; max total 6 if no topic repeated)
Intensive study of special topics.

HIST 125. Renaissance (3 units)
Social, intellectual, political, and economic factors that shaped Europe in the 14th and 15th centuries; humanism, foundations of the state; secularization and dissent within the church. **FS**

HIST 126. Reformation (3 units)
Analysis of the political, social, and intellectual movements associated with the 16th century religious upheaval. **S**

HIST 127. Women and Power in Early Modern Europe (3 units)
Exploration of the roles of European women circa 1400-1800 A.D. Studies perceptions and representations of women and secular/religious constraints upon them. Also investigates women's own views and the ways in which they confronted and/or manipulated social strictures.

HIST 129T. Studies in Intellectual and Social History (1-3; max total 6 if no topic repeated)
Topics concerned with ideas and movements that have significantly shaped the course of history.

HIST 130. Europe in the 17th Century (3 units)
European culture, society, and politics from 1600 to the death of Louis XIV.

HIST 131. Europe in the 18th Century (3 units)
Intellectual, social, and political development of Europe from 1715 to the French Revolution and Napoleon Bonaparte.

HIST 132. Revolutionary Europe (3 units)
Prerequisite: HIST 2 or permission of instructor. History of Europe from the French Revolution to the Russian Revolution. Social and cultural consequences of Industrialization and the rise of Nationalism and Imperialism.

HIST 133. Europe in the 20th Century (3 units)
Narrative and interpretive account of 20th century Europe. Stress on the impact of World War I, the Communist and Fascist Revolutions, the economic recovery of Europe, and the loss of European significance in the world after World War II.

HIST 134. 20th Century Dictators (3 units)
Provides an in-depth analysis of the most prominent authoritarian regimes of the 20th century. Gives an in-depth summary of their rise to power, the fundamental aspects of their regime, their foreign policy, and the significance

HIST 135. European Cultural History (3 units)
Analysis of European thought from the Enlightenment to the present. Major movements in philosophy, religion, literature, art, and architecture; ideologies such as conservatism, liberalism, socialism, communism, nationalism, racism, and fascism. Emphasis on ideas of lasting and worldwide influence.

HIST 138. World War II: A Global Conflict (3 units)
A detailed examination of the military, diplomatic, political, economic, social, and cultural impact of the Second World War. The causes, conduct, and consequences of the war are analyzed. **F**

HIST 139. European Diplomatic History 1890-1945 (3 units)
Covers the conduct of foreign policy by European states between 1890 and 1945, including alliances, conflicts, and treaties. Examines these thoroughly and explores an understanding of the impact and limitations of foreign policy initiatives.

HIST 140. Holocaust (3 units)
Discusses the rise of National Socialism in Germany, the origins of the persecution and murder of Jews, ghettos, concentration and death camps in Germany and Eastern Europe, and the aftermath, including the Nuremberg Trials. (Formerly HIST 149T)

HIST 141. Modern Germany (3 units)
Political and social developments from Bismarck to the present. Rise of Germany as a world power; failure of German democracy; Hitler and the Third Reich; politics of a divided Germany since 1945. **S even**

HIST 142. Tsarist Russia (3 units)
The political, economic, and social history of Tsarist Russia from 862 to 1917.

HIST 143. Russia and Eurasia in the 20th Century (3 units)
The political, social, cultural and economic history of Russia and Eurasia from the rise of communism to the present. Examines the rise of communism and its political and social structures. Explores Soviet systems, arts, literature, the dissident movement, and nationalities policies. Looks at the fall of communism, the end of the Soviet Union, and the new states that have emerged in its wake. **S**

HIST 144. Warfare in the Western World (3 units)
Focuses on the transformation of warfare by the advent of new technology, tactics and strategy, and the increasing ability to mobilize the entire resources and population of nations at war. Covers U.S. Civil War, World War I, and World War II.

HIST 145. Spain and Portugal (3 units)
Development of the Iberian Peninsula from prehistoric to modern times.

HIST 149T. Studies in Modern European History (1-3; max total 6 if no topic repeated)
Intensive study of special topics.

HIST 150. England to 1485 (3 units)
Structure of the British government, society, and economic life from Roman times to The War of the Roses.

HIST 151. England and the Empire (3 units)
Rise of England and the British nation; spread of the English-speaking peoples and the transfer of British institutions; from 1485 to the modern era.

HIST 152. British History in Film (3-4; max total 4 units)
Discussion and written historical analysis of selected cinematic masterpieces in British history, from Henry II to the modern era.

HIST 153. United States During the Cold War (3 units)
Explores the political, social, cultural, military, and economic history of the U.S. during the Cold War. (Formerly HIST 179T)

HIST 156. U.S. Cultural History, 1877-Present (3 units)
An examination of American culture from the late 19th century to the present, focusing on various cultural products and practices, both high and low. (Formerly HIST 179T)

HIST 157. Modern Africa (3 units)
The history of Africa since 1800. Topics given special attention include the slave trade and its abolition, European exploration, the imposition of European colonial rule, African nationalism, the struggle for independence and Africa's rise to prominence in world affairs.

HIST 158. The American Civil War (3 units)
Looks at the causes of the Civil War (1861-1865) and its revolutionary consequences for American individuals and institutions. Devotes attention to military as well as political, economic, social, and cultural aspects of the war.

HIST 159. The Reconstruction of America, 1865-1900 (3 units)
Exploration of a critical period in which the United States sought to rebuild itself politically, socially, economically, and culturally in the 30 years after the Civil War. Topics include emancipation, radical reconstruction, urbanization, and the rise of the West.

HIST 160. The Great American Civilizations: Maya, Aztec, Inca (3 units)
Historical examination of the rise and fall of the Maya, Aztec, and Inca empires. Social organization, religion, technology, art, and scientific achievements of the pre-Columbian great American civilizations.

HIST 162. South America (3 units)
The history of South American republics, with an emphasis on such themes as instability, economic development, political parties, and revolution. **F even**

HIST 164. 19th Century Mexico (3 units)
Examines the political, social, and economic development of Mexico from its independence from Spain in 1821 through the Mexican Revolution of 1910. (Formerly HIST 169T)

HIST 165. Modern Mexico (3 units)
Nineteenth century origins of Mexican nationality. Development of modern Mexican culture from the Mexican Revolution to the present as compared to that of the Mexican American. Literature and art as an expression of the new Mexican culture.

HIST 166. United States — Latin American Diplomacy (3 units)
History of the relations between the United States and Latin America, ranging from the Monroe Doctrine through the Good Neighbor Policy, Alliance for Progress, and the Caribbean Basin Initiative. **F odd**

HIST 167. Social Revolution in Latin America (3 units)
Highlights Mexico, Cuba, and Central America in exploring the origins, social constituencies, and consequences of the major 20th century Latin American revolutions. Examines the impact of counterrevolutionary movements, foreign intervention, and the successes and failures of each revolution. **S odd**

HIST 168. Latin American History in Film (3 units)
Analyzes the manner in which major and controversial themes (race, class, gender, revolution, the military, and underdevelopment) in Latin American history are portrayed in feature length films. Emphasis is given to the historical content and accuracy of the films. (Formerly HIST 169T)

HIST 169T. Studies in Latin American History (1-3; max total 6 if no topic repeated)
Intensive study of special topics. **S even**

HIST 170. The American Colonies, 1607-1763 (3 units)
Explores social, cultural, and political developments in the British North American colonies from the first contact between indigenous and European cultures to the eve of the American Revolution.

HIST 171. The American Revolution, 1750-1815 (3 units)
Examines the causes, nature, and results of the American Revolution, which secured the independence of the United States and created the first republican government in the western hemisphere. **F**

HIST 172. Jacksonian America, 1815-1848 (3 units)
Prerequisite: HIST 11 or permission of instructor. Explores the social, political, economic, and cultural developments that transformed the United States in the early nineteenth century. Topics include the rise of mass democracy, the Second Party System, the Market Revolution, and the geographic expansion of the republic. **S**

HIST 173. United States History, 1865-1914 (3 units)
The development of an increasingly urban and industrialized society from Reconstruction to the eve of World War I.

HIST 174. United States History, 1914-1945 (3 units)
The United States in world affairs; political, economic, social, and cultural developments and problems from 1914 to 1945.

HIST 175. United States History, 1945-Present (3 units)
Prerequisite: HIST 12 or permission of instructor. The United States in world affairs; political, economic, social, and cultural developments, and problems from 1945 to present.

HIST 176. The Atlantic World, 1500-1800 (3 units)
Covers economic, social, political, and religious histories of Europe, Africa, and North and South America between the 15th and 19th centuries.

HIST 177. American History in Film (3 units)
Analysis of significant films and documentaries on controversial aspects of American history. Emphasis given to placing film content in an historiographical framework. Offered especially, but not exclusively, for prospective teachers.

HIST 178. History of African Americans (3 units)
(See AFRS 178.)

HIST 179T. Studies in United States History (1-3; max total 6 if no topic repeated)
Intensive study of special topics.

HIST 180. History and Autobiography (3 units)
Examines the uses of first-person narratives in understanding American history. Gives attention to a diverse collection of writers as well as to the social context and narrative conventions that shaped their autobiographies. (Formerly HIST 179T)

HIST 182. Westward Movement Since 1848 (3 units)
Patterns of exploitation; role of the federal government in the West: land policy, Indian policy; problems of communication; economic growth.

HIST 183. The Hispanic Southwest (3 units)
Exploration, conquest, and settlement of the Spanish Borderlands from 1513 to the Mexican War; contributions of Hispanic culture to the Southwest.

HIST 186. American Immigration and Ethnic History (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Covers America, land of immigrants. American immigration policy, regulations, and implementation. Ethnic formation and heritage retention or loss. Pluralism, assimilation, and national unity: *e pluribus unum*. G.E. Multicultural/International MI.

HIST 187. California History (3 units)
Explores California history from before the Spanish conquest to the present. Themes include the cultural, social, political, and economic practices of the various immigrant and indigenous groups that have occupied the state.

HIST 188. Regional and Local History (3 units)
Regional and local history with an oral history component. Students will conduct interviews focusing on the daily lives and contributions of individuals within diverse communities

HIST 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

HIST 191. Modern Far East, 1843-1949 (3 units)
Not open to students with credit in HIST 191A. History of the Far East from the conclusion of the Opium War to the eve of Chinese Communist Revolution. Particular emphasis on China, Japan, and Korea.

HIST 192. Modern Far East, 1949-Present (3 units)
Not open to students with credit in HIST 191B. History of the Far East from the success of the Chinese Communist Revolution in 1949 to the present. Particular emphasis on China, Japan, Korea, and Vietnam.

HIST 193. Internship in History (1-2; max total 6 units)
Prerequisites: HIST 1 and 2, HIST 4, and 6 units from either HIST 3, 6, 7, 8, or 9 and permission of the instructor. Supervised work experience in a history-related field. Internship relates the student's classroom studies to occupational and professional experiences.

HIST 194. The United States and Vietnam (3 units)
Explores political, social, cultural, military, and economic history of U.S. involvement in Southeast Asia, with particular emphasis on Vietnam.

HIST 199T. Studies in Far Eastern History (1-3; max total 6 if no topic repeated)
Intensive study in special topics.

GRADUATE COURSES

(See *Catalog Numbering System*.)

History (HIST)

HIST 200A. Introduction to Graduate Writing and Historiography (3 units)
Introduction to the methods and skills of graduate writing. Introduction to the varieties of history writings from the ancient world to early modern times, focusing especially on major themes, approaches, and categories of history writing and authors.

HIST 200B. Introduction to Graduate Research and Historiography (3 units)
Introduction to the methods and skills of graduate research. Introduction to the varieties of modern history writing, focusing especially on major theses, approaches, and categories of history writing, and major figures in modern historical debates.

HIST 200C. Introduction to Graduate Research Methods and Historiography for History Teachers (3 units)
Provides students with a working knowledge of modern historiography and various approaches to history within the discipline. Students will begin to master the skills of professional historical research.

HIST 210T. Topics in United States History (3 units)
Intensive reading, analysis, and discussion of significant historical problems in United States history.

HIST 220T. Topics in European History (3 units)
Intensive examination of methodological and theoretical issues pertaining to the advanced study of diverse topics in European history.

HIST 230T. Topics in World History (3 units)
Intensive reading, analysis, and discussion of selected problems in world history.

HIST 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

HIST 292. Directed Readings (1-3; max total 3 units)
Prerequisite: permission of instructor. Readings on selected themes and topics in consultation with a faculty adviser.

HIST 296. Topics in History for Teachers (1-3; max total 3 units)
Integrates historical theory and "best practices" with practical historical knowledge and curricular development. Introduces teachers to historical resources and discusses history pedagogy to integrate current historical scholarship into intermediate and secondary history curricula.

HIST 297. Internship in History (1-3)
Supervised work experience in a history-related field. Provides occupational and professional experience as well as gives students an opportunity to discuss their experiences in a classroom setting.

HIST 298. Project (3 units)*
Preparation, completion, and submission of an acceptable project for the MA teaching option.

HIST 299A-B. Thesis (3-3)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. (A) Thesis design. (B) Thesis writing. A and B may be taken concurrently. Approved for ***RP*** grading.

*For 298C and 299C courses, see *Graduate Studies*.

IN-SERVICE COURSE

(See *Catalog Numbering System*.)

History (HIST)

HIST 300. Topics in History (2; max total 8 if no topic repeated)
Selected topics in various fields of history, e.g., European, The Americas, United States, non-Western.

Political Science

College of Social Sciences

Department of Political Science
David Schecter, *Chair*
Nimat Davis, *Administrative Support Coordinator*
Janet Linton, *Administrative Assistant*
McKee Fisk Building, Room 244
559.278.2988

B.A. in Political Science

B.A. in Public Administration

M.A. in International Relations*

Master of Public Administration (M.P.A.)

Minor in Political Science

Minor in Public Administration

Minor in International Political Economy
(Jointly with Department of Economics)

Subject Matter Preparation for Single Subject Teaching Credential in Social Science

Political Science

Courses and programs offered by the Department of Political Science are intended to help all students become more effective participants in a democratic society, as makers of public policy, and as individuals affected by those policies. Our programs prepare political science and public administration majors for a wide variety of careers.

Students may elect to concentrate within political science on American government and politics, international politics, comparative government, or political theory. The Public Administration Program is designed to prepare students for administrative positions in public service agencies and includes instruction in such subjects as personnel administration, budget preparation, public relations, and techniques of management appropriate to the administration of public policy. For those who achieve a high measure of proficiency in their undergraduate programs, the department offers advanced work leading to the master's degree in international relations and public administration. A Minor in Political Science is chosen by students as a means of obtaining skills and knowledge important to their primary area of interest.

Internships

The department offers several programs through which students may gain practical experience while gaining academic credit. A political science internship involves working in the office of an elected official or, when possible, in an election campaign.

The comparable program in public administration places students in positions, often paid, with local government offices and agencies where they may be involved with city planning and zoning issues, public relations efforts, special research topics or budget preparation, to mention several possibilities.

In addition, the department sends selected students to the state capitol to participate in the Sacramento Semester Program under which they work with members of the Legislature, officers of the Executive, or with lobbyists. Finally, arrangements also may be made for better students to serve as staff to members of Congress in Washington, D.C. for a semester.

Career Opportunities

What do you do with a degree in political science or public administration? The skills gained through study on these subjects are highly valued in many areas, including business. Graduates have found positions with governmental agencies and officers, with companies or organizations that deal extensively with government or as members of the print and electronic media as reporters. Careers with the state department and foreign service have proven rewarding to many with a special interest in international politics or comparative government. Those interested in a career in law have found a solid grounding in political science valuable. The department has more prelaw students as majors than any other program at the university.

In most instances, the faculty in the department have had experience practicing what they teach. All bring to their classes extensive backgrounds that permit them to combine the theories of political science and public administration with the practical applications of those theories.

Most upper-division classes are small enough to allow extensive student-faculty interaction. The usual course involves a mixture of lecture and class discussion and encourages the expression of a variety of viewpoints about political issues. With smaller classes come greater opportunities for individualized instruction and assistance.

* Admission to the M.A. in International Relations is currently suspended.

Bachelor of Arts Degree Requirements

Political Science Major	*Units*
Major requirements	**36**
(see *Notes 1* and *2*)	
Lower-division core: PLSI 1, 90	(6)
(to be completed prior to or concurrently with enrollment in the first 6 units of upper-division major courses)	
Upper-division core: PLSI 110 or 111, 120, 140, 150	(12)
Upper-division Political Science electives: (exclude PLSI 102, 187)	(18)
General Education requirements	**51**
Electives and remaining degree requirements	**33**
(See *Degree Requirements*); may be used toward a double major or minor.	
Total	**120**

Advising Notes

1. *CR/NC* grading is not permitted in the political science major.
2. No course used to satisfy a General Education requirement may be used to satisfy political science major requirements.
3. General Education and elective units may be used toward a double major or minor (in something other than political science; see *Double major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. The department highly recommends that the student select upper-division electives in at least three of the following disciplines: anthropology, African American studies, economics, English, geography, history, Chicano and Latin American studies, philosophy, sociology, or city and regional planning. Consult adviser for specifically recommended courses.
5. **Grading Requirement**. Students majoring in political science must earn a grade of C or better in each of the six core courses in the major: PLSI 1, 90 (lower-division) and PLSI 110 or 111, 120, 140, and 150 (upper-division).

Bachelor of Arts Degree Requirements

Public Administration Major	*Units*
Major requirements	**36**
(see *Notes 1* and *2*)	
Lower-division core: PLSI 1, 90	(6)
(to be completed prior to or concurrently with enrollment in the first 6 units of upper-division major courses)	
Upper-division core: PLSI 150, 181, 182, 184, 185	(15)
Upper-division electives	(15)
Select from: PLSI 103, 110, 111, 114, 160, 163, 169T, 170, 175, 183, 187, 188T, 189T, 190, 191	
General Education requirements	**51**
Electives and remaining degree requirements	**33**
(See *Degree Requirements*); may be used toward a double major or minor.	
Total	**120**

Advising Notes

1. *CR/NC* grading is not permitted in the public administration major with the exception of PLSI 187.
2. No course used to satisfy a General Education requirement may be used to satisfy public administration major requirements. In addition, PLSI 120 may not be used to satisfy the General Education Multicultural/International requirement for public administration majors.
3. General Education and elective units may be used toward a double major or minor (in something other than political science; see *Double major* or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. The department highly recommends that the student select upper-division electives in at least three of the following disciplines: anthropology, African American studies, economics, English, geography, history, Chicano and Latin American studies, philosophy, psychology, sociology, or city and regional planning. Consult adviser for specifically recommended courses.

Minors

The following minor requirements are in addition to the General Education requirement in social science.

Political Science	*Units*
PLSI 1, 110 or 111	**6**
Political Science electives (upper-division), including PLSI 158, 187	**15**
Total	**21**

Public Administration	
PLSI 1, 181, 182, 183, 184, 185, or 189T	**12**
Select from PLSI 103, 110, 111, 114, 150, 151, 160, 163, 170, or 175	**9**
Total	**21**

No course used to satisfy a General Education requirement may be used to satisfy requirements for the Political Science and Public Administration minors.

International Political Economy

For details about the Minor in International Political Economy, see listing in the Department of Economics.

Note: The minors also require 2.0 GPA and 6 upper-division units in residence.

United States Constitution Requirement

The United States Constitution (including California State Constitution and local government) requirement for graduation will be fulfilled by PLSI 2. No other political science class fulfills the United States Constitution requirement.

Advanced Placement Exam Policy

Advanced Placement Examinations for American Government cannot be counted to fulfill the American government General Education requirement; 3 units of elective may be granted.

Credential Program

See the Social Sciences credential adviser, Social Science Building, Room 129A, for advising, and refer to *Secondary Teaching Credential* under Social Sciences Programs.

Master of Arts Degree in International Relations*

The program leading to a Master of Arts degree in International Relations is designed chiefly, but not exclusively, for students preparing for careers involved with global and international politics (e.g., political aspects of: international business, agriculture, health services, education, U.S. foreign service, etc.). The interdisciplinary nature of the program is derived from: (1) the five seminars in political science, each of which requires the student to master key concepts and issues in international relations, and (2) the 9- to 15-unit component of the program which students select from the approved list of political science and extra-departmental courses related to their career objectives.

The program's flexibility, however, also accommodates the needs of those students who plan to use the master's degree for teaching careers or to pursue a Ph.D. in political science, or both. After completion of 15 of the required 30 units of the program, each student is requested to submit to the graduate adviser a written statement of career objectives so that remaining requirements may be tailored to the needs and desires of the individual.

* Admission to the M.A. in International Relations is currently suspended.

Requirements for the Master of Arts in International Relations

Admission to the program is open to all graduates of a duly accredited college or university who meet the requirements for admission (see *Admissions*). Students with background deficiencies in political science usually may remedy these through a few upper-division political science courses selected by the program adviser. Any prerequisites required by extra-departmental courses must also be fulfilled unless waived by the department or program concerned.

Admission. Applicants may qualify for admission to the program courses by achieving classified graduate standing. Classified standing requires:

1. An acceptable baccalaureate degree from an institution accredited by a regional accrediting association
2. Good standing at the last college attended
3. Submission to the university of transcripts of college work; scores from the Graduate Record Examination Aptitude Test (GRE); a written statement indicating why the applicant wishes to pursue the M.A.; and three letters of recommendation
4. Recommendation for admission by the Admissions Committee of the Graduate Program in International Relations. Candidates will be recommended on the basis of the promise they show for successfully completing the program. Candidates will be evaluated using a combination of:
   a. grade point average (those with averages of less than 2.8 overall or 3.0 on the last 60 semester units attempted must have compensating strength in other areas)
   b. aptitude for academic work (those with scores of less than 500 on either the verbal or quantitative part of the GRE must have compensating strength in other areas); applicants whose native language is not English must also achieve a minimum score of 570 on the Test of English as a Foreign Language
   c. evaluation of the applicants written statement and letters of recommendation

All candidates for the Master of Arts in International Relations must complete the 15 units of graduate seminars specified as the core program, which consists of PLSI 200, 210, 220, 240, and 250. In addition to the minimum program grade point average of 3.0, students must have a minimum grade point average of 3.0 in these core courses. Students must select an additional 15 units related to international relations or comparative politics in consultation with the program coordinator and depending on their interests and career objectives.

This 15 unit requirement may be met either with 15 units of pre-approved electives or with 9 units of pre-approved electives and 6 units of an approved thesis or project. All students not completing an approved thesis or project must pass a written comprehensive exam.

A thesis or project must be primarily in the field of international relations and under the direction of the Political Science Department. One reader or assistant project adviser may be chosen from outside political science where the topic makes this appropriate.

Exclusive of the core courses and thesis or project, a maximum of 3 units may be gained through Independent Study. Basic competence in written translation from a foreign language into English is a prerequisite for the M.A. in International Relations. This language examination will be required before enrollment in the thesis or taking the written comprehensive examinations. Foreign students may offer English in fulfillment of this requirement. The graduate program in international relations student can meet the university Graduate Writing Requirement by passing the writing component of PLSI 200 or PLSI 270. Please see program coordinator for the written policy.

Specific Requirements for M.A. in International Relations. One of the following plans is available to the student in consultation with the graduate adviser:

Plan A	***Units***
Core Program	**15**
Thesis or Project	**6**
Electives from approved list of courses	**9**
Total	**30**

Plan B	***Units***
Core Program	**15**
Electives from approved list of courses	**15**
Comprehensive written examination	
Total	**30**

Note: At least 21 of the 30 required units must be taken at the graduate, 200-series level.

Master of Public Administration Program

The M.P.A. Program builds on the belief that effective leadership of public agencies requires a basic set of abilities and public values irrespective of the particular characteristics of an organization. Courses in the program focus on the development of critical thinking and analytical skills, as well as an appreciation for ethical decision making.

All students in the program complete a core program of 21 units within the 36 units required for the M.P.A. In consultation with their advisers, students will select the remaining units from graduate public administration courses and courses offered by other departments and programs. These units can be used to further develop a general competence in public administration or to

provide students with an opportunity to pursue additional topics of interest. The M.P.A. student can meet the university Graduate Writing Requirement by passing the writing component of the course MPA 210. Please see program director for the written policy. To finish the program students may elect to write a thesis or to take a comprehensive examination.

The curriculum of the program follows the guidelines established by the National Association of Schools of Public Affairs and Administration (NASPAA) and was designed following consultation with senior public administrators in the Fresno area. Consistent with the NASPAA guidelines, the program seeks to prepare administrative specialists who understand the place and role of public agencies and their staffs in the political, social, and economic systems of the United States; who have the analytic tools, both quantitative and qualitative, to diagnose problems and analyze alternative courses of public action; who have the leadership abilities to develop and make effective use of the talents and abilities of agency staffs; who have the abilities required to formulate, implement, and evaluate public policies which are responsible and effective; and who are able to manage an agency in such a way as to make responsible and effective use of its resources now and in the future.

Master of Public Administration Degree Requirements

	Units
Core	**18**
MPA 200, 201, 210, 230, 245, 260	
Additional core	**3**
MPA 215, 240, 250, or 280T	
Approved electives	**3-15**
Practitioner's Seminars	**0-6**
MPA 289T	
Internship	**0-3**
MPA 287	
Comprehensive examination	**0**
Thesis	**0-3**
MPA 299	
Total	**36**

All students will be required to take 21 core units; 18 of these core units are prescribed for students. The remaining 3 core units must be selected from the courses listed under the "Additional Core" heading. Students may take more than one course listed under the "Additional Core" heading. If they do, these courses will count towards meeting their "Approved Electives" requirement. MPA students may also choose to take units offered as Practitioner Seminars (MPA 289T). Pre-service or in-service students with less than six months of experience in the public or non-profit sector will be advised to take MPA 287. This will provide them with both a valuable learning and working experience. To culminate their MPA experience, students may choose either the comprehensive exam or thesis. The comprehensive exam does not count for any units towards the degree, but does satisfy the requirement that students be provided with a culminating experience to their program. The thesis (MPA 299) is worth 3 units toward the degree and also satisfies the culminating experience requirement.

Approved elective courses may used to build on the foundation of the program's core offerings. The courses to be used as electives in the MPA program are to be chosen in consultation with the student's adviser and must be approved by the MPA director. The students' selection of electives should be guided by their interest in a particular course/topic and its relationship to the practice of public administration.

Admission. Applicants may qualify for admission to the program and thereby take program courses by achieving classified graduate standing. Classified standing requires:

1. An acceptable baccalaureate degree from an institution accredited by a regional accrediting association;
2. Good standing at the last college attended;
3. Submission to the university of transcripts of college work; scores from the Graduate Record Examination Aptitude Test (GRE) or the Graduate Management Admission Test (GMAT); a written statement indicating why the applicant wishes to pursue an M.P.A.; and, if any, evidence of work performance in a public or nonprofit agency (see 4d); and
4. Recommendation for admission by the Admissions Committee of the Graduate Public Administration Program. Candidates will be recommended on the basis of the promise they show for successfully completing the program and achieving a successful career in public management and administration. Candidates will be evaluated using a combination of:
   a. grade point average (those with averages of less than 2.75 overall or 3.0 on the last 60 semester units attempted must have compensating strength in other areas)
   b. aptitude for academic work (those with scores of less than 475 on either part of the GRE or on the GMAT must have compensating strength in other areas)
   c. professional goals of the applicant
   d. successful performance in public or nonprofit agency employment as demonstrated by the character of work accomplished, distinctions achieved, and letters of recommendation from persons who can knowingly and comparatively evaluate the on-the-job performance of the candidate over a period of time (this basis for evaluation may be waived for candidates showing great strength in [a] or [b]). Applicants whose native language is not English must also achieve a minimum score of 550 on the Test of English as a Foreign Language.

COURSES

Political Science (PLSI)

PLSI 1. Modern Politics (3 units)
Prerequisite: G.E. Foundation A2. Introduction to the study of democratic and authoritarian political systems; evaluation of the historical, cultural, and economic contexts of modern politics around the world; institutional structures and functions; political ideologies; individual and group participation in the political process; current issues. G.E. Breadth D3. **FS**

PLSI 2. American Government and Institutions (3 units)
Prerequisite: G.E. Foundation A2. Meets the United States Constitution requirement and the federal, California state, and local government requirement. The development and operation of government in the United States; study of how ideas, institutions, laws, and people have constructed and maintained a political order in America. Not available for *CR/NC* grading. G.E. Breadth D2. **FS**

PLSI 10T. Contemporary Issues in Politics (1-3; max total 9 units if no topic repeated)
Significant contemporary uses in political theory, world politics, comparative gov-

ernment, American government, local government, public administration, or public opinion.

PLSI 90. Methods of Analysis of Quantitative Political Data (3 units)
An introduction to hypothesis testing in political science, with applications to the analysis of quantitative political data; the formulation of research problems and hypotheses; accuracy and precision in measurements; problems of evidence and inference; basic techniques of statistical analysis. **FS**

PLSI 102. California Government and Institutions (1 unit)
Not open to students with credit in PLSI 2. Open only to students who have satisfied United States Constitution requirement but have not satisfied California state and local government requirement. Examination of legislative, executive, judicial, and local government problems in California. Not available for *CR/NC* grading. **FS**

PLSI 103. California Politics (3 units)
Satisfies California state and local government requirement, if not used for political science major. Emphasis on the historical development of politics in California and the factors and institutions important to contemporary politics: characteristics of the electorate, voter registration, primaries and general elections, candidates and campaigning, party organizations and leaders, interest groups, and current issues.

PLSI 107. Women in U.S. Politics (3 units)
See WS 107. (Formerly PLSI 150T, PLSI 159T)

Political Theory (PLSI)

PLSI 110. Seminar in History of Political Thought to Machiavelli (3 units)
Development of political thought from Plato to Machiavelli: law, justice, the state, authority, forms of government, and church-state relations in light of the philosophy of history. **FS**

PLSI 111. Seminar in History of Political Thought Since Machiavelli (3 units)
Freedom and individual rights, democracy, majority rule, equality, law and authority, power, constitutionalism, property, social class and structure, and revolution traced through the writings of Hobbes, Locke, Rousseau, Hume, Burke, Bentham, Hegel, Tocqueville, and Mill. **S**

PLSI 114. Seminar in American Political Thought (3 units)
Analysis of democracy, majority rule and minority rights, constitutionalism, federalism, representation, pluralism, property, separation of powers, and judicial review based on the perspectives of representative early and contemporary American thinkers. **S**

PLSI 119T. Topics in Political Theory (1-4; max total 8 units)
Possible topics include theories of democracy; the Marxian tradition; political thought of specific authors, historical periods and countries; peace and war; church-state relations; the nature of politics and of political science.

International Relations (PLSI)

PLSI 120. International Politics (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Dynamics of political interactions of nations; nationalism, imperialism and interdependence; national power and diplomacy; types of conflict, including war; peaceful settlement of disputes; current issues involving competing foreign policies, national development, energy, and national liberation movements. G.E. Multicultural/International MI. **FS**

PLSI 121. American Foreign Affairs (3 units)
Prerequisite: PLSI 2. Formulation and execution of American foreign policy; constitutional framework; role of the president and the executive branch, Congress, pressure groups and public opinion; contemporary problems and policies.

PLSI 122. Politics of Foreign Aid (3 units)
Theory and practice of foreign aid, including U.S. policy, current debates, continuing challenges, approaches, issue-areas, and key actors (governmental, non-govemmental, domestic, and international organizations.) (Formerly PLSI 128T)

PLSI 125. Russian Foreign Policy (3 units)
Historical and ideological sources of foreign policy of Russia and other former Soviet republics; continuity and change in methods, strategy, and tactics; policy formulation and application in specific geographic and subject matter areas.

PLSI 126. International Law and Organization (3 units)
The sources and subjects of international law; state jurisdiction and responsibility; international agreements; the regulation of force and the peaceful settlement of disputes through international law and organization, including the League of Nations, the United Nations, and regional organizations. **F**

PLSI 128T. Topics in International Relations (1-4; max total 8 if no topic repeated)
Politics of military power; arms limitation and control; peace theory; ecopolitics; regionalism and cooperation; shifts in balance of power; nationalism; imperialism; neutralism and nonalignment; foreign policies of specific nations.

Comparative Government (PLSI)

PLSI 140. Approaches to Comparative Politics (3 units)
Prerequisite: PLSI 1. Exploration of theories, models, and conceptual frameworks for the comparative study of political systems and subsystems; methodological rather than an area emphasis. **FS**

PLSI 141. Russian Politics (3 units)
A study of the political systems of Russia and other former Soviet republics. Changes in relations between state and society; change and continuity in political culture; trends in policy making; issues of relations between nationality groups.

PLSI 142T. Area Studies in Western Europe (1-4; max total 8 if no topic repeated)
Government and politics of Western Europe (Britain, France, Germany, and Italy), Northern European Countries (Finland, Denmark, Norway, Sweden); or government and politics, of selected countries.

PLSI 143T. Area Studies in Eastern Europe (1-4; max total 8 if no topic repeated)
Government and politics of Eastern Europe; or government, politics, and institutions of selected countries.

PLSI 144T. Area Studies in Africa and Middle East (1-4; max total 8 if no topic is repeated)
Government and politics of Sub-Sahara Africa, Middle East; or government, politics, and institutions of selected countries.

PLSI 145T. Area Studies in Asia (1-4; max total 8 if no topic repeated)
Government and politics of selected countries in East and Southeast Asia.

PLSI 146T. Area Studies in Latin America (1-4; max total 8 if no topic repeated)
Possible topics include politics of South America; politics of Central America and Caribbean countries; roles of selected groups in Latin American politics.

PLSI 147. East Asian Politics (3 units)
Examines the governments, institutions, politics, and policy of China, Japan, North and South Korea, and selected Southeast Asian Nations.

PLSI 148. Latin American Politics (3 units)
Discusses the role of the military and violence in Latin American politics, the role of civilian groups with emphasis on democratization, and the influence of other nations — especially the United States — on Latin American politics.

PLSI 149T. Seminar in Comparative Government (1-4; max total 8 if no topic repeated)
Parliamentary systems, problems and goals of developing nations, federal systems, comparative local government, parties and pressure groups, and multi-party systems.

American Government (PLSI)

PLSI 71. Introduction to Environmental Politics (3 units)
Prerequisite: G.E. Foundation A2. Introduction to study of environmental politics and policy making in the United States; a brief history of environmentalism; basic principles in environmental policy making, including policy making for interest groups, legislatures, and levels of government; and selection of current topics in environmental issues. G.E. Breadth D3.

PLSI 150. Public Policy Making (3 units)
Examines the institutional and political processes by which public policy is formulated, adopted, and implemented. Individual instruction on student papers (students with fundamental writing deficiencies will be required to enroll in ENGL 1L, 1 unit, concurrently). **FS**

PLSI 151. Political Participation and Political Parties (3 units)
Political parties; nature and extent of citizen political activity; election of public officials; political organization of government.

PLSI 152. Public Opinion and Political Behavior (3 units)
Examines the origins and expression of political attitudes and beliefs, including voting and other political participation, and how public opinion influences public policy. Special attention is given to partisanship, elections, and voting.

PLSI 153. Presidential Politics (3 units)
Examines the history, development, and operation of the U.S. Presidency. Special attention is given to the rise of the modern presidency, presidential power (constitutional and extra-constitutional), presidential speech, presidential elections, and the importance of public opinion for presidential power. **F**

PLSI 154. Congressional Politics (3 units)
Examines the history, development, and operation of the U.S. Congress. Special attention is given to congressional elections, congressional-presidential relations, and the policy-making process. **S**

PLSI 155. Interest Group Politics (3 units)
Covers why people join interest groups, studies the size and ideological diversity of the national interest group system, and looks at the circumstances under which lobbyists for these groups can influence how American public policy is made. (Formerly PLSI 159T)

PLSI 156T. Topics in Political Behavior (1-4; max total 8 if no topic repeated)
Voting behavior, political alienation, leadership, political perceptions and knowledge, environmental effects on political participation, group processes, and political socialization.

PLSI 157. Environmental Politics (3 units)
Examines theory, concepts, and practices in U.S. environmental politics and policy. Topics include ecological principles, the history and philosophy of environmentalism, the contemporary political conflict over environmental policy, and environmental policy analysis.

PLSI 158. Internship in Political Science (2-6; max total 6 units)
Prerequisite: permission of instructor. Maximum credit toward the political science major, 3 units. Supervised work experience in legislative offices and/or political campaigns to provide student with an opportunity to fuse theory and practice. *CR/NC* grading only. **FS**

PLSI 159T. Seminar in American Government and Politics (1-4; max total 8 if no topic repeated)
Congressional committee operations, policy making by the courts, political implications of civil service, executive initiation of legislation, minority groups and politics, political implications of news reporting; jurisprudence and legal philosophy; legal institutions; conflict resolution.

Local Government (PLSI)

PLSI 160. State and Local Governments (3 units)
The organization, structure, powers, and functions of state and local governments. **F**

PLSI 161. Social Movement Politics (3 units)
Covers how and why social movements form, including what kinds of grievances lead to political organization. Studies the tactics movements use and why some movements are successful in their political advocacy while others are not. (Formerly PLSI 159T)

PLSI 163. Municipal Government (3 units)
Organization, powers, and functions of city government; types of city charters, relationship between city and state government; police and fire protection, education, water supply, health and sanitation, city planning, debts and taxation, public utilities.

PLSI 169T. Seminar in Metropolitan Government and Politics (1-4; max total 8 if no topic repeated)
Regional and area intergovernmental relations, urban renewal, human relations agencies, and taxation methodologies.

Public Law (PLSI)

PLSI 170. Constitutional Law, the Federal Structure (3 units)
Judicial Review, powers of the president, powers of Congress, federalism, and the contract clause and due process — economic rights through case studies of leading Supreme Court decisions. F

PLSI 171. Constitutional Law, Civil Liberties, and Civil Rights (3 units)
Free speech and association, freedom of press, commercial free speech, obscenity, religion guarantees, fourth, fifth, sixth, and eighth amendment issues, and social and political equality through case studies of leading Supreme Court decisions. S

PLSI 174. Politics and the Court (3 units)
An introduction to the judicial process: jurisprudence, courts and social policy, instruments and limitations of judicial power, fact finding, precedents and legal reasoning, statutory and constitutional interpretation, and the search for standards.

PLSI 175. Water Politics and Policy (3 units)
Focuses on the development of policy regarding the ownership and use of surface and ground water in the American West, California, and the Central Valley. It also examines the political clash between economic and environmental demands for water. (Formerly PLSI 159T)

PLSI 179T. Seminar in Public Law (1-4; max total 8 units)
Administrative law, international law, judicial administration, jurisprudence, legal institutions.

Public Administration (PLSI)

PLSI 181. Public Administration (3 units)
General analysis of the field of public administration; administrative theories; policy and administration; behavioralism; budgeting, planning, and legal framework. F

PLSI 182. Administrative Analysis: Management and Organization (3 units)
Administrative organization; methods; systems and procedures; problem solving; systems analysis; reports and records; resources management. S

PLSI 183. Comparative Administration (3 units)
Theories of comparative public administration; cross-national comparisons of administrative processes; institutions, policy formation, and behavior with consideration of cultural, social, and economic environments.

PLSI 184. Public Budgeting and Economy Policy (3 units)
Examines the administrative and political considerations of revenue generation and expenditure; budget types; the budgetary process and analysis; capital budgeting and debt administration; intergovernmental fiscal relations; monetary and fiscal policy. S

PLSI 185. Public Personnel Management (3 units)
Examines the evolution of public personnel administration including the development of merit principles, equal employment opportunity, and affirmative action; recruitment, selection, and career development; classification techniques; theories of motivation; public sector labor relations. F

PLSI 187. Internship in Public Administration (2-6; max total 6 units)
Prerequisite: permission of instructor. Maximum credit toward public administration major, 3 units. Supervised work experience in public agencies to provide the student with an opportunity to fuse theory and practice. *CR/NC* grading only. FS

PLSI 188T. Topics in Public Administration (1-4; max total 9 if no topic repeated)
Treatment of current topics and problems in fiscal administration, public personnel administration, and planning.

PLSI 189T. Seminar in Public Administration (3; max total 6 if no topic repeated)
The values and philosophy of administration; management and dynamics of change; public relations and communication problems in public administration; planning problems and techniques; systems approach to resource management.

PLSI 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for *RP* grading. FS

PLSI 191. Directed Readings (1 unit)
Directed readings and supplemental and original source material for enrichment of regular offerings in the subdiscipline.

Master of Arts Degree in International Relations (PLSI)

PLSI 200. Seminar in Methods and Political Systems (3 units)
Prerequisite: permission of instructor. Systematic analysis of major political cultures and economic systems. Emphasis upon the leading theoretical models of the contemporary international system, issues of political economy, and methods of cross-cultural research.

PLSI 210. International Relations and Political Theory (3 units)
(Same as AETH 201.) Prerequisite: permission of instructor. Inquiry into philosophies of international relations with particular emphasis on moral foundations of international law in light of Western political theory. Some contemporary problems selected for in-depth analysis and student research.

PLSI 220. Seminar in Politics and Conflict (3 units)
Prerequisite: permission of instructor. Analysis of sources of political conflict and methods of conflict resolution with application to selected topics, such as the foreign policy of major powers, the dynamics of political transformation, interaction in regional subsystems, or national defense and arms control.

PLSI 240. Seminar in Politics of Resources and Modernization (3 units)
Prerequisite: permission of instructor. Analysis of global interdependence and national examples in selected resource areas. Emphasis on approaches to modernization in developing nations and relations between rich nations and poor nations.

PLSI 250. Seminar in Politics and Policy (3 units)
Prerequisite: permission of instructor. Policy formulation, implementation, and evaluation from a comparative perspective. Examines substantive policy issues common to modern industrial and developing nations from the perspectives of policy analysis and decision-making; considers the role of bureaucracy, the welfare state, political economy, and competing ideologies.

PLSI 270. Advanced Research and Writing in International Relations (3 units)
Students will conduct primary research on international relations topics of their choice, deepening their understanding of key issues, literature, and the application of theory. They

will gain essential skills in research, analysis, and writing at the journal level standard in international relations.

PLSI 280T. Topics in International Relations (3 units)
Selected international relations topics of interest and importance in the field that are not currently offered at the graduate level. Topics may include, among others, international law and organizations, U.S. foreign policy, foreign aid, and politics of particular regions.

PLSI 290. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

PLSI 298. Project Equivalent to Thesis (6 units)*
See *Criteria for Thesis and Project*. Significant undertaking of a pursuit appropriate to international politics. Must demonstrate originality and independent thinking and be accompanied by written scholarly apparatus. Project examples: documentary film; extensive curricular design; computer design of military strategies. Approved for ***RP*** grading.

PLSI 299. Thesis (3; max total 6 units)*
See *Criteria for Thesis and Project*. Approved for ***RP*** grading.

* For 298C and 299C courses, see *Graduate Studies*.

Master of Public Administration (MPA)

MPA 200. Administration and Society (3 units)
How administration acts and is acted upon by institutional forces and values; role of history, cultural, ethical, political, social, and economic values and institutions; an emphasis on: bureaucracy, economy and democracy, centralization vs. decentralization, professionalism and society; alternatives to bureaucracy. (Formerly GPA 200)

MPA 201. Quantitative Applications for Public Administration (3 units)
Exploring different methods of data analysis for understanding how public decisions are made and public policies are evaluated. Data collection, measurement, sampling, and data analysis — including regression — are explored with practical applications. (2 lecture, 2 lab hours) (Formerly GPA 120G, MPA 120G)

MPA 210. Organizational Theory in Public Administration (3 units)
A study of the key issues involved in the management of public organizations. This examination of organizational behavior and theories of complex organizations includes the following: leadership styles, communication, organizational change, hierarchy and organizational structure, and organizational culture. (Formerly GPA 210)

MPA 215. State and Local Government (3 units)
Helps students understand state and local government history and how these governmental units interact with the federal government. Legislatures, executives, courts and city, and county councils are studied, particularly in terms of their emphasis on public policy. (Formerly GPA 215)

MPA 230. Public Budgeting (3 units)
Examines the budget process, the use of economic analysis in evaluating taxation and expenditure issues, and the development and analysis of budget proposals. Also includes discussion of burdens and effectiveness of different taxes and considers potential reforms to the budgeting process. (Formerly GPA 230)

MPA 240. Seminar in Public Management (3 units)
An inquiry into contemporary issues facing public managers. Topics that can be covered include accountability, performance management, development of information technology, e-government, public management reforms, implications of privatization/contracting out, and public governance. (Formerly GPA 240)

MPA 245. Human Resources Management (3 units)
Explores the development of the merit system in government, hiring and termination, career development, human resource planning, management-labor relations, equal opportunity, affirmative action, workplace diversity, and the legal dimension of the public personnel system.

MPA 250. Ethics and Public Administration (3 units)
(Same as AETH 202.) Prerequisite: MPA 210. The moral dimensions of public administrative decision-making. The nature of public and private morality; psychological and ethical egoism; relativism; utilitarianism and deontological theories; rights and goods in the public service context; sensitive applications of rules in public agencies. (Formerly GPA 250)

MPA 260. Public Policy Administration (3 units)
A study of policy initiation, formulation, and implementation and a public manager's role in them; management processes and functions in the policy process; policy justification and advocacy, policy analysis, and implementation evaluation. (Formerly GPA 260)

MPA 280T. Topics in Public Administration (3; max total 6 if no topic repeated)
Selected topics meeting student needs and interests that are not met in other university courses. (Formerly GPA 280T)

MPA 287. Internship in Public Administration (3 units)
Supervised work experience for a realistic exposure to an organizational-bureaucratic environment for students in the M.P.A. program who lack significant work experience in a public or nonprofit organization. ***CR/NC*** grading only. (Formerly GPA 287)

MPA 289T. Practitioner's Seminar (1-3; max total 6 if no topic repeated)
Prerequisite: Some seminars may have course prerequisites. Selected topics in the administration of public programs and agencies examined from the prospective and experience of practitioners. (Formerly GPA 289T)

MPA 290. Independent Study (1-4; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. (Formerly GPA 290)

MPA 299. Thesis (3 units)*
Prerequisite: See *Criteria for Thesis and Project*. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for ***RP*** grading. (Formerly GPA 299)

* For 299C courses, see *Graduate Studies*.

Social Sciences Programs

College of Social Sciences
Luz Gonzalez, *Dean*
Social Science Building, Room 108
559.278.3013
www.fresnostate.edu/socsci/

Social Sciences Legal Studies Certificate

Secondary Teaching Credential in Social Sciences

Social Sciences

Requirements for majors in the various departments are listed in the respective program descriptions. In addition, the College of Social Sciences offers the following programs and courses.

Social Sciences Legal Studies Certificate

Within the framework stated above and with the approval of the social science adviser, courses may be selected that provide an appropriate foundation for the study of law.

A detailed description of the prelaw program is available from the advisers in the Department of Criminology and the Department of Political Science. Students should be aware that without advisement, successful completion of this program is impossible.

The certificate is jointly offered by the Department of Political Science and the Department of Criminology. Refer to the department pages for contact information.

Secondary Teaching Credential in Social Sciences

The 63-unit Subject Matter Program (SMP) in Social Sciences may be completed while earning a bachelor's degree in any area of study. Undergraduate students beginning their SMP should be advised, however, that a bachelor's degree is recommended in economics, geography, history, or political science for those intending to teach secondary social studies. These areas of study are recommended because they most closely parallel the social sciences requirements.

Units

Part I. Required Core
Ten courses **30**
All of the following courses are required:
HIST 4, 11, 12, 20, 21, 187; GEOG 4; PLSI 1, 2; ECON 165

Part II. Depth
Nine courses **27**
Select one course from each of the following groups (A-I):
(A) HIST 151, 171, 172
(B) HIST 173, 174, 175
(C) HIST 159, 166, 176, 178, 183
(D) HIST 111, 112, 122, 125
(E) HIST 132, 133, 143
(F) HIST 114, 157, 160, 162, 192
(G) GEOG 127, 161, 166, 178,
(H) PLSI 103, 140, 151, 153, 154, 171
(I) ECON 101, 110

Part III. Breadth
Two courses **6**
Select one course from two different disciplines (J-N):
(J) AAIS 135
(K) ANTH 115
(L) CLAS 100, 152
(M) SOC 122, 157, 165, 169
(N) WS 103, 148

Credential candidates should consult the social science credential adviser as early in their programs as possible. A detailed list of the teaching credential program is available from Social Sciences, Room 129A and from Social Sciences, Room 101.

Social Sciences (SSCI)

SSCI 16. Global Studies: Introduction (3 units)
Introduction to a range of topics to enhance literacy for global awareness. Includes an interdisciplinary approach, concentration on human diversity, and attention to historic, political, legal, economic, sociological, anthropological, and geographic issues. Fulfills lower-division requirement for Global Awareness Certificates.

SSCI 110. California Studies (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Origins and development of California as a unique cultural area; relationships over time among geography and natural resources, human populations and cultures, political institutions, economic pursuits, and land use practices; distinctive architecture, arts, and literature; and socioeconomic patterns, processes, and trends. G.E. Integration ID. **FS**

SSCI 150T. Topics in the Social Sciences (1-3; max total 3 units)
Discussion and analysis of current topics in the social sciences with an interdisciplinary focus and structure. Topics will be rotated. **FS**

SSCI 180. Diversity in the U.S. (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Interdisciplinary course designed for the four-year liberal studies major. Integrates historical, sociological, political, cultural, and ethnic aspects of American culture. Historical developments and immigration patterns, race, class, gender issues, and demographic and statistical analysis of local and regional education trends. G.E. Multicultural/International MI. **FS**

SSCI 185. Internship (1-6; max total 6 units)
Prerequisite: upper-division or graduate standing; permission of instructor. Supervised work experience in the applied aspects of the social science disciplines. Hours to be arranged. ***CR/NC*** grading only. **FS**

Sociology

Sociology is the scientific study of social interaction and institutions and seeks to understand the social causes and consequences of human behavior. Developing out of philosophy and 19th-century industrial Europe, sociology evolved into a methodologically rigorous, empirically based analysis of social life.

Sociology's main concept — social structure — rests on the observation that society is more than a collection of individuals. As humans interact, they create social structure — a pattern of social arrangements and relationships. The concept of social structure refers to interaction networks, social organization, and power relationships. Studying the social structure helps understand how our choices, attitudes, and behaviors are shaped by the society in which we live.

Sociology can help identify social problems, locate the source of those problems in the social structure, assess their scope and design, and evaluate possible solutions. This understanding helps us take better charge of our lives, to become shapers of society, and not to be just shaped by it. From the sociological perspective, effecting social change necessarily involves understanding social structure.

Faculty and Facilities

Sociology majors receive strong grounding in traditional and contemporary social theory, methods of conducting social research, and techniques of analyzing social data. Courses with a service-learning component provide students with an opportunity to engage in participant-observation studies, while the Social Research Laboratory (SRL) gives them a chance to participate in survey research. Encouraging student research is one of the hallmarks of sociology at Fresno State.

The program also offers advanced courses on topics ranging from medical sociology, religion, and family to popular culture, deviance, and social movements and social change.

All full-time faculty members have Ph.D.s and have a wide range of interests in the field of sociology. All are involved in the Center for the Study of Social Life in the San Joaquin Valley, which promotes scholarship and research with a regional focus.

Sociology is also the home to the Humanics Program, which prepares students and community members for professional positions in community benefit organizations (CBOs).

Career Opportunities

The study of sociology provides students with a rewarding academic experience as well as a variety of career possibilities. The American Sociological Association notes in surveys that people who have majored in sociology have some of the highest levels of job satisfaction, regardless of career choice.

A baccalaureate degree in sociology provides strong liberal arts preparation for entry-level positions in social services, business, and government. The degree serves as a launching point for careers in journalism, politics, public relations, business, and public administration. When combined with the Humanics Certificate, the degree opens up another area for employment: nonprofit community benefit organizations (CBOs). Likewise, for those interested in attaining professional degrees, sociology provides a rich fund of knowledge that directly pertains to fields such as law, education, medicine, social work, and counseling.

College of Social Sciences

Department of Sociology
Matthew A. Jendian, *Chair*
Liliana Suzuki, *Department Administrative Coordinator*
Linda Ragus, *Administrative Support Assistant*
Social Science Building, Room 211
559.278.2234
www.fresnostate.edu/sociology
www.fresnostate.edu/ah

B.A. in Sociology

Minor in Sociology

Certificate in Applied Sociological Research Methods

Humanics Nonprofit Administration Certificate

Faculty

Matthew A. Jendian, *Chair, Coordinator for Humanics Program*
Bridget Conlon
Xuanning Fu
Margaret Gonsoulin
Deborah Helsel
Andrew Jones
Timothy Kubal
Edward E. Nelson
Robert S. Palacio

Bachelor of Arts Degree Requirements

Sociology Major	*Units*
Major requirements	**39**
Tier One: SOC 1 (or 1S), 3, 125, 130W (or 130WS) or Upper-Division Writing Exam (See *Major Advising Note 2*)	(9-12)
Tier Two: SOC 151, 153, 175, 170T	(12)
Sociology Upper-division electives	(15-18)
General Education requirements	**51**
Electives and remaining degree requirements (See *Degree Requirements*); may be used toward a double major or minor.	**30-36***
Total	**120**

*This total indicates that 6 units of SOC 3 in G.E. Foundation A3 and SOC 1 in G.E. Breadth D3 also may be applied to the sociology major. Consult the department chair or faculty adviser for additional details.

Major Advising Notes

1. Tier One courses must be completed before enrollment in Tier Two courses, generally before the second semester of the junior year. Tier One courses are all prerequisites for Tier Two. Upper division electives, however, may be taken in any sequence.
2. Students majoring in sociology are permitted to pass the Upper-Division Writing Examination (UDWE) in lieu of taking SOC 130W/WS, thus having to complete only three courses for 9 units in Tier One. If the student requests 1 unit of ENGL 100W for passing the UDWE, that unit will be applied to the overall elective unit total for the B.A.
3. ***CR/NC*** grading is not permitted in the sociology major, except for courses offered only under ***CR/NC*** grading.
4. General Education and elective units may be used toward a double major or minor (see *Double Major* or department minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. No General Education Integration or Multicultural/International course offered by the Sociology Department may be used to satisfy the General Education requirements for majors in the department.

Sociology Minor

Units	
Minor requirements	**6**
SOC 1, 125	
Sociology upper-division electives	**15**
Students may substitute SOC 3 for 3 units of upper-division electives	
Total	**21**

Note: The Sociology Minor also requires a 2.0 GPA and 6 upper-division units in residence. ***CR/NC*** grading is not permitted in the Sociology Minor, except for courses offered only under ***CR/NC*** grading.

Certificate in Applied Sociological Research Methods

The certificate gives students who are interested in data analysis and research methodology a more comprehensive coverage of research techniques and theories in both qualitative and quantitative areas, and it provides more in-depth training in computer applications for research.

Students who complete the requirements for this certificate will have the ability and skills needed to do social research independently once they graduate and join the workforce. They will also be better prepared to enter graduate schools with these skills and knowledge.

Requirements

SOC 125
Statistics for the Social Sciences

SOC 174
Computer Data Analysis

SOC 175
Quantitative Research Methods in Sociology

SOC 176
Qualitative Research Methods in Sociology

The latter two courses (i.e., in "research methods") serve as the capstone experience of the Certificate in Applied Sociological Research. Each of these two courses is designed to have the student complete the course with a relatively well-developed research paper that could be presented at an undergraduate research conference. The Sociology Club applies each year for ASI Instructionally-Related Activities (IRA) funding to help sponsor sociology students who wish to present their paper at such a conference. Faculty often work with students on an "Independent Study" to assist students in preparation for this culminating experience.

Humanics Nonprofit Administration Program

Housed within the Sociology Department, the Humanics Program prepares students and community members for professional positions in nonprofit community benefit organizations.

Our program is linked with the curriculum and competencies of the Nonprofit Leadership Alliance (formerly Humanics), a national organization that collaborates with affiliated college and university programs, professional organizations, and nonprofit agencies. These institutions work to educate, prepare, and certify professionals who can strengthen and lead nonprofit organizations. Students earning the Certificate in Management and Leadership for Community Benefit Organizations simultaneously earn national professional certification from the Nonprofit Leadership Alliance.

Participation in the Nonprofit Administration Program builds on and enhances students' chosen major course of study and provides the tools to achieve success in the field of nonprofit administration. This interdisciplinary program is open to students of all majors and to community individuals. Courses may be taken through Open University.

Career Opportunities

Today, more than 1.5 million nonprofit community benefit organizations (CBOs) are serving communities throughout the United States, including 3,500 organizations here in the Central San Joaquin Valley.

As the community benefit sector grows at twice the rate of the government and private sectors, demand for capable professionals increases accordingly and is higher than ever. Each year nearly 30,000 new agencies are established. They offer an estimated 50,000 entry-level professional positions. The Bureau of Labor Statistics estimates that the need for qualified professionals for these organizations will increase significantly over the next several years. Many new community benefit organizations are being established locally every year.

As a result of this expansive growth, the demand for candidates to fill professional positions far exceeds the supply of qualified applicants.

A career in this field rewards not only you, but also your community. As a professional in the community benefit sector, you will reap emotional and financial rewards while making a difference in society.

Students seeking Humanics' Certification are eligible to apply for special scholarships and awards. Students develop resumes, create networking cards, and have the opportunity to participate in the program's Mentoring Project, which pairs them with a professional in the field.

Humanics' students are the preferred source of entry-level CBO professionals among the organization's 13 national workforce partners, which include Boy Scouts of America, Camp Adventure, Camp Fire U.S.A., Feeding America, National 4H Council, National Human Services Assembly, Girls Inc., Girl Scouts, March of Dimes, National Urban League, Voices for America's Children, Volunteers of America, and Young Men's Christian Association (YMCA) of the U.S.A.

Collaborating associations include Accountants for the Public Interest, Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA), Association of Fundraising Professionals (AFP), Association of Volunteer Administration (AVA), BoardSource, Habitat for Humanity International, Hispanic Association of Colleges and Universities, Independent Sector, National Training Institute for Community Youth Work, Nonprofit Risk Management Center, The Learning Institute, The Peter F. Drucker Foundation for Nonprofit Management, The Society for Nonprofit Organizations, and United Negro College Fund.

Requirements for the Certificate

The interdisciplinary certificate in nonprofit management and leadership for CBOs requires a minimum of 12 and a maximum of 24 semester units (depending on prior experience and skill), including 300 hours of field experience with a nonprofit, community benefit organization. The number of units for this certificate will be determined by the director based on the background and experience of each individual student. Students will be involved in the Humanics Student Association and participate in one Management Institute or Professional Development Conference. Courses or practicum may be used to fulfill requirements of other degree and certificate programs.

Competency Areas*

- *Foundations of Social Service*
- *Youth and Adult Development*
- *Accounting/Financial Management*
- *Program Planning and Evaluation*
- *Leadership and Communication in Organizations*
- *Marketing/Fund Raising/Grant Writing*
- *Board and Committee Development*
- *Volunteer Recruitment, Training, and Supervision*
- *Ethical, Legal, and Risk Management Issues*

*Each competency area must be satisfied through approved academic coursework (***C/CR** grade or better), documentation of prior internship experience, and/or co-curricular activities.

Sociology (SOC)

SOC 1 or 1S. Principles of Sociology (3-3)
Prerequisite: G.E. Foundation A2. Introduction to the principles and theoretical perspectives of sociology and their application to problems of social life. Discussion of sociological methods and findings in such areas as family, race relations, deviance. *S sections include a service-learning requirement* (see the *Richter Center for Community Engagement and Service-Learning*). G.E. Breadth D3. **FS**

SOC 2. Social Problems (3-3)
Prerequisite: G.E. Foundation A2. Introduction to principles underlying human social behavior via sociological analyses of social problems and the world, such as inequality, family organization, discrimination, deviance, war, tyranny, ethnic conflict, and pollution. *S sections include a service-learning requirement* (see the *Richter Center for Community Engagement and Service-Learning*). **F**

SOC 3. Critical Thinking about Society (3 units)
Prerequisite: grade of ***C*** or better in SOC 1 for sociology majors and minors. Theory and practice in basic skills of critical thinking and sociological analysis. Skills demonstrated by oral and written performance including analysis of computerized data sets. Topics covered and assignments vary with instructor. G.E. Foundation A3. **FS**

SOC 111. Sociology of Race and Ethnicity (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Dominant and minority group relations historically, cross-culturally, and in contemporary American society. Primarily, the bases examined are in terms of ethnicity-race, religion, nationality, country-of-origin, nativity, and language. G.E. Multicultural/International MI. **FS SU**

SOC 122. Social Movements (3 units)
Theory of nonviolent direct action in the pursuit of social justice and social change. Discussion of goals, ideology, norms, organizational structure, leadership, strategy, tactics, and social roots of social movements. **S odd**

SOC 125. Statistics for the Social Sciences (3 units)
Prerequisites: completion of Math requirement in G.E. Foundation B4; grade of ***C*** or better in SOC 1 for sociology majors and minors. Introduction to quantitative methods as an aid to the understanding of research in the social sciences. Application of basic descriptive and inductive statistics to the social sciences. (Formerly SOC 25) **FS**

SOC 130W or 130WS. Contemporary Social Issues (3-3 units)
Prerequisites: satisfactory completion (***C*** or better) of the ENGL 5B or 10 graduation requirement; grade of ***C*** or better in SOC 1 for sociology majors and minors. Examines currently debated public issues using a sociological perspective. Often, public issues involve present or proposed public policies; the course assesses the impact of these policies on different segments of society. Meets the upper-division writing skills graduation requirement. *S sections include a service-learning requirement* (see the *Richter Center for Community Engagement and Service-Learning*).

SOC 131. Sociology of Sex and Gender (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Introduces students to the sociological study of sex and gender. Looks at how men and women differently experience such social structures as work and the economy, family and courtship, and media. Examines the evidence for the persistence of gender differences and their importance. G.E. Integration ID. **FS**

SOC 132. Women and Work (3 units)
(Same as WS 132.) An examination of women and work in contemporary society, including housework, labor force participation, employment in various occupations, and career planning.

SOC 142. Sociology of Popular Culture (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Impact of popular culture on modern society. Includes movies, television, fiction, and other forms of popular culture. The meaning, the creation and production, and the future of popular culture. G.E. Multicultural/International MI. **FS**

SOC 143. Deviance and Control (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Rule-breaking behavior (such as crime, delinquency, mental illness) and responses to it. Examines deviance as a social phenomenon, its causes and consequences, and formal and informal social control activities. G.E. Integration ID. **FS SU**

SOC 144. Social Policy Analysis (3 units)
Interdisciplinary social science methods for approaching local and national social problems. Analysis of selected public issues emphasizing evaluation of social costs and benefits of alternative policies.

SOC 147. Medical Sociology (3 units)
Political and economic organization of American medical health care system and cross-cultural comparisons. Analysis of social relations and interactions among members of the health professions affecting designations of persons as ill and their subsequent treatment. **FS**

SOC 148. Sociology of Education (3 units)
A sociological examination of education as an institution, including its social determinants, functions, and consequences.

SOC 150T. Special Topics Seminar (1-3; max total 9 units)
Topics include those areas of advanced theoretical and empirical studies that will orient the student to contemporary sociological endeavors. **FS**

SOC 151. Social Classes and Inequality (3 units)
Prerequisites: Tier One courses (SOC 1, 3, 125, and SOC 130W or UDWE). Analysis of evaluational differentiation leading to social stratification. Criteria for differentiation, bases for evaluation, types of stratification, composition of strata and status systems, mobility, consequences of stratifications, and methods of studying stratification. **FS**

SOC 152. Classical Sociological Theory (3 units)
Prerequisite: SOC 1. Evolution of classical sociological theories. Consideration of their origins in society and culture. Examination of such theorists as Marx, Weber, Durkheim, Comte, St. Simon, and others.

SOC 153. Sociological Theory (3 units)
Prerequisites: Tier One courses (SOC 1, 3, 125, and SOC 130W or UDWE). Survey of classical and contemporary sociological theory. Major sociological theories presented include functionalism, conflict, rationalism-utilitarianism, and symbolic interactionism, as well as their origins in the thought of Marx, Weber, Durkheim, Comte, Saint-Simon, and others. **FS**

SOC 157. Social Change (3 units)
Analysis of directions, patterns, and processes of social and cultural change. **S even**

SOC 161. Population Analysis (3 units)
Population theories and history; demographic processes and variables in contemporary society. Analysis of census data.

SOC 162. Social Psychology (3 units)
Prerequisites: Tier One courses (SOC 1, 3, 125, and SOC 130W or UDWE). Social factors affecting the development of social personality, attitudes and behavior. Basic social processes involved in interpersonal interaction. Demonstrations and student observations to increase an understanding of social processes in everyday life. **FS**

SOC 163. Urban Sociology (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. The urban concept; form and development of urban areas; scientific study of urban places and populations; effect of urbanization on social institutions and social relations. G.E. Integration ID. **FS**

SOC 165. The Family (3 units)
The family in historic and contemporary society, theoretical frameworks for analyzing the family, family dynamics; changes in family functions, structures, and roles. **FS**

SOC 168. Interpersonal Relationships (3 units)
Exploration of the basic elements of interpersonal relationships including listening, disclosure, feedback, empathy. **S**

SOC 169. Sociology of Religion (3 units)
Major sects, denominations, and churches; integrative and disintegrative processes in the United States; contemporary religious phenomena. **S**

SOC 170T. Research Topics (1-3; max total 6 units)
Content of course will vary from semester to semester. Topics include an introduction to computer data analysis, a more in-depth discussion of computer data analysis, survey research, observational techniques, measurement, sampling.

SOC 172. Computer Applications (3 units)
No prior knowledge of computers is necessary. Introduction to computer applications in the social sciences, spreadsheets, database management, statistical applications, e-mail, data archives, Internet, Lexis-Nexis. (2 lecture, 2 lab hours)

SOC 174. Computer Data Analysis (3 units)
Prerequisites: SOC 1/1A and SOC 125 for sociology majors and minors must be completed prior to enrollment. An introduction to the use of widely utilized computer packages for analyzing quantitative data (e.g., SPSS) and/or qualitative data (e.g., NVIVO) in the social sciences. Prepares students for academic and empirical research. No prior knowledge of computers is necessary.

SOC 175. Quantitative Research Methods in Sociology (3 units)
Prerequisites: Tier One courses (SOC 1, 3, 125, and SOC 130W or UDWE). The research process with special emphasis on measurement, sampling, data collection, data analysis, and report preparation. Basic assumptions and dilemmas of social science research. **FS**

SOC 176. Qualitative Research Methods in Sociology (3 units)
Prerequisites: Tier One courses (SOC 1/1S, 125, and 130W/WS or UDWE) or permission of instructor. Overview of qualitative research methods in sociology, including interviews, participant observation, historical research, and content analysis of print and audio/visual media. Examines qualitative theory, ethics, proposals, choosing a site, informant relationships, collecting and analyzing data, writing reports, and disseminating research. (Formerly SOC 150T)

SOC 183. Philanthropy and Grant Making (3 units)
Reviews the history and evolving role of philanthropy in American society. Students investigate local social problems, research nonprofit organizations that address those issues, develop a request for proposals (RFP) to fund specific projects, and evaluate funding proposals. (Formerly SOC 150T)

SOC 184. Grant Writing and Evaluation (3 units)
Conceptual aspects of developing, writing, and evaluating a grant proposal. Emphasizes researching and preparing grant proposals as well as reading, discussing, and writing critiques of grant proposals and evaluating grant-funded programs. (Formerly SOC 150T)

SOC 185. Field Experience in Sociology (1-6; max total 6 units)
Prerequisites: 2.75 minimum cumulative GPA, junior/senior standing in sociology, and completion of Tier 1 courses. Individually-planned field experience relating sociology coursework with applied community-based experience. Hours to be announced. ***CR/NC*** grading only. (Minimum of 3 field hours per week per credit unit.) **FS**

SOC 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **FS**

Women's Studies

College of Social Sciences

Women's Studies Program
Janet Slagter, *Coordinator*
McKee Fisk Building, Room 244
559.278.2858

Nimat Davis, *Administrative Support Coordinator*
Janet Linton, *Administrative Assistant*
McKee Fisk Building, Room 244
559.278.2858

B.A. in Women's Studies

Minor in Women's Studies

Certificate in Alcohol/Drug Studies

Victim Services Certificate

Women's Studies

Women's Studies is an approach that places women in the center of inquiry. The primary mission of Women's Studies is to analyze gender. Students acquire both a local and global perspective on gender. Attentiveness to diversity, privilege and power, and women's unique creative contributions to human experience are central aspects of this training. More than simply a body of knowledge, Women's Studies encourages students to apply their learning to transform their lives and their communities. Women's Studies offers a vital perspective everywhere gender impacts our world.

Career Opportunities

Women's Studies is open to all who want to know more about the impact of gender on their lives and the world. Students find the field valuable to a variety of educational and career goals. Many Women's Studies students report their classes enhanced their self-esteem and confidence. Nationally, Women's Studies students have established successful careers in a variety of fields from diversity studies to law, K-12 to graduate studies, biology to nursing, the creative arts to telecommunications, criminology to victim services, business and management to social change organizing, history to philosophy, and health to social services.

Program Faculty

The Women's Studies Program has its own full-time and part-time faculty who come from a variety of disciplines: American studies, anthropology, education, history, sociology, political science, English, and philosophy. In addition to this core faculty, cooperating faculty members teach women's studies courses in their home departments: anthropology, art, Chicano and Latin American studies, criminology, drama, education, English, ethnic studies, health sciences, history, philosophy, psychology, recreation, and sociology. Saturday School faculty are most often chosen from the community-at-large on the basis of their particular area of expertise.

Faculty

Janet Slagter, *Coordinator*
Roksana Badruddoja
Kathryn Forbes
Loretta Kensinger

Bachelor of Arts Degree Requirements

Women's Studies Major	*Units*
Major requirements	**36**
Core: WS 103, 143, 153, 175	(12)
Approved electives	(24)
General Education requirements	**51**
Electives and remaining degree requirements	**33-42***
Total units	**120**

*This total indicates that three courses (9 units) in General Education also may be applied to fulfill WS major requirements. These courses are WS 12 in G.E. Foundation A3, WS 10 in G.E. Breadth D3, and WS 18 in G.E. Breadth E1. Consult the program coordinator or faculty adviser for additional details.

Advising Notes

1. The 24 units of electives must be selected from a list of approved courses available in the Women's Studies Program office. At least one course must be selected from each of the following three clusters:

   Cluster 1, Gender and Diversity — WS 120, 125, 136T (with adviser approval), 150T (with adviser approval), 151T (with adviser approval); ASAM 138; CLAS 162; WS/AFRS 137.

   Cluster 2, Women and the Arts and Humanities —WS 110, 136T (with adviser approval), 148, 150T (with adviser approval), 151T (with adviser approval); WS/ENGL 168T; WS/ENGL 194T; WS/HIST 102T; LING 130; PHIL 110.

   Cluster 3, Women and the Social, Natural, and Applied Sciences —WS 114, 135, 136T (with adviser approval), 150T (with adviser approval), 151T (with adviser approval), 160; WS/CRIM 126; WS 127/PH 126; WS/PH 130; WS/SOC 132; MGT 189T; SWRK 271T.
2. No more than 3 units may be selected from the 1-unit Saturday courses: WS 108, 109, 112, 116, and 150T.
3. ***CR/NC*** grading is not permitted in the women's studies major, except for courses offered only under ***CR/NC*** grading.
4. Some General Education units may dual count toward the major, double major, or minor as appropriate. Some electives may also dual count for their primary and double major as appropriate. Students should consult a program faculty adviser to find out how many units and which courses in their plan of study this may apply to.
5. Students whose primary major is women's studies should be aware that while any WS courses also offered by the program as General Education courses can count toward their major as appropriate, courses taken to meet their upper-division General Education Integration and Multicultural/International requirements must be taken outside women's studies. (This particular G.E. restriction does not apply to double majors for whom women's studies is declared as their second major or for women's studies minors.)
6. Majors are urged to fulfill the upper-division writing skills requirement during the first semester of their junior year. See *Degree Requirements.*

Double Major in Women's Studies

Many students choose Women's Studies as a second major to complement their first, or primary, major. Double majors say their first major defines the field in which they work. Women's Studies gives them a special focus within that field. Women's Studies requirements are designed to make a dual major possible. All majors take the four core courses. Since in a dual major some courses may double count toward their degree, students pursuing Women's Studies as a double major should speak to an adviser in the Women's Studies program as soon as possible.

Women's Studies Minor

The minor in women's studies requires a minimum of 20 units, including WS 103, 143, 153, and 175. The other 8 units must be selected from a list of approved courses. Courses from this list also may satisfy General Education requirements as appropriate.

Note: The Women's Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Certificate in Alcohol/Drug Studies

The Women's Studies Program participates in a certificate of special study awarded to those students who successfully complete a minimum of 12 units of interdisciplinary academic coursework in the area of alcohol and drug abuse. (For complete details, see *Health and Human Services Interdisciplinary Courses* in this catalog.)

Victim Services Certificate

The Women's Studies Program participates in a certificate of special study awarded to those students who successfully complete a minimum of 12 units of interdisciplinary academic coursework in the area of victim services. (For complete details, see *Criminology Department* or *Kremen School of Education and Human Development*.)

COURSES

Women's Studies (WS)

WS 10. Introduction to Women's Studies (3 units)
Prerequisite: G.E. Foundation A2. Interdisciplinary course designed to introduce students to the major social, cultural, economic, and political forces which define gender in society. G.E. Breadth D3. **FS PS**

WS 12. Critical Thinking: Gender Issues (3 units)
Theory and practice in basic skills of critical thinking using examples about the intersections of gender with race and class. Skills will be demonstrated and assessed through oral and written performance. G.E. Foundation A3. **FS PS**

WS 18. Women and Aging (3 units)
(Same as GERON 18.) Interdisciplinary course designed to facilitate the understanding of older women and the physiological, psychological, and social aspects of the aging process. G.E. Breadth E1. **P**

WS 50T. Studies in Literature (4 units)
(See ENGL 50T section.) *Women in Novels* section.

WS 55T. Topics in Women's Studies (1-4; max total 12 units)
Topics of current interest in the Women's Movement, covering a wide variety of issues. (See *Class Schedule* for specific topics.) **P**

WS 101. Women in History (3 units)
(See HIST 101.) G.E. Integration ID. **FS**

WS 102T. Topics in Women's History (3; max total 6; repeatable with different topics)
(Same as HIST 102T.) (See *Class Schedule* for specific topics.) **P**

WS 103. History of Feminism (3 units)
Survey of history of feminist thought and action from Middle Ages to present, with emphasis on nineteenth and twentieth centuries and major actors and debates. **S**

WS 107. Women in U.S. Politics (3 units)
(Same as PLSI 107.) Prerequisite: at least one 3-unit WS or PLSI course. Examines how women have shaped and been shaped by U.S. politics, along with how gender impacts U.S. political thought, institutions, and practices. (Formerly WS 150T, WS 159T)

WS 108. Rape (1 unit)
An inquiry into the phenomenon of rape, myths about rape and rapists, treatment of rape victims, discussion of physical and psychological preparation for possibility of attack. Lecture, film, paper, speakers. An all-day workshop held on two consecutive Saturdays. **FS**

WS 109. Incest (1 unit)
An exploration of the victim, the victimizer, and the family dynamics of incest, as well as the psychological and sociological implications of the family secret. An all-day workshop held on two consecutive Saturdays. **S**

WS 110. Representations of Women (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Interdisciplinary course focusing on representations of women; how representations vary by class, race, ethnicity, and sexual orientation; and how these representations affect social, political, and economic behaviors and institutions. G.E. Multicultural/International MI. **FS PS**

WS 112. Assertiveness Training (1 unit)
Women's special needs in becoming assertive; blocks preventing assertion and methods of getting around them. An all-day workshop held on two consecutive Saturdays. **P**

WS 114. Women in Family Contexts (3 units)
Women in diverse family settings; the gendered division of labor; domestic violence; female-headed households; power relations in families; diversity of race, class, and sexual orientation; and conflicting family ideologies in society.

WS 115. Women, Children, and Alcohol (1 unit)
Covers impact of addiction on women and children using a systems perspective. **S**

WS 116. Domestic Violence (1 unit)
An historical and cultural overview of the battered and battering spouse syndromes; the marriage contract as a license to abuse; the status of remedial legislation; and, the effect of parental battering on children. An all-day workshop held on two consecutive Saturdays. **F**

WS 120. Women of Color in the United States (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Examines the role and status of U.S. women of color within the larger social structure. Women in varying family structures and cultural settings will be examined, with an emphasis on how social systems shape the roles of women and affect larger U.S. institutions. G.E. Multicultural/International MI. **FS**

WS 125. Introduction to Lesbian/Gay Studies (3 units)
Introduction to theory, questions, and topics in interdisciplinary lesbian and gay studies. **F odd**

WS 126. Women and Violence: Public Policy and the Law (3 units)
(Same as CRIM 126.) Historical and contemporary issues in public policy responses to violence against women. Gender bias in the legal system and policing violence against women. Theory and research on problems in government policy and enforcement of the law. **S**

WS 127. Female Sexuality (3 units)
(See PH 126.)

WS 130. Women's Health (3 units)
(See PH 130.)

WS 132. Women and Work (3 units)
(See SOC 132.)

WS 135. Women in Cross-Cultural Perspective (3 units)
Prerequisites: G.E. Foundation and Breadth Area D. Examines economic, social, political, and cultural roles as well as current status of women in one or more of the following: China, Southeast Asia, South Asia, Africa, Middle East, and Latin America. Prepares students to function in an international, multicultural world. G.E. Multicultural/International MI. **FS PS**

WS 136T. Topics in International Women's Studies (3; max total 9 units)
Examines how global economic and cultural processes affect women. Investigates the interconnections between "first" and "third" worlds through topics such as international division of labor, work and gender ideologies, and women's organized resistance to changes in local economics. **P**

WS 137. African American Women (3 units)
(See AFRS 137.)

WS 143. Feminist Theory (3 units)
Review of major feminist theories of the twentieth century, analysis of assumptions underlying each, evaluation of strengths and weaknesses of each, and examination of relationship of various theories to various women's life experiences. **F**

WS 148. Women and Religion (3 units)
Seminar to explore many facets of women's religious experience, including history of women in institutional churches, theologies of liberation and oppression, women's religious experience, and feminist spirituality. **P**

WS 150T. Topics in Women's Studies (1-4; max total 12 units)
Topics of current interest in the women's movement, covering a wide variety of issues. (See *Class Schedule* for specific topics.) **P**

WS 151T. Topics in Lesbian/Gay Studies (1-3; max total 6 units)
Topics in lesbian and gay studies, drawing upon areas such as history, sociology, literature, psychology, or interdisciplinary fields. **P**

WS 152. The Chicano Family (3 units)
(See CLAS 152.)

WS 153. Feminist Research Methods (3 units)
Prerequisite: one course from WS 10, 103, 110, 120, 135, 143. Introduction to quantitative and qualitative research methods. Hands-on practice of designing and conducting a research project and writing a grant. **F**

WS 160. Feminist Issues in Counseling (3 units)
Prerequisite: WS 10 or permission of instructor. Evaluates counseling theories; individual and group counseling techniques; examines ethical issues and power structure in therapeutic settings; surveys community resources; and explores innovative and feminist perspectives concerning the effective treatment of women. **P**

WS 161T. Peer Education (1; max total 4 units; repeatable with different topics)
Prerequisite: permission of instructor. May be taken up to four times if no topic repeated. Topics: sexual assault, sexual harassment, alcohol and drug abuse, or eating disorders. Students learn curriculum content, develop teaching and group facilitation skills, and make presentations to campus peer groups. ***CR/NC*** grading only.

WS 162. Community Service in Women's Studies (1-3; max total 6 units)
Prerequisite: 9 hours of WS courses and permission of instructor and sponsoring agency. Individual experience relating student's classroom studies to experience in a women's community service agency. ***CR/NC*** grading only. (Minimum of 3 field hours per unit.) **P**

WS 163. Consciousness Raising: Group Leader (1; max total 2 units)
Prerequisite: permission of instructor. Students learn skills in facilitating group discussion of women's issues through training and practicum. ***CR/NC*** grading only. **P**

WS 168T. Women and Literature (4 units)
(See ENGL 168T.)

WS 170. Women: Culture and Biology (3 units)
(See ANTH 118.)

WS 175. Seminar in Women's Studies (3 units)
Primarily for women's studies majors and minors. Prerequisite: 15 units in women's studies or permission of instructor. A synthesis of objective and subjective experience in women's studies. Culminating experience required. **S**

WS 176T. Genre Film: Form and Function (1-4; max total 8 units)
(See ENGL 176T.) **P**

WS 190. Independent Study (1-3; max total 6 units)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading. **P**

WS 194T. Seminar in Women and Literature (4; max total 8; repeatable with different topics)
(See ENGL 194T.)

Special Programs, Graduate Studies, Administration, Faculty, Policies

Special Programs

American English Institute

The American English Institute (AEI) at California State University, Fresno, has offered a non-credit intensive English program for international students since 1972. Instruction is at skill levels from low-intermediate to advanced; there are no beginning classes offered.

Admission Requirements and Application Procedure. Applicants must be high school graduates who are at least 17 years old. Applicants should be motivated to improve their English speaking, listening, reading, and writing skills. They should be prepared to attend classes every day and to do homework regularly. Interested students should contact the institute or go online to obtain the application form. An I-20 will be issued after students have submitted the completed AEI application form, the application fee, a financial guarantee document, and a passport copy. Since processing and mailing of the I-20 take time, students should apply at least two months before the session begins. For further information, call **559.278.2097**, send a FAX to **559.278.5586**, check our Internet site at ***www.fresnostate.edu/AEI***, or write:

Director, American English Institute
California State University, Fresno
5048 N. Jackson Ave. #130 M/S LS74
Fresno, CA 93740-8022

Calendar and Fees. The AEI has 13-week spring and fall sessions and a 10-week summer session. Students pay application, tuition, health insurance, health center, and student service fees. Interested students should contact the institute to get specific information on fees and session dates.

Students receive five hours of instruction each week in the following four classes: writing and grammar; reading and vocabulary; listening, speaking, and pronunciation; and paper-based TOEFL preparation.

Applied Ethics

The Applied Ethics Program incorporates a wide range of courses addressing ethical issues and the application of moral values to problems students are likely to face in their professions, private lives, and responsibilities as citizens. Applied ethics courses are intended to enhance the students' appreciation of their own values throughout life.

While the program has neither a major nor minor, inclusion of several applied ethics courses in the students' curricula should be beneficial in a number of careers and in life itself. Several applied ethics courses count toward General Education requirements, as well as graduate seminars in certain departments. Prerequisites for advanced courses may be established by participating departments. For further information, consult the coordinator, Dr. Andrew Fiala (Philosophy) and the *Class Schedule*.

COURSES

Applied Ethics (AETH)

AETH 106T. Topics in Applied Ethics (1-3)
Selected topics involving applied ethics covering a range of career and life issues. Usually requires a previous course in applied ethics or special background.

AETH 190. Independent Study (1-3; max total 6)
See *Academic Placement — Independent Study*. Approved for ***RP*** grading.

AETH 192. Directed Reading (1-3; max total 6)
Prerequisite: permission of instructor. Supervised readings in a selected applied ethics field.

AETH 194. Seminar in Applied Ethics (3 units)
Prerequisite: one course in applied ethics or special background. Intensive investigation of issues in applied ethics, normally requiring substantial student participation and discussion.

AETH 200. Ethics and Philosophy of Behaviorism (3 units)
(See PSYCH 231.)

AETH 201. International Relations and Political Theory (3 units)
(See PLSI 210.)

AETH 202. Ethics and Public Administration (3 units)
(See MPA 250.)

Asian Studies

California State University, Fresno offers courses in many disciplines which are concerned with South, Southeast, and East Asia. Although there is no degree program in Asian Studies at this time, an interdisciplinary undergraduate minor is available for students who desire a knowledge of Asia as a complement to their chosen academic discipline or profession. For further information and for aid in planning such a course of study, consult the coordinator, **Dr. Franklin Ng, 559.278.5187.**

Asian Studies Minor

A Minor in Asian Studies consists of 21 units, including a minimum of 9 upper-division units. Specific requirements:

1. Six to 9 units in one of the areas listed under Section I or II.
2. A total of four courses, two (at least 6 units) from Section I and two (at least 6 units) from Section II, but none in the area chosen in Requirement 1.
3. Up to 3 units of electives from Section I, II, or III.

Independent Study (190) courses in any department may be applied toward the minor as long as they cover some aspect of Asian Studies and are approved by the coordinator. Unspecified topics courses and seminar courses listed below must cover some aspect of Asia to be counted toward the minor.

Note: The Asian Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.

COURSES

Section I. Humanities

Language

CHIN 1A-1B	Elementary Chinese (3-3)
CHIN 2A-2B	Intermediate Chinese (3-3)
JAPN 1A-1B	Elementary Japanese (3-3)
JAPN 2A-2B	Intermediate Japanese (3-3)
SKT 10A-B	Sanskrit (3-3)

Philosophy and Religion

PHIL 136	Buddhism (3)
PHIL 137	Hinduism (3)
PHIL 138	Chinese Thought (3)
PHIL 172T	Seminar in Religious Issues (1-4)

Section II. Social Sciences

ANTH 123 Peoples and Cultures of Southeast Asia (3)
ANTH 124 Peoples and Cultures of East Asia (3)
ANTH 155 Folk Medicine (3)
ANTH 125 Tradition and Change in China and Japan (3)
ANTH 126 Cultures and Foods of East Asia (3)
ECON 114 Economic Development of Poor Nations (3)
ECON 188T Special Topics (1-3; max total 6)
GEOG 177T Asian Regions (3; max total 9 if no area repeated)
HIST 6 East Asian Civilization
HIST 191 Modern Far East, 1843-1949 (3)
HIST 192 Modern Far East, 1949-Present (3)
HIST 199T Studies in Far Eastern History (1-3; max total 6 if no topic repeated)
PLSI 145T Area Studies in Asia (3)
PLSI 183 Comparative Administration (3)
SWRK 122T Gandhi and Nonviolence (3)

Section III. Courses Partially Related to Asia

AGBS 140 Agriculture and International Development (3)

Additional courses may be selected with prior approval from the coordinator.

CalStateTEACH

Multiple Subject, CalStateTEACH (CST) is both a preservice program and an intern program. CalStateTEACH is an alternative path to a multiple subject preliminary teaching credential. Available to individuals residing in the Valley, the Central Coast, northern California, and eastern California, CalStateTEACH is designed specifically to serve teachers who are interns or who can volunteer to practice teach in an elementary school (grades K-6). It is also designed for those who want to become teachers but are unable to access campus programs due to personal circumstances or because they live beyond commuting distance to a university. The program has been constructed to integrate the theory and practice of teaching with the daily experiences of teachers in the classroom.

CalStateTEACH is a Web-enhanced program in which students work in small groups, guided and supported by faculty of Fresno State as well as by on-site school personnel. This flexible form of instruction allows part-time, home-based study and uses a rich mix of print, Internet, CD ROM, and video. There are no regular university classes to attend, although there are five Saturday seminars over the course of the program. After successfully completing the program, participants will have earned a Multiple Subject Credential and 40-49 semester units of credit.

The CalStateTEACH program is offered in four terms. Fees include the cost of instruction and all books, course guides, videotapes, CD-ROM, and computer software. Federal and state financial aid in the form of grants and loans are available for qualified students.

For more information, contact Dr. Robin Chiero at 559.278.0150, *robinc@csufresno.edu*, KSOEHD Room 210C, M/S ED1. For internship information, see *Teaching - Internships*.

Program Requirements

1. **Subject Matter Competency**. California requires potential teachers to demonstrate knowledge of subject matter through passage of the California Subject Matter Examination for Teachers (CSET). At initial enrollment, students who have not already passed this test will be advised regarding how to meet this admission requirement.
2. **Computer and Internet Requirements.** Since there is a Web-based communication system for the program, each participant must have access to a computer connected to the Internet.
3. **Admission to the Program.** Admission requirements are based on the standards of CSU campuses and the California Commission on Teacher Credentialing. Basic requirements include a bachelor's degree from a regionally accredited college or university, passage of CBEST, a qualifying college grade point average, evidence of writing proficiency, successful completion of an interview with Fresno State faculty, and two letters of recommendation. Assuming that these requirements are met, teachers working full-time under an intern credential in a public elementary school or as a half-time practice teacher in an elementary school will qualify for CalStateTEACH. Assuming they are otherwise qualified, some elementary private school teachers, and long-term elementary substitute teachers may be accepted into the program. This determination will be made on an individual basis, according to program specifications. Candidates must have access to a multiple subject classroom in which the core curriculum is taught to all students. Candidates must have a minimum of 17.5 hours/week of contact with children in a classroom.
4. **Professional Preparation: Conventional Option** *Units*

Term 1: CST 401	10
Term 2: CST 402	10
Term 3: CST 403	10
Term 4: CST 404	10
Total	**40***

Professional Preparation: Split-Track Option	*Units*
Term 1: CST 401A	7
Term 1: CST 401B	3
Term 1: CST 401F	3**
Term 2: CST 402	10
Term 3: CST 403	10
Term 4: CST 404	10
Total	**40/43***
CST 444: Required CSET Prep Course	3/6
Total	**43/49**

* Twenty units are practice or intern teaching, observation, and application in the classroom. The remaining 20 units are devoted to the regular multiple subject credential coursework; plus the infusion of crosscultural, language, and academic development; mainstreaming; and technology curriculum.

** To be taken concurrently with CST 401B for those who have not passed CSET.

See *Kremen School of Education and Human Development* section for courses.

Cognitive Science

Bachelor of Science in Cognitive Science

The general objectives for the B.S. in Cognitive Science are to develop and provide a thorough foundation in the study of cognitive science, drawing in perspectives from computer science, linguistics, philosophy, and psychology; to provide a foundation in cognitive science with which students will be able to pursue graduate education in cognitive science, computer science, linguistics, philosophy, psychology, or related fields; and to provide a foundation for the pursuit of jobs in business and industry where a multidisciplinary background is highly desirable.

The primary instructional objectives of the B.S. in Cognitive Science are to give an education in recent approaches to cognition and cognitive science and to give an overview of current methodologies used within cognitive science, including those methodologies used in the core disciplines of computer science, linguistics, philosophy, and psychology.

Cognitive Science Major	*Units*
Major requirements	**49-53**
The core consists of the two cognitive science foundational courses, plus a set of courses from each of the primary cognitive science disciplines represented at Fresno State: computer science, communicative disorders, linguistics, philosophy, and psychology.	
Core requirements	**40-41**
CGSCI 100, 101; CSCI 40, 41; LING 100, 152; PHIL 45; PSYCH 42, 128, 144; CSCI 60 or MATH 114	
Area courses and electives	**9-12**
Area Courses	(6-8)
Select two courses from one of the following areas.	
A. Cognition and Knowledge PSYCH 121, 124; PHIL 145	
B. Language PHIL 146; CDDS 172; LING 139, 142, 143, 165	
C. Computer Science and Informatics CSCI 119, 164, 166	
Electives	(3-4)
Additional requirements (Double counted in G.E.) PHIL 151; PSYCH 10, 126	
General Education requirements	**51**
Remaining degree requirements	**16-20**
Total	**120**

Advising Note

It is recommended that students taking the Cognition and Knowledge Representation area courses be advised by appropriate faculty in psychology and philosophy, students taking the Language area courses be advised by appropriate faculty in linguistics and communicative disorders, and students taking the Computer Science and Informatics area courses be advised by appropriate faculty in computer science. *Advisers should also note that many of the prerequisites for electives and area courses in the major are satisfied simply by taking core courses in the sequences prescribed by their respective departments.*

Cognitive Science Minor

The Cognitive Science Minor requires 18-22 units. Students are required to take the two foundational CGSCI courses: CGSCI 100 (4 units) and CGSCI 101 (3 units).

In addition, students are required to take four courses (12-16 units) from the list below, with no more than two courses from the same department. ***Please note***: students are not allowed to count any courses taken as part of the Cognitive Science Minor toward their major.

	Units
Foundational courses: CGSCI 100, 101	7
Four of the following: CSCI 119*, 164*, 166*; CDDS 172; PHIL 145, 146, 151; PSYCH 121, 124**, 126**, 128; LING 142***, 143***, 152***, 165***	**12-16**
Total	**19-23**

* These courses have the following prerequisites: CSCI 40, 41, 60. CSCI 119 is also a prerequisite for CSCI 164 and 166.

** These courses have the following prerequisites: PSYCH 10, 42, 144.

*** These courses have the following prerequisites: LING 100.

COURSES

Cognitive Science (CGSCI)

CGSCI 100. Foundations of Cognitive Science (4 units)
Overview of cognitive science, an interdisciplinary area of study focusing on cognition: how we perceive the world and how we can model the ways we think or perceive. Brings together the key fields of linguistics, psychology, philosophy, and computer science.

CGSCI 101. Cognitive Science Seminar (3; max total 9)
Introduces students to the discipline of cognitive science through a series of lectures given by local and visiting cognitive scientists. The structure and content will vary from term to term. May be taken three times for credit. *CR/NC* grading only.

Global Awareness Certificate

The global awareness certificate is a Certificate of Special Study awarded for successfully completing at least 12 semester units as described below. It can be tailored to a particular area of study by programs, departments, or colleges/schools and certifies that a student has achieved a set of outcomes denoting a level of competency in the international arena.

The following broad parameters apply to the global awareness certificate:

1. Must be a minimum of 12 units.
2. Must include an introduction to global issues course (3 units). Such courses could be designed by faculty from across the university.
3. Must include the equivalent of at least one year of foreign language (two years of high school foreign language).
4. Must include at least one study abroad experience.
5. Must include at least one course (3 unit minimum) in the student's major (or closely related field) dealing with international aspects of the major. These courses are identified by departments/colleges and will not include courses in G.E. MI.

A course meeting requirement #2 has now been approved and will be offered beginning fall 2011. The course is Social Sciences 16 - Introduction to Global Studies.

International Programs

There are several types of programs offered by the university under this heading.

- The **campus program** is designed for students whose native language is not English and for those whose education has been in a language other than English. All such students are required to participate in post-admission English language tests, such as the University English Exam (UEE). As a result of such testing, any student may be required to register for up to two ESL writing classes (LING 6 or 110W).
- The **overseas program** features study abroad through the CSU system-wide programs, **short-term travel study programs** led by faculty, and the University Studies Abroad Consortium (USAC).

For more information about travel study, contact Family and Food Sciences Building, Room 119, 559.278.6452. For information on study abroad options throughout the CSU system, see *www.calstate.edu/ip/*.

Campus

The campus program provides courses to help international students gain adequate skill in the use of the English language and sufficient familiarity with American customs and tradition to obtain maximum benefit from their experience at an American university. The following courses, taught through the Linguistics Department, are required of all entering international students, unless excused from part or all of it by the English as a Second Language (ESL)/International Studies Courses (ISC) Petitions Committee on the advice of the persons concerned with the instruction and administration of the program. This decision is based on a consideration of test scores and other data supplied by the student with his or her application. (See *International Student Services and Programs.*)

First Semester Courses. Most undergraduate students are required to enroll in LING 6 and ISC 93 the first semester of residence. With permission of their international counselor, students may enroll in other regular courses. The Department of Linguistics also offers several sections of English 10 for resident and international English learners.

Other Undergraduate Courses. LING 110W is often required of transfer students who have completed ENGL 5B or 10 or its equivalent and 60 units of coursework.

Courses Taken in Graduate Standing. An entering graduate student whose previous education has been in a language other than English is held to similar standards of English proficiency as are undergraduate students and may be required to enroll in the following undergraduate courses (such as LING 110W). English proficiency is based on performance on the UEE.

COURSES

International Studies Course (ISC)

ISC 93. Contemporary American Society (1 unit)
Introduction to contemporary American society to familiarize the student with political and social issues and ideological conflicts. (2 seminar hours)

Overseas

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 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 special study center abroad. The International Programs serves the needs of students in more than 100 academic majors. Affiliated with more than 50 recognized universities and institutions of higher education in 18 countries, the International Programs also offers a wide selection of study locales and learning environments.

The affiliated institutions are as follows: Australia - Griffith University, Macquarie University, Queensland University of Technology, University of Queensland, University of Western Sydney, Victoria University; Canada - Concordia University (Montréal), Université Laval (Québec City); Chile - Pontificia Universidad Católica de Chile (Santiago); China - Peking University (Beijing), Shanghai Jiao Tong University (Shanghai); Denmark - Danish Institute for Study Abroad (international education affiliate of the University of Copenhagen); France - Institut Catholique de Paris, Université d'Aix-Marseille (Aix-en-Provence), Universités de Paris I, III, IV, VI, VII, VIII, X, XI, XII, XIII, Université Paris-Est Marne-la-Vallée, Université d'Evry Val d'Essonne, and Université de Versailles Saint-Quentin-en-Yvelines; Germany - University of Tübingen and a number of institutions of higher education in the Federal state of Baden-Württemberg ; Ghana - University of Ghana, Legon; Israel - Tel Aviv University, The Hebrew University of Jerusalem,

University of Haifa; Italy - CSU Study Center (Florence), Université degli Studi di Firenze, Accademia di Belle Arti Firenze; Japan - Waseda University (Tokyo), University of Tsukuba; Korea - Yonsei University (Seoul); Mexico - Instituto Tecnológico y de Estudios Superiores de Monterrey, Campus Querétaro; South Africa - Nelson Mandela Metropolitan University, Port Elizabeth; Spain - Universidad Complutense de Madrid, Universidad de Granada; Sweden - Uppsala University; Taiwan - National Taiwan University (Taipei), National Tsing Hua University (Hsinchu); and United Kingdom - Bradford University, Bristol University, Hull University, Kingston University, Swansea University.

International Programs pays tuition and administrative costs abroad for participating California resident students to a similar extent that such funds would be expended to support similar costs in California. Participants are responsible for all CSU tuition and program fees, personal costs, such as transportation, room and board, and living expenses. Financial aid, with the exception of Federal Work-Study, is available to qualified students.

To qualify for admission to the International Programs, in most programs students must have upper division or graduate standing at a CSU campus by the time of departure. Students at the sophomore level may, however, participate in the intensive language acquisition programs in Canada, China, France, Germany, Korea, Mexico, Sweden and Taiwan. California Community Colleges transfer students are eligible to apply directly from their community colleges. Students must also possess a current cumulative grade point average of 2.75 or 3.0, depending on the program for which they apply. Some programs also have language study and/or other coursework prerequisites.

Obtain information and application materials from Family and Food Sciences Building, Room 111 or call 559.278.6452. Or write to the Office of International Programs, California State University, 401 Golden Shore, Sixth Floor, Long Beach, CA 90802-4210. Visit us on the World Wide Web at *www.calstate.edu/ip*.

COURSES

Fresno State students under The California State University International Programs remain registered at Fresno State, with credit assigned in terms of Fresno State courses. Undergraduate students who find appropriate study opportunities at the host institution but no local counterpart course may use Independent Study 190, and International Studies Abroad 92 or 192. Graduate students may use Independent Study 290 and International Studies Abroad 292.

International Studies Abroad (ISA)

ISA 92. Projects in Study Abroad: (Subject) (Units variable; max total 18)
Open only to students in The California State University International Programs. Study undertaken in a university abroad under the auspices of The California State University.

ISA 192. Projects in Study Abroad: (Subject) (Units variable; max total 18)
Open only to students in The California State University International Programs. Study undertaken in a university abroad under the auspices of The California State University.

ISA 292. Projects in Study Abroad: (Subject) (Units variable; max total 18)
One- to three-unit registrations. Prerequisite: admission to master's degree program; written plan approved by the instructor, department chair, and dean of the Division of Graduate Studies. May require one or more papers and oral or written examination on the student's return before the recording of the final grade.

University Semesters

London Semester (spring) includes numerous opportunities to travel in England, Scotland, Wales, and on the European Continent. Program information is available from the College of Arts and Humanities. Call 559.278.3056. (See *English Department.*)

Armenian Semester (fall) is being planned. Call Armenian Studies at 559.278.2669 for information.

Short-term Travel Study

Each summer and winter break, campus faculty members offer short (two- to four-week long) tours in other countries. Students take classes for academic credit and participate in cultural activities led by campus faculty. Call 559.278.6452 for program locations.

University Studies Abroad Consortium

The University Studies Abroad Consortium (USAC), a consortium of 33 American universities, organizes fully accredited summer, semester, and year-long programs in Australia, Chile, China, Costa Rica, Czech Republic, Denmark, England, France, Germany, Ghana, India, Ireland, Italy, Japan, Korea, Malta, the Netherlands, New Zealand, Norway, Scotland, Spain, Sweden, and Thailand. The programs are diversified, allowing students to fulfill up to two years of university foreign language requirements in one semester. Courses are also offered in a variety of other subjects. Field trips and integrated living opportunities are key parts of the program. Any student currently enrolled at California State University, Fresno who has an overall GPA of 2.5 or better on a 4.0 system is eligible to apply to a USAC program.

Revising and Editing Skills

The following minicourses are designed to help students improve their writing skills. Each course offers intensive work in a specific area. Students may take one or all or any combination of these 1-unit courses. These courses may be taken prior to, concurrently with, or after freshman writing or *W* courses. Classes are taught by members of the Linguistics Department.

COURSES

Revising and Editing Skills (RES)

RES 4A. Spelling and Word Formation (1 unit)
Developing awareness of the systematic nature of English spelling in relation to the sound system and rules for word formation in the language. Mastery of the system rather than word memorization is emphasized.

RES 4B. Vocabulary Development (1 unit)
Acquiring greater sensitivity to the literal and implied meanings of words, developing an awareness of the processes of word formation in English, and expanding the active vocabulary.

RES 4C. Sentence Structure (1 unit)
Developing skill in writing clear, mature sentences. Focus is on structure — that is, on the alternative ways of phrasing the same idea and the consequences of choosing one alternative and not another. Sentence and phrase expansion, reduction, combination, and rearrangement are emphasized, not traditional grammar.

Graduate Studies

Division of Graduate Studies
Henry Madden Library
Harold H. Haak Administrative Center
559.278.2448
FAX: 559.278.8340
www.fresnostate.edu/gradstudies
Sharon Brown-Welty, *Dean*

Graduate Studies

Students studying for advanced degrees at California State University, Fresno are a distinctive and valued part of the university. One in five Fresno State students is enrolled at a more advanced level as a postbaccalaureate or graduate student. More than 3,000 such students are enrolled in studies leading to a graduate degree at either the master's or doctoral level, or to the attainment of an advanced credential or a certificate of advanced study.

There are many reasons, both academic and personal, that have drawn these individuals to California State University, Fresno. Some have come in recognition of the excellence of the university's graduate programs, many of which are nationally recognized by external accrediting agencies. Others have been attracted by a sterling group of graduate faculty members who take seriously the requirement to be teacher-scholars and have garnered many awards in teaching and research. Other students have come because of the availability of outstanding facilities that encourage student research and professional development. The natural laboratories of the adjacent Sierra Nevada mountain range and the geography of the large central valley of California provide exciting dimensions for those interested in environmental and ecological research. Collaborative sites jointly operated with governmental agencies and other universities exist in areas such as biomedical research, marine sciences, engineering, agriculture, business, and education. With a campus focus on both applied and theoretical research, students can be more readily assured of an opportunity to match their interests with those of the faculty members.

The Madden Library holdings include one million volumes and nearly 2,600 periodicals and major collections in areas such as music, maps, governmental documents, rare books, and curriculum materials. Library services, such as the interlibrary loan program and electronic database searches, ensure library support for students.

The university also has a history of attracting scholars from many areas of the world. These scholars may join the faculty or present special lectures, and often engage in joint research and publication efforts with Fresno State faculty. Through these scholars, graduate students are exposed to a significant network of nationally recognized colleagues.

Administrative Organization

The Division of Graduate Studies includes all departments and academic units within the university that offer graduate courses and programs leading to advanced degrees. The chief administrative officer of the Division of Graduate Studies is the graduate dean, who has general responsibility for the development, planning, assessment, improvement, and administration of postbaccalaureate and graduate programs offered by the university. Within this charge, the division administers all graduate student record functions, including student academic progress and evaluations; develops opportunities for providing student fellowships, scholarships, and assistantships; and provides support for research and professional scholarship activities for faculty and graduate students.

Housed within the Division of Graduate Studies are the special admission, program, and degree evaluators, and the thesis consultant. They advise both domestic and international students about the requirements and regulations for completion of a graduate degree and other special circumstances that may arise. Staff members in the division provide general information to graduate students.

The responsibilities of the Division of Graduate Studies are complex and decentralized to include the eight academic colleges and schools of the university and the departments within them housing the graduate programs offered by the campus. Each program has a graduate program coordinator who often serves as the initial point of contact for entering graduate students.

The faculty members in the department who constitute the graduate faculty group have initial responsibility for the quality and scheduling of courses (including special topics) and the preparation of course syllabi, examinations, projects, and theses.

As a member of the graduate faculty, the major professor/adviser for a student is responsible for guiding the student in selecting appropriate courses, research problems, and professional experiences. Moreover, the major professor/adviser is important as both a colleague and mentor in facilitating the intellectual development and maturation of the student within the discipline.

The chief consultative body responsible for formulating and recommending policies, standards, and procedures is the university's Graduate Committee. This committee is composed of eight faculty members elected by the faculty and the graduate dean.

The Graduate Student Body

The Division of Graduate Studies is proud of the diversity of its graduate student body. Graduate students come from a variety of ethnic, racial, and age groups, and represent many nationalities and countries throughout the world. They present a mosaic of personal values, beliefs, and experiences that enrich the dialogue of campus conversations. Whether these students are recent graduates of bachelor's degree programs or are returning students, they constitute a dynamic group on campus. The diversity of the student body thus presents a very special opportunity for all part-time and full-time graduate students to establish a vast, collegial network.

For those students who make up the graduate student body, success in the pursuit of a graduate degree depends upon active cooperation with their faculty advisers and instructors. Graduate students are expected to develop the ability to critically seek out and analyze facts, sift evidence, master theories and advanced techniques of professional inquiry, and demonstrate these abilities orally and in writing. Moreover, they must risk giving their informed opinions and be ready to accept criticism and advice rendered by faculty mentors and student colleagues. The pursuit of an advanced degree also requires that participants demonstrate an essential degree of independence and self-motivation in acquiring knowledge in their field of study. The rewards for those who

succeed are many, as evidenced by the rapidly growing number of individuals nationwide who earn a graduate degree. Currently, more than 417,000 graduate degrees and 44,000 doctoral degrees are awarded annually in the United States.

Graduate Degrees and Programs

There is great variety in the nature and scope of the graduate programs, options, concentrations, and emphases available at California State University, Fresno. Those that are officially recognized and for which the university is authorized to confer a degree are listed in the section that follows. Additional areas of specialization, although not officially recognized on transcripts or diplomas, may be obtained through selection of appropriate elective courses.

Graduate Degrees and Authorized Options

Accountancy, M.S.*

Animal Science, M.S.

Art, M.A.

Biology, M.S.

Biotechnology, M.Bt.

Business Administration,
Online M.B.A., M.B.A.

Chemistry, M.S.

Civil Engineering, M.S.

Communication, M.A.

Communicative Disorders, M.A.
- Deaf Education
- Speech-Language Pathology

Computer Science, M.S.

Counseling, M.S.
- Marriage and Family Therapy
- School Counseling
- Student Affairs and College Counseling

Creative Writing, M.F.A.

Criminology, M.S.

Education, M.A.
- Curriculum and Instruction
- Early Childhood Education
- Educational Leadership and Administration
- Reading/Language Arts

Engineering, M.S.
- Computer Engineering
- Electrical Engineering
- Mechanical Engineering

English, M.A.
- Composition Theory
- Literature

Family and Consumer Sciences, M.S.*

Food and Nutritional Sciences, M.S.*

Geology, M.S.

History, M.A.**
- Teaching

Industrial Technology, M.S.

Interdisciplinary Studies, M.A., M.S.

International Relations, M.A.*

Kinesiology, M.A.**
- Exercise Science
- Sport Administration
- Sport Psychology

Linguistics, M.A.**
- Teaching English as a Second Language

Marine Science, M.S.

Mass Communication and Journalism, M.A.

Mathematics, M.A.**
- Teaching

Music, M.A.
- Music Education
- Performance

Nursing, M.S.
- Clinical Nurse Specialist/ Nurse Educator
- Primary Care/Nurse Practitioner

Physics, M.S.

Plant Science, M.S.

Psychology, M.A.**
- Applied Behavior Analysis

Public Administration, M.P.A.

Public Health, M.P.H.
- Health Policy and Management
- Health Promotion

Reading, M.A.

Rehabilitation Counseling, M.S.

Social Work, M.S.W.

Spanish, M.A.

Special Education, M.A.

Teaching, Online M.A.

Viticulture and Enology, M.S.

Educational Specialist Degree

School Psychology, Ed.S.

Doctoral Degrees

Educational Leadership, Ed.D.

Nursing, Joint D.N.P.***

Physical Therapy, D.P.T., Joint D.P.T.***

Certificates of Advanced Study

- Biotechnology
- Composition
- Criminal Justice Counseling Specialist
- Dietetics
- Educational Technology
- Geographic Information Systems
- Homeland Security
- Psychiatric Mental Health Nurse Practitioner
- Teaching American History
- Teaching English to Speakers of Other Languages (TESOL)

* Admissions are currently suspended.
** In these programs, a student may earn a degree without also declaring an option.
*** This degree is jointly conferred with the University of California.

Financial Aid, Fellowships and Scholarships

In addition to the information found in the Financial Aid section of this catalog, the Division of Graduate Studies publishes a sourcebook, "Financial Assistance for the Graduate Student," on funding opportunities for graduate students. This is available on our website at *www.fresnostate.edu/gradstudies* at our "e-Pubs" link.

Teaching Associateships and Graduate Assistantships

A number of teaching associateships and graduate assistantships are available to graduate students who are enrolled in graduate degree programs and whose previous records show outstanding achievement in academic work, outstanding subject matter competence in their major fields, and the special qualities necessary to the duties assigned.

Eligibility for an initial associateship or assistantship appointment requires possession of a baccalaureate degree and admission

to the graduate degree program that gives the nomination, with at least conditional classified graduate status. Subsequent appointments require that students maintain a 3.0 GPA, be enrolled in coursework toward their graduate degree, and demonstrate satisfactory progress toward completion of their graduate degree.

Assistants work under the direction of an assigned faculty member and assist in such functions as the supervision of laboratories or other small groups, the evaluation of student work, the preparation of course materials, or the conduct of authorized research. Assistants receive a stipend ranging from $2,000 to $5,500 per semester. For specific information, write to the chair of the major department.

Graduate Student Research and Creative Activities Support Awards*

Limited awards of up to $1,000 are available each semester on a competitive basis to students in any academic area in the form of grants for special merit and quality scholarship of graduate/doctoral student research and creative activities associated with a thesis or project.

Graduate Student Travel Grants*

Travel grants are available to graduate students who have had papers and/or posters accepted for presentation at major, professional conferences or society meetings.

California Graduate Equity Fellowship Program*

Fellowships of up to $4,500 are available for underrepresented graduate students who qualify. The California Graduate Equity Fellowship Program seeks to increase the diversity of students completing graduate degree programs at California State University, Fresno and encourages continuation to doctoral programs and consideration of university faculty careers. It provides fellowships for economically disadvantaged graduate students (especially those from groups that are underrepresented among graduate degree recipients in their areas of study) and promotes faculty mentoring and research opportunities. Filing deadlines are in the spring for funding in the following academic year.

Robert and Norma Craig Fellowship*

These fellowships, awarding student stipends of $1,000 each, provide benefits for both graduate students and faculty. Eligible projects will include such mentored activities as research, instructional assistance, or other faculty-assigned duties. Nominations are due at the announced fall deadline, and must be jointly developed by the faculty member and the graduate student(s).

California Pre-Doctoral Program for Undergraduate and Graduate Students*

The California Pre-Doctoral Program is designed to increase the pool of potential faculty by supporting the doctoral aspirations of California State University students who have experienced economic and educational disadvantages. The program provides travel funds for qualified students to visit institutions that grant the doctorate and/or attend professional meetings with a faculty sponsor. Students in the program may also be considered to participate in a summer research program at a UC or CSU campus.

President's Graduate Scholars Fellowships*

Each year Fresno State awards entering graduate students two President's Graduate Scholars Fellowships of $3,500 each. President's Graduate Scholars may obtain a second year of funding if satisfactory progress is maintained. Nominees must be incoming first-semester graduate degree or doctoral students for the fall semester.

University Scholarships for Graduate Students

Scholarship applications and information for postbaccalaureate/graduate students for the fall 2013-spring 2014 academic year will only be available and accepted online. Students may log on to *http://fresnostate.edu/studentaffairs/scholarships* and click on ***Scholarship Application***.

The "priority application" period for "full consideration" of scholarship opportunities has been established as October 1 through February 28.

*Application/nomination forms are available at *www.fresnostate.edu/gradstudies* under the "Financial Aid" link, then "Financial Opportunities" through the Division of Graduate Studies.

Definition of Full-Time Student

Depending on the use of the term, there are several definitions of full time. *For the purpose of reporting enrollments*, graduate students taking 9 or more units are considered full time and students taking less than 9 units are considered part time.

For the purpose of financial aid (loans, veteran's assistance, etc.), a full-time student takes 12 "equivalent units" wherein each graduate unit (200-level) attempted by a graduate student is considered as 1.5 units and each undergraduate unit (100-level or below) counts at face value. For example, a student enrolled for 8 units of 200-level courses would be considered a full-time student. Three-quarter time and half-time are defined to be 9 to 11.5 and 6 to 8.5 "equivalent units," respectively.

Requirement for full-time enrollment for international students. The United States Office of Homeland Security (OHS) requires international students on non-immigrant F-1 and J-1 visas to pursue full-time study in a specific program for each semester of enrollment. Full-time study includes 12 weighted academic units of approved prerequisite, corequisite, or graduate program courses. (Note: Graduate 200-series courses have a weighting factor of 1.5 per course unit.)

- Using the definitions for full-time student status, international graduate students are advised to work closely with their faculty adviser to plan a program of full-time study for each semester of enrollment.
- Graduate program coordinators should not admit international students to their programs in those instances in which a sufficient number of courses are not expected to be available during each semester of enrollment in the program.

Maximum Study Load

Graduate courses require substantially more concentrated study than do undergraduate courses. A normal load is from 9 to 12 units, and the maximum allowable load is 16 units for full-time graduate degree students when one or more courses in the 200 series are included. Requests for exceptions to this policy must be addressed to the Graduate Division during the registration period on a *Graduate Student Petition for Academic Overload*. The form is available online at *www.fresnostate.edu/gradstudies* under the

"Forms" link, then "Enrollment/Registration." Students employed full time may take a maximum of 6 units.

Application for Graduate/ Postbaccalaureate Admission

Students are encouraged to plan and apply for graduate admission as early as possible. Completed applications are considered as they are received and thus there are many benefits to applying early. For example, it is often the case that available financial awards such as teaching assistantships and other financial aid resources, which are limited in number, may be granted only to the early applicants. Be aware, too, that a decision on an incomplete application is likely to be delayed. In many instances this occurs when required supporting documents such as official transcripts, scores from standardized tests (GRE, GMAT, MAT) or materials the program requires are not received. Applicants are advised to ensure that these materials are requested and forwarded prior to or at the same time as the submission of their application. All documents submitted become the property of California State University, Fresno and will not be returned.

The Graduate Admissions Office (located in Joyal Administration Building, Room 121) may be consulted during the time applications are being considered at 559.278.4073. For information on the status of an application, students may access the university Student Center at MyFresnoState, *my.fresnostate.edu*. Prospective master's, credential, and advanced certificate students apply to the university online at *http://csumentor.edu* using the Graduate and Postbaccalaureate Application. Students need to be aware that most graduate degree programs, certificates of advanced study and credential programs require additional information prior to consideration for admission into a specific program. Students will be informed and directed to the appropriate place for submitting these additional admission materials within the *csumentor.edu* application process. Those interested in a second undergraduate degree should also apply through *csumentor.edu* using the Graduate Postbaccalaureate Application.

Limitation of Graduate Enrollment

Admission to postbaccalaureate/graduate studies must be restricted to the number of students for whom an effective education can be provided by staff, facilities, and funding available at California State University, Fresno. The university may limit postbaccalaureate/graduate enrollment on the basis of the academic field and the relative aptitude of the applicant, based on approved admissions criteria

University Admission

Graduate and postbaccalaureate applicants may apply for a degree objective, a credential, or certificate objective. Depending on the objective, the CSU will consider an application for admission as follows:

General Requirements – The minimum university requirements for admission to graduate and postbaccalaureate studies at a California State University campus are in accordance with university regulations as well as Title 5, chapter 1, subchapter 3 of the California Code of Regulations. Specifically, at the time of enrollment, a student shall (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 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 satisfied any one of the following: [a] attained a GPA of at least 2.5 in an acceptable earned baccalaureate degree, [b] attained a GPA of at least 2.5 in the last 60 semester units (90 quarter units) attempted, [c] hold an acceptable postbaccalaureate degree earned at an institution accredited by a regional accrediting association; 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.

Students who meet the minimum requirements for graduate and postbaccalaureate studies may be considered for admission in one of the following categories:

Postbaccalaureate Classified – 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 as prescribed by the campus; or

Graduate Conditionally Classified Standing - Students may be admitted to a graduate degree program in this category if, in the opinion of the appropriate campus authority, the student can remedy deficiencies by additional preparation, including the completion of prerequisite requirements.

Note: Graduate degree students who have been granted conditionally classified admission to a graduate program are required to complete all conditions for achieving classified standing (full admission) to the program by the semester in which a maximum of one-third of the units to be used toward the graduate degree is completed. (*Exception*: Rehabilitation Counseling requires classification by the completion of 10 program units.) Failure to attain classified graduate standing in a timely manner as outlined in this catalog may result in the loss of units to be applied toward the degree since excess units may not be listed on the Petition of Advancement to Candidacy.

A graduate student is expected to attain classified graduate standing either at admission or during the first semester of studies. Candidates for classification are expected to possess a minimum 3.0 postbaccalaureate cumulative grade point average.

Doctoral students should consult the appropriate doctoral program guidelines for information regarding obtaining classified standing.

Graduate Classified Standing. This category is granted to those students who fully meet all admission requirements of the Division of Graduate Studies and the program. It enables the student to pursue a graduate degree and fulfill all of the professional, personal, scholastic, and other standards — including qualifying examinations — prescribed by the campus.

(These and other CSU admissions requirements are subject to change as policies are revised and laws are amended. The CSU website *www.calstate.edu* and the CSU admissions portal *www.csumentor.edu* are good sources of the most up-to-date information.)

Only those applicants who show promise of success in and fitness for the profession will be admitted to Classified Graduate Standing, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to continue in the graduate program. (See also Grade Requirements.)

Standardized Test Requirements

Applicants to graduate degree and advanced certificate programs may be required to submit appropriate admission test scores with the university application to Graduate/Postbaccalaureate Studies. Please see program admission information to determine if a standardized test is required. This information is also available at *www.fresnostate.edu/gradstudies.*

Applications and information concerning the GRE as well as the MAT and GMAT are available through the Testing Services office in the Family Food Sciences Building, Room 110. GMAT information is available in the Craig School of Business Graduate Office in the Peters Building, Room 183.

It should be noted that an applicant's standardized test scores will not constitute the sole criterion according to which an admissions decision will be rendered. However, some departments, particularly in the sciences and engineering, may give more importance to standardized test scores than departments in other fields.

Change of Graduate Degree Objective

Postbaccalaureate/graduate students who intend to change their major or degree objective or add a second objective must complete and file an *Add or Change Graduate Degree* or *Certificate of Advanced Study Objective*, which includes a fee payable at the cashier's window in the Joyal Administration Building. These students must meet the admissions requirements of the new program. The application for *Add or Change Graduate Degree or Certificate of Advanced Study Objective* is available in the Division of Graduate Studies, Haak Center, Library 4140, West Wing, or on the website at *www.fresnostate.edu/gradstudies*.

Second Graduate Degree

Students planning to engage in study toward a second graduate degree must obtain prior approval from the graduate dean. Students may not earn a second graduate degree in the same field. Coursework used to satisfy the requirements of one degree may not be used to satisfy the requirements of the second degree.

Double Major Objectives

Those graduate/postbaccalaureate students pursuing more than one objective (i.e., two graduate degrees) must notify the Division of Graduate Studies so that appropriate student standing may be noted with departments concerned.

Certificate of Advanced Study

A Certificate of Advanced Study may be earned in a limited number of approved, nondegree programs. Such programs provide useful coursework and professional experiences that emphasize the acquisition of advanced technical skills of a practical, applied nature. For a current list of such programs, consult the Division of Graduate Studies, 559.278.2448. Applicants to a Certificate of Advanced Study program must meet the specific admission requirements of the individual program and the university. These include admission to postbaccalaureate standing and the submission of relevant test scores.

A Proposed Program for the Certificate of Advanced Study form must be on file in the Division of Graduate Studies office immediately following completion of the first semester/term of certificate coursework. The submission of the proposed program is important because it gives a student permission to proceed toward qualifying for the advanced certificate, and approval of the program is required for a student to remain in good standing. Proposed program forms are available in the Division of Graduate Studies Office, Haak Center, Library 4140, West Wing, or on the website at *www.fresnostate.edu/gradstudies*, under the "Forms" link.

With prior approval, those pursuing study toward a graduate degree may also pursue study toward a Certificate of Advanced Study. Double-counting of units on the certificate and on the graduate program, though limited, is possible. Those whose sole objective is the earning of the Certificate of Advanced Study are ineligible to receive graduate assistantships, fellowships, and other awards designed for those pursuing a graduate degree. The *Application for the Award of the Certificate of Advanced Study* form must be on file in the Division of Graduate Studies within the first two weeks of the term in which all courses and requirements are expected to be completed. The applications for the awarding of the certificate are available in the Division of Graduate Studies, Haak Center, Library 4140, West Wing or on the website at *www.fresnostate.edu/gradstudies*, under the "Forms" link. Upon clearance of the advanced certificate, a notation that the certificate has been awarded will be posted to the student's official transcript.

For more detailed information regarding advanced certificate program eligibility, course guidelines/limitations, required grades, etc., contact the Division of Graduate Studies or the appropriate certificate program coordinator for the *Guidelines for the Certificate of Advanced Study (CAS)* form.

Prohibition Against Double Counting of Coursework

No units used to fulfill the requirements of one degree may be used to fulfill the requirements of another degree. For example, 100-series courses used toward a bachelor's degree may not be subsequently used toward a graduate degree.

Repetition of Courses

A postbaccalaureate student pursuing a graduate degree or certificate of advanced study may repeat a course for academic credit (subject to limitations in some degree curricula) regardless of what grade was originally earned in the course. However, such a student is not eligible to petition for grade substitution. All coursework taken is considered in the calculation of the student's postbaccalaureate cumulative grade point average.

International Student Admissions

The Division of Graduate Studies seeks to bring students from all parts of the world to the campus. Since English is the language of instruction at the university, students should be prepared to write their theses, projects, examinations, and/or seminar papers in English. Applicants whose native language is not English must have acquired competence in the English language prior to enrolling in a graduate program or prerequisite courses in order to avoid any delay or difficulty in pursuing their studies.

Graduate English Competency

Graduate and Postbaccalaureate English Requirement. All graduate and postbaccalaureate 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. Applicants who do not possess a bachelor's or graduate degree from a postsecondary institution where

English is the principal language of instruction must pass the Test of English as a Foreign Language (TOEFL) or the International English Language Testing (IELTS). Such applicants must receive a minimum score of 213 on the TOEFL, or minimum score of 80 on the iBT TOEFL, or a minimum of 6.5 overall band scoore on the IELTS. Some graduate programs may require a higher score.

Several CSU campuses may use alternative methods for assessing fluency in English including Pearson Test of English Academic (PTE Academic), the International English Language Testing System (IELTS), and the International Test of English Proficiency (ITEP).

It is highly recommended that TOEFL or IELTS scores, Graduate Record Examination General Test scores, or GMAT or MAT scores, application, and official academic documents reach the university International Admissions Office at least six months before the semester for which admission is desired. See program information for specific test scores that may be required.

The TOEFL and IELTS are administered at various centers throughout the world. For locations and dates, check the TOEFL website *ets.org/toefl* or the IELTS website *ielts.org*.

You may also contact the Office of Testing Services at *www.fresnostate.edu/testing*.

Applications for international postbaccalaureate/graduate admission are found online at *www.csumentor.edu*.

Questions about the international application procedures should be directed to the following:

International Student Services and Programs
California State University, Fresno
5150 North Maple Avenue M/S JA56
Fresno, CA 93740-8026
U.S.A.
intladm@listserv.csufresno.edu

During the first semester at California State University, Fresno, foreign graduate students whose native language is not English may be required to enroll in special courses in English to help improve writing skills and to provide the greatest possibility of success in graduate studies.

Advancement to Candidacy: Eligibility

Advancement to candidacy gives a student permission to proceed toward qualifying for the degree and provides the student with a program of study that has been officially reviewed and approved by both the student's faculty and by the graduate dean. This important step confers on the student the status of candidate for the degree and represents a commitment both on the part of the student and the degree program to complete the degree within a specified time limit according to requirements published in a specific university catalog year. Advancement to candidacy is essential to the student in planning for registration in courses. The student should, therefore, meet with his/her graduate program coordinator/director soon after attaining classified graduate standing to discuss advancement to candidacy. Eligibility criteria for advancement to candidacy are as follows:

Deadline. Advancement to candidacy must be attained no later than the semester preceding the semester in which the student applies for the graduate degree to be granted and/or begins the culminating experience. Campus policy requires students to petition for advancement to candidacy as soon as they are eligible to do so. Normally this should occur within one semester of having attained classified graduate standing. Compliance with this policy is necessary for a student to remain in good standing.

Academic/Professional Standards. All students in graduate standing must demonstrate a satisfactory level of scholastic achievement as revealed by grades and performance on examinations, as well as professional and personal standards and ethical competence as determined by program faculty. This standard must be maintained in order for a student to be eligible to continue in a graduate program and be recommended for candidacy by the department.

Classified Graduate Standing. Classified graduate standing gives a student permission to work toward qualifying for advancement to candidacy. A student should be classified by the semester in which a maximum of one-third of the units to be used toward the graduate degree are completed. (*Exception*: Rehabilitation Counseling requires classification by the completion of 10 program units.) Not more than one-third of the program (including transfer and postbaccalaureate credit) completed before achieving full classified graduate standing at California State University, Fresno may be listed on the Petition of Advancement to Candidacy. Courses taken during the semester in which the student is classified may also be listed on the Petition of Advancement to Candidacy.

Prerequisites. Any prerequisites prescribed by the student's graduate program coordinator/director and specified in writing must be completed prior to advancement. Prerequisite coursework may not be listed on the Petition of Advancement to Candidacy for use toward the degree.

Graduate Record Examination (GRE) Subject Test. Satisfactory completion of the GRE Subject Test is required of students working toward the Master of Science in Physics and the Master of Arts in Mathematics.

Departmental Qualifying Examination (DQE). Satisfactory completion of the DQE is required in art, civil engineering, kinesiology, linguistics, Spanish, and viticulture and enology.

Foreign Language Requirement. Demonstration of competence, usually equivalent to that achieved through two years of collegiate study of one foreign language, is required in specified graduate degree programs in which upper-division and graduate courses demand such competence. Competence in the use of a foreign language is required for the Master of Arts in English, History (traditional track only), and Music (vocal performance and choral conducting emphases only). The foreign language requirement for the Master of Arts in International Relations is a prerequisite for graduation rather than advancement to candidacy. Ordinarily, the requirement calls for demonstration of the ability to read materials of the graduate program in one appropriate foreign language. Students who are conducting research in a foreign country for the Master of Science in Geology must be proficient in the language in which source materials are published. Students should consult their graduate adviser or the chair of the Modern and Classical Languages and Literatures Department for information about placement tests.

Grade Point Average. A minimum program grade point average of 3.0 in all courses listed on the advancement petition is required. (See also Grade Requirements.) Those enrolling in coursework not related to the graduate degree are encouraged to request *CR/NC* grading.

Units Completed. Graduate degree students are required to complete at least 9 units of

the proposed graduate degree program while in graduate standing at California State University, Fresno, with a minimum 3.0 grade point average on all completed work appearing on the Petition of Advancement to Candidacy.

Graduate Writing Requirement. All graduate degree students must demonstrate their competence in written English prior to advancement to candidacy. Early completion of this requirement is recommended. The date the student met the writing skills requirement must be noted on the Petition of Advancement to Candidacy and verified by the graduate coordinator/director. See approved program requirements.

Submission of the Advancement Petition. Submission to the Division of Graduate Studies of the properly signed Petition of Advancement to Candidacy is required before advancement status may be achieved. Students are responsible for ensuring that their advisers have sufficient information other than grades and scores on which to make a recommendation for candidacy. Advancement petitions specific to each degree program can be downloaded and printed from the Division of Graduate Studies website at *www.fresnostate.edu/gradstudies* under the "Forms" link. On the advancement petition, the student, in consultation with his or her adviser, lists a coherent set of courses which, when approved, will constitute his or her degree program. Students are responsible for adhering to deadlines established by the Graduate Division for the submission of advancement petitions. Approximate deadlines are October 1 (for spring graduation) and March 1 (for summer or fall graduation). Petitions received after the deadline are considered late and will be processed as time allows. Students cannot be advanced to candidacy and graduate in the same semester.

Doctoral students should consult their appropriate program guidelines for information regarding advancement to candidacy.

Advancement to Candidacy: Policies for Graduate degrees

The approved degree program for the graduate degree is a coherent pattern of specific requirements for the program and additional courses selected to meet the student's particular needs. It consists of at least 30 units that must be completed within five years, beginning with the earliest course taken toward the degree. Only graduate courses (200-series) and such upper-division courses (100-series) as are recommended by the colleges, schools, or departments and approved by the University Graduate Committee are acceptable for use toward a graduate degree. Other courses are counted in calculating the student's study load but cannot be counted toward the unit requirement for the degree. Courses that were used to satisfy the requirements of a previous degree cannot be double-counted toward another degree. The approved program must be consistent with the following policies:

Residence Credit. At least 21 units of a 30-unit program must be residence credit (courses taken through regular enrollment at California State University, Fresno). No more than 9 units of transfer and/or California State University, Fresno Extension credit may be included in the 30-unit program, or no more than 18 units in the 60-unit program.

Transfer Credit. Transfer credit may be used toward a California State University, Fresno graduate degree only if the institution offering the work is accredited (A-rated) and would accept it for a comparable graduate degree program. The off-campus institution must also have listed the units as postbaccalaureate graduate units on the student's transcript. Credit at California State University, Fresno will be granted if it is judged by appropriate university authorities to be particularly relevant to the individual student's program. The student must present appropriate documentation, including official transcripts of work completed and xerographic copies from the catalog of the institution where the transfer work was taken, as follows: the relevant course description(s); evidence that the course(s) may be used toward a graduate degree at that institution; the course numbering and grading systems; and information clarifying whether the institution used the semester or quarter system. If approved, a maximum of 9 transfer units (including California State University Fresno Extension and/or Open University) may be used toward a 30-unit program. Effective with the spring 2013 semester, a maximum of 9 transfer units of coursework from an institution outside of the United States may be used toward a graduate degree at California State University, Fresno, provided that the credits were earned at an officially recognized degree-granting international institution. Approval of any international transfer credits toward a graduate degree program must be granted by International Student Services and Programs personnel and the student's graduate program coordinator.

Extension Credit. Courses taken through Continuing and Global Education (Extension and/or Open University) are not normally used to fulfill the requirements toward a graduate degree. Students intending to take a course through the Division of Continuing and Global Education must request special permission from their graduate program coordinator/director to use the course toward their graduate degree. If approved, a maximum of 9 transfer (including California State University, Fresno Extension and/or Open University) units may be used toward a 30-unit program. Students may not enroll through Open University in order to bypass the university fee structure.

Postbaccalaureate/Graduate Credit. With approval of the graduate program coordinator, postbaccalaureate/graduate credit allowed for work taken prior to the granting of the baccalaureate degree as a last-semester senior may be applied toward a graduate degree. However, the amount of postbaccalaureate credit used toward the graduate degree may not exceed one-third of the student's entire approved program. (See Postbaccalaureate Credit section under Degree Requirements.)

Student Teaching Credit. Student teaching credit is not ordinarily used on graduate degree programs. In unusual circumstances, if student teaching is demonstrably appropriate to a program, up to 3 units of such work may be approved by the University Graduate Committee.

Credit by Examination. Credit by examination for coursework may be used to fulfill prerequisites, but may not be applied toward the graduate degree program.

CR/NC* Grading.** Graduate students may not elect to take a course for a ***CR grade to fulfill either prerequisite or major program requirements unless the course is only available for ***CR/NC*** grading. A maximum of 6 units of ***CR***-graded coursework may be applied to a 30-unit graduate degree program and a maximum of 12 units of ***CR***-graded coursework may be applied to a 60-unit program. Some programs allow no ***CR***-graded courses to be counted toward fulfillment of their degree requirements.

Prohibited Coursework. Courses used to fulfill General Education curriculum (Capstone, Breadth, Integration or Multicultural/International), undergraduate writing "W" courses, lower-division courses, professional (300-level) courses, and courses used to fulfill the requirements for another degree may not be used in fulfillment of the program requirements for the graduate degree.

Outdated Courses. Courses older than five years may not be included on the Petition of Advancement to Candidacy and used to fulfill requirements toward the graduate degree.

Independent Study Courses. A maximum of 6 (one-fifth of the total program units) independent study (190 or 290) units may be approved for use toward a 30-unit graduate degree. (See *Independent Study* section under Academic Placement.)

Graduate-Level Courses. A minimum of 70 percent of the courses listed on the Petition of Advancement to Candidacy for use toward the graduate degree must be graduate-level courses numbered in the 200-series. Most programs require more than the minimum.

Substitutions. Substitutions for required program courses or for other departmental requirements must be approved by the student's graduate program coordinator/director and listed on the Petition of Advancement to Candidacy. Substitutions might require additional written justification.

Program Adjustments

It is the student's responsibility to complete the specific courses listed on his or her *Petition of Advancement to Candidacy* (graduate program) or the *Proposed Program for the Certificate of Advanced Study* (advanced certificate program). Once a program has been approved by the University Graduate Committee, it may be changed only on the written request of the student and his or her graduate program adviser (if required) and coordinator/director, and with the approval of the dean, Division of Graduate Studies. *Program Adjustment Request* forms for degree and certificate programs are available in the Division of Graduate Studies, Haak Center, Library 4140, West Wing or on the website at *www.fresnostate.edu/gradstudies*, under the "Forms" link.

Doctoral students should consult the appropriate program for information regarding advancement to candidacy policies.

Culminating Experience

A culminating experience is required for each graduate degree. Acceptable culminating experiences include thesis (299), project (298), or comprehensive examination. Individual departments permit one or more culminating experiences described in this section. Students who have enrolled in thesis or project units will not be permitted to change to another culminating experience after the initial semester of such enrollment. Students must be advanced to candidacy before enrolling in project or thesis units, or before taking the comprehensive exam.

1. A thesis is the written product of the systematic study of a significant problem. It clearly identifies the problem, states the major assumptions, explains the significance of the undertaking, sets forth the sources for and methods of gathering information, analyzes the data, and offers a conclusion or recommendation. The finished product must evidence originality, critical and independent thinking, appropriate organization and format, clarity of purpose, and accurate and thorough documentation. Normally, an oral defense of the thesis will be required.
2. A project is a significant undertaking of a pursuit appropriate to the fine and applied arts or to professional fields. It must evidence originality and independent thinking, appropriate form and organization, and a rationale. It must be described and summarized in a written abstract that includes the project's significance, objectives, methodology, and a conclusion or recommendation. An oral defense of the project may be required.
3. A comprehensive examination is an assessment of the student's ability to integrate the knowledge of the area, show critical and independent thinking, and demonstrate mastery of the subject matter. The results of the examination must evidence independent thinking, appropriate organization, critical analysis, and accuracy of documentation. A record of the examination questions and responses shall be maintained.

Doctoral students should obtain information on the culminating experience(s) from the appropriate doctoral program.

Criteria for Thesis and Project

No academic distinction is made between a thesis and a project. Either one is equally acceptable as a means of fulfilling the requirements for the graduate degree. Specific departmental instructions or requirements should, however, be ascertained by the candidate before enrollment in courses 298 or 299. The instructor of record for thesis or project must issue a letter grade on the *Graduate Degree Clearance* form through the Division of Graduate Studies.

Whether a student is preparing a thesis or a project, it should be noted that quality of work accomplished is a major consideration in judging acceptability. The finished project/thesis must evidence originality, appropriate organization, clarity of purpose, critical analysis, and accuracy and completeness of documentation where needed.

Critical and independent thinking should characterize every project/thesis. Mere description, cataloging, compilation, and other superficial procedures are not adequate.

The quality of writing, format, and documentation must meet standards appropriate for publication in the scholarly journals of the field, or be consistent with the dictates of an authorized stylebook.

1. To be eligible to enroll in thesis or project units, students must have
   a. been advanced to candidacy for the graduate degree;
   b. maintained a ***B*** (3.0) program grade point average;
   c. completed at least 9 units of their approved program on the Fresno campus;
   d. completed any course in research techniques required by their major department;
   e. for the thesis, secured a committee (a chair and at least two other members); for the project, met individual departmental requirements; and
   f. for the thesis, secured approval of their thesis plan from the division or department graduate committee and filed an official thesis committee assignment form with the Division of Graduate Studies.
2. Enrollment in thesis units may be processed any semester after the requirements listed in [1a] through [1f] have been met or special permission for exceptions has been granted. If, however, a student fails to enroll within one semester (excluding summer sessions) after his or her official acceptance by a thesis committee, the

committee chair has the option of dissolving the committee, in which case a new committee must be appointed and new forms filed before registration can be processed. A student planning to register for thesis after a break in regular session attendance must be readmitted to the university. Parallel rules apply to project enrollment.

3. Students who plan to extend their project or thesis work over more than the semester in which they enroll in the total number of project or thesis units must continue to register for zero units in either 298C (for project students) or 299C (for thesis students) each subsequent semester until the awarding of the degree. Students may enroll twice in either 298C or 299C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies.
4. If work in 298 or 299 is not completed at the end of the term of registration, but is progressing satisfactorily, an ***RP*** (Report in Progress) grade is recorded.
5. The student and the project or thesis chair should set a deadline for completion of the final submission. For thesis statements, this date should be early enough that the chair and the other members of the committee can clear the thesis before the student must meet the thesis submission deadline established by the dean of the Division of Graduate Studies. The latter deadlines are approximately November 1 (fall), April 1 (spring), and July 1 (summer).
6. Before a thesis is officially accepted by the Graduate Division, it must meet Graduate Division criteria on matters of format, documentation, and quality of writing. The final submission, approved by the thesis committee members as acceptable in content and form, should be deposited electronically to the Dissertation/Thesis Office website, *www.fresnostate.edu/gradstudies/thesis*, by the established deadline (see item 5 above). This deadline has been set as late as possible in the semester to accommodate the student. Students are urged to follow meticulously the *Guidelines for Thesis Preparation*.
7. The publication copy of the thesis, signed by the thesis committee and ready for binding, together with a receipt for the binding and microfilming fee must be submitted to the Division of Graduate Studies before the last day assigned by the thesis consultant. If printed on acid-free laser paper and with payment of the required fee, the original copy may be bound with the other copies ordered for the student's personal use.
8. Doctoral students should obtain dissertation guidelines from the degree program office.

Thesis or Project Research Involving Human Subjects and Animal Subjects. Students conducting research involving human subjects should not begin use of human subjects until written approval has been received from the departmental Human Subjects Committee and, where review demands, the University Committee on Protection of Human Subjects (CPHS). Guidelines and forms for protocols can be obtained from the departmental office or the Office of the Associate Vice President/Dean of Undergraduate Studies. Students should allow at least two weeks for a required CPHS review.

Students planning to conduct research involving live animals housed on campus must receive approval of the research from the Animal Care and Use Committee. Forms may be obtained from the office of the dean, College of Science and Mathematics.

Appeals and Petitions

Graduate degree students wishing to request substitutions or modifications in a department's degree requirements should initiate their request through the department's graduate committee. Requests for exceptions to established university policies governing graduate study may be addressed to the dean, Division of Graduate Studies and also to the Graduate Petitions Committee. Grade protests must be submitted to the Student Academic Petitions Committee through the director of advising services according to university policy. Information concerning grade protest procedures and dispute resolution is available in the Office of the Dean of Student Affairs.

Enrollment in Graduate-level (200-297) Courses. Enrollment in graduate-level (200-297) courses is limited to those who have been officially admitted to a graduate degree, advanced certificate, or credential program. However, there is a special program for last-semester undergraduate seniors who want to enroll in 200-level courses. All criteria listed on the Undergraduate Petition to Enroll in Graduate (200-level) Courses must be met. This petition, available from the Division of Graduate Studies, should be filed prior to the semester in which the student desires enrollment in 200-level course(s).

Doctoral students should consult with the appropriate program for policies on appeals and petitions.

Application for the Graduate Degree to be Granted

An application for the graduate degree to be granted (which includes the graduation fee payable at the Cashier's Window in Joyal Administration Building) must be filed within the first two weeks of the semester in which the work is to be completed. In addition, applicants must be enrolled (see Continuous Enrollment). During the summer, the application should be filed before the end of the third week of the first summer session. (See Academic Calendar and Fees and Expenses in this catalog and the Class Schedule.) Graduation application forms are available in the Division of Graduate Studies Office, Haak Center, Library 4140, West Wing, or on the website at *www.fresnostate.edu/gradstudies* during the graduation application period. Prior to filing a request for the graduate degree to be granted, the student should check with the graduate adviser of the graduate program concerned in order to ensure that all program requirements have been, or will soon be, completed.

Once all requirements for the degree to be granted have been met, it is the student's responsibility to ensure that all necessary paperwork, including the Graduate Degree Clearance form, is submitted to the Division of Graduate Studies by the published deadlines. Diplomas for those completing degree requirements will be issued approximately three to four months after the end of the semester or final summer session.

Failure to complete requirements for the degree during the semester (or summer) of the application necessitates the filing of a new application, including a reapplication fee, for the term of actual completion. Such reapplication is subject to the same time schedule as the original application.

Doctoral students should consult with the appropriate program for policies on applying for the degree to be granted.

Continuous Enrollment

University policy requires graduate students to be continuously enrolled at the university every fall and spring semester until the awarding of the degree. If students have applied

for graduation during the summer, they must maintain continuous enrollment in that term as well. This policy does not apply to students who have been granted an official leave of absence. (See *Academic Regulations*, "Planned Educational Leave of Absence," for more detailed information.) Please see sections below for the appropriate method of continuous enrollment.

Project Students. Project (298) students who have enrolled in the required number of 298 units, but have not completed their project, must maintain continuous enrollment by enrolling in 298C (zero units) each semester until the awarding of the degree. Students may enroll twice in 298C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies. Permission and class numbers for 298C must be obtained from the department.

Thesis Students. Thesis (299) students who have enrolled in the required number of 299 units, but have not completed their thesis, must maintain continuous enrollment by enrolling in 299C (zero units) each semester until the awarding of the degree. Students may enroll twice in 299C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies. Permission and class numbers for 299C must be obtained from the department.

Comprehensive Examination Students. Comprehensive examination students who have enrolled in all courses toward the degree, must maintain continuous enrollment by enrolling in GS Continuation (zero units through Continuing and Global Education). After one semester of enrollment in GS Continuation, students must maintain enrollment thereafter by enrolling in GS 299C (zero units through *regular* enrollment) each semester until the awarding of the degree. Authorization for enrollment in both GS Continuation and GS 299C must be approved by the Division of Graduate Studies. Permission and class numbers for GS299C must be obtained from the Division of Graduate Studies Office.

Time Limitations and Validation: Graduate Degree

Exclusive of prerequisite coursework, a period of five years is allowed for the completion of all requirements for the graduate degree. This time limit is indicated for each student on the approved *Petition of Advancement to Candidacy*. A student whose program has been interrupted by military service should consult the dean of the Division of Graduate Studies about provisions for military extensions. Outdated coursework will not be approved for inclusion on the *Petition of Advancement to Candidacy* at the time formal approval of the petition is granted. Once a student has been advanced to candidacy, courses completed more than five years before the date for completion of all requirements for the graduate degree cannot be used to meet total unit requirements except through validation as follows:

Out-of-date coursework may be validated only if such work has been approved previously on the *Petition of Advancement to Candidacy*. A maximum of one-third of required degree units may be validated by such means as are recommended by the department and approved by the graduate dean. Coursework from other institutions may not be validated. Courses with grades lower than ***B*** may not be validated.

The same time limitations and validation procedures noted above also apply to the completion of a Certificate of Advanced Study. The time limit for an advanced certificate is noted on the *Proposed Program for the Certificate of Advanced Study* form.

Doctoral students should consult with the appropriate program for policies on time limitations and related procedures.

Academic Standards for Graduate Degree Programs

All graduate students will be held to the scholarship standards listed under Academic Regulations. The following provisions also apply to graduate degree programs:

Conditionally Classified or Classified. Students admitted to graduate degree programs in conditionally classified or classified graduate standing are required to maintain a minimum grade point average (GPA) of B (3.0) in all postbaccalaureate work taken subsequent to admission to the program.

Advancement to Candidacy. To be eligible for advancement to candidacy, students must earn a minimum ***B*** average (3.0) in all coursework listed on the *Petition of Advancement to Candidacy*. No course with a grade below ***C*** may be listed on the advancement petition and apply toward the graduate degree.

Once students have advanced to candidacy, they must maintain a minimum 3.0 program GPA, which includes only coursework listed on the advancement petition.

298 or 299 Enrollment. To be eligible for enrollment in the project (298) or thesis (299), students must have been advanced to candidacy and must have maintained a minimum program GPA of 3.0.

Graduation. To be eligible for the granting of the graduate degree, students must have been advanced to candidacy and have maintained a minimum program GPA of 3.0. In addition, grades must be posted in all courses taken, including those that are not part of the student's approved program, beginning with the earliest semester listed on the *Petition of Advancement to Candidacy*. Students may not graduate with an ***I***, ***RD***, or ***RP*** in any course on their records, beginning with the earliest semester listed on the advancement petition.

Distinction. To be eligible to receive the graduate degree with distinction, students must have earned a minimum 3.9 GPA on all program coursework (courses listed on the advancement petition).

Doctoral students should consult the appropriate program for information on academic standards.

Administrative Academic Probation (AAP)

Students enrolled in graduate degree or certificate of advanced study programs may be placed on Administrative Academic Probation (AAP) for the following reasons: failure to maintain the minimum GPA of 3.0 required by the California State Education Code, Title 5; repeated failure to make progress toward the graduate degree; or failure to comply with an academic requirement or regulation that is routine for all students or for a defined group of students.

Students are required to maintain a minimum 3.0 postbaccalaureate cumulative GPA prior to advancement to candidacy (or program approval for advanced certificate students), and a minimum 3.0 program GPA after advancement (or program approval). Students who do not maintain the required GPA will be placed on AAP.

Doctoral students should consult the appropriate program for the program policy on administrative academic probation.

Academic Disqualification

A postbaccalaureate student whose cumulative GPA falls below 2.0 at any time will be disqualified from the university.

Students may also be disqualified by the program for any of the following reasons: repeated withdrawal, failure to progress toward an educational objective, or noncompliance with an academic requirement. In addition, only those students who continue to show promise of success in and fitness for the profession, as determined by the graduate program faculty, will be permitted to continue in a graduate program.

Effective with the fall 2007 semester, students who are placed on AAP for any two semesters will be disqualified from the university.

Doctoral students should consult the appropriate program for the program policy on academic disqualification.

Graduate Interdisciplinary Studies

- Master of Arts in Interdisciplinary Studies (M.A.)
- Master of Science in Interdisciplinary Studies (M.S.)

The interdisciplinary studies program for the Master of Arts (M.A.) or Master of Science (M.S.) is available to qualified graduate students when there is a need for advanced study in subject matter that is interdisciplinary and that is not available through existing graduate programs. In such instances, proposals for an interdisciplinary program that may combine cohesive, interrelated coursework from two or more departments (at least two of which offer graduate courses (200-level), must be submitted for approval. Proposals that could be accommodated by an existing graduate degree or option at California State University, Fresno, as in the use of elective courses, are not approved.

The M.S. in Interdisciplinary Studies differs from the M.A. in Interdisciplinary Studies by requiring breadth of technical knowledge and attainment of specific professional competencies in scientific research methodologies and data-driven analysis. For detailed policy, requirements, and application, see the Division website at *www.fresnostate.edu/gradstudies*.

Admission Eligibility. Those seeking admission to the M.A. or M.S. in Interdisciplinary Studies must adhere to university graduate admissions requirements, including submission of applications, official transcripts, and appropriate standardized test scores (e.g., GRE, TOEFL). Applicants must have a 3.0 GPA on previous graduate work and related prerequisites. Standards for admission to classified graduate standing as specified in this catalog for at least one of the principal departments must be met. All appropriate course prerequisites on the approved program must be completed. If eligible, students will be conditionally classified for admission until their proposed program of study is approved. Interdisciplinary Studies program applicants are initially advised in the Division of Graduate Studies. Applicants will not be considered for admission until they have consulted with the Division adviser.

General Degree Requirements. A minimum of 30 units is required. At least 70 percent (21 units) of the program must consist of graduate coursework (200-level courses). The proposed program must reflect the requirements of scholarly creativity and research appropriate to the graduate level and must exhibit overall coherence in a particular, recognized field of study. An acceptable thesis (2-6 units) that demonstrates interdisciplinary research is required. A creative project may be selected as an alternative to the thesis for appropriate M.A. programs. The faculty advisory committee may require an oral defense or presentation of the thesis/project, or a written final examination.

Although interdisciplinary studies provides an opportunity for exceptional students to engage in a program outside the framework of existing majors, **all academic standards and graduation requirements must be met**.

Procedures. Prior to or during the first term of study, students should seek the support of a preliminary faculty advisory committee to gain counsel and advice in forming an interdisciplinary graduate program. After consultation with the advisory committee, students should complete the Application to Pursue an Interdisciplinary Studies Graduate degree Program, which includes a plan of study.

After approval by the sponsoring faculty and department, the application and supporting documents are formally presented to the graduate dean. The application will then be forwarded to the University Graduate Committee for final approval. A formal application and plan of study must be filed with the Division of Graduate Studies no later than mid-term of the first semester after admission to the program. A maximum of 10 units may be applied toward the graduate degree prior to official university approval of the plan of study, at which time the student becomes classified. Students who do not meet the deadline for submission of the proposed program of study clearly stated in the conditions of admission may be subject to academic disqualification from the program. Detailed instructions for proposing an interdisciplinary degree may be found on the Division website at *www.fresnostate.edu/gradstudies/forms*.

Additional Requirements for the Master of Science. At least 15 units for the M.S. in Interdisciplinary Studies must be from one of the campus colleges offering a broad range of instructional programs in science or technology-based disciplines. Typically this disciplinary range is found in colleges with three or more such programs of study. These colleges include the following: Agricultural Sciences and Technology, Engineering, Health and Human Services, Science and Mathematics, and Social Sciences. Coursework must be taken in at least three different subject areas or fields of study with no more than 12 units from any one field and not less than 6 units in each of the three areas. Two of the three fields may be from one department if the subject area content and/or professional requirements within these two fields are clearly recognized as being uniquely different.

COURSES

Graduate Studies Community College (GSCC)

GSCC 220. The Community College as an Institution (2 units)
Emphasis will be on faculty responsibilities in the area of curriculum content and institutional governance, including student support services and issues of retention and matriculation methods. (Formerly GSCC 220, GSCC 320)

GSCC 221. The Community College Student (2 units)
Explores the cultural, sociological, economic, and political factors that affect learning and success in the community college classroom. Participants learn to recognize the factors that affect student success and to implement strategies to enhance cross-cultural understanding within classrooms. (Formerly GSCC 221, GSCC 321)

GSCC 223. Effective Community College Teaching and Classroom Communication Strategies (2 units)
Examines various instructional techniques specific to the community college. Also examines the unique characteristics of the classroom as a communication context. Participants will apply theory to practice of effective lecture, discussion, and collaborative lessons. (Formerly GSCC 223, GSCC 323)

GSCC 224. Curriculum, Instruction, and Assessment at the Community College (3 units)
Introduces students to fundamental theories of curriculum, curriculum development and approval processes, transfer course curriculum, and program review. Participants will learn to use and adapt assessment instruments to meet the needs of a diverse student population. (Formerly GSCC 224, GSCC 324)

GSCC 225. Sponsored Experiences at the Community College (3 units)
The field experience promotes adherence to high standards of professional conduct. It also promotes effective cooperation and professional development through self-assessment and collegial interactions with other members of the profession. Participants must complete all coursework prior to being approved for field placement. (Formerly GSCC 225, GSCC 325)

COURSES

Graduate Studies (GS)

GS 296. Interdisciplinary Colloquium (1-3 units)
Prerequisite: consent of coordinator. Seminar in interdisciplinary special major issues, allowing discussion with a broad-based, cross-disciplinary emphasis.

GS 298. Interdisciplinary Project (2-6 units)*
Prerequisite: see university *Criteria for Thesis and Project*. Preparation, completion, submission, and/or demonstration of an original project appropriate to the student's area of specialization. Creativity is a prime factor. Written documentation and an abstract are required. Approved for ***RP*** grading.

GS 299. Interdisciplinary Thesis (2-6; max total 6 units)*
Prerequisite: see university *Criteria for Thesis and Project;* consent of thesis chair. Preparation, completion, and submission of an acceptable thesis for the interdisciplinary graduate degree. Approved for *RP* grading.

GS 300T. Topics in Graduate Studies (1-3; max total 12 units)
Topics related to the nature of graduate education, to the purpose and background of research and scholarly activity in the graduate enterprise, including participation in aspects of ongoing research conducted by faculty.

COURSES

*Continuation (C)**

Continuation courses are available for 298 and 299 courses in the following subjects: ART, ASCI, BIOL, BIOTC, CDDS, CE, CHEM, CI, COMM, COUN, CRIM, CSCI, EAD, ECE, EDL, EES, ENGL, ERA, FCS, FN, GS, HIST, IT, KINES, LEE, MATH, MBA, MCJ, ME, MPA, MSCI, MUSIC, NURS, PH, PHTH, PHYS, PLANT, PLSI, PSYCH, REHAB, SPAN, SPED, SWRK, VEN.

298C. Project Continuation (0 units)
Prerequisite: Project 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the dean of Graduate Studies. Approved for ***RP*** grading.

299C. Thesis Continuation (0 units)
Prerequisite: Thesis 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the dean of Graduate Studies. Approved for ***RP*** grading.

*For 298C and 299C courses, see *Graduate Studies — Continuation Courses* listed above.

University Administration

University Advisory Board

The University Advisory Board consists of community leaders who are interested in the welfare of the university. The board advises the president in matters that relate to the advancement of the university in its relation to the community.

JIM ANTON, CHAIR
SANDY BROWN, VICE CHAIR

ARMEN BACON
KATHERINE FLORES
J. MICHAEL MCGOWEN
HUGO MORALES
MICHAEL PATTON
JAMES SHEKOYAN
DAWN STEELE
ROXANNE STEPHENSON
JULIE TONE
ALLYSUNN WILLIAMS

Association, Inc. Board of Directors

The California State University, Fresno Association, Inc. is responsible for the management and operation of commercial services including the Kennel Bookstore, University Courtyard (on-campus living), University Dining Services, University Student Union, and the Save Mart Center. In addition, the Association provides accounting and managerial services to four other university auxiliary corporations.

Chair
CYNTHIA TENIENTE-MATSON
Vice Chair
PAUL M. OLIARO
Executive Director
DEBORAH S. ADISHIAN-ASTONE
Controller
KATE TUCKNESS
Director, Kennel Bookstore
RON DURHAM
Director, Food Services
To be announced
Director, Housing
ERIN BOELE
Director, Student Involvement
To be announced
Manager
Auxiliary Human Resources
NICOLE LANE
Director, M.I.S.
THERESA EURICH
Staff Counsel
JOHN MELIKIAN
Director, Student Recreation Center
DEREK WALTERS

Foundation Board of Governors

The California State University, Fresno Foundation is responsible for the financial management and administration of the university's endowment, grants and contracts, scholarships, and student loan funds. The Foundation is responsible for the acceptance of all gifts and donations to the university.

Chair
RAY STEELE
Vice Chair
VINCI RICCHIUTI

Agricultural Foundation Board of Directors

The Agricultural Foundation provides the financial resources, land, animals, orchards, and vineyards for students to receive practical experience in the field of agriculture that reinforces their classroom instruction. Many of the products grown and produced by the enterprise units are sold through the Rue and Gwen Gibson Farm Market.

Chair
PAT RICCHIUTI
Vice Chair
LARRY LAYNE

Associated Students, Inc.

Associated Students, Inc. is the recognized student body governing organization and provides a means for student participation in the governance of the university. It fosters awareness of student opinions on campus issues, assists in the protection of students' rights, and provides programs and services to meet the needs of students and the campus community.

UNIVERSITY STUDENT UNION
Room 316 and 317
559.278.2656
www.asi.csufresno.edu

Athletic Corporation

The Athletic Corporation was formed to promote and assist the athletics program and its student-athletes. It provides oversight to funds and properties that come into the corporation to support the athletics program and student-athlete success.

Chair
PAUL M. OLIARO

Programs for Children, Inc.

The Board of Directors for Fresno State Programs for Children (PFC) oversees the operation of the three centers that provide childcare services to the campus. The mission of PFC is to assist students who are parents attain their educational goals by providing quality care in a convenient and appropriate educational setting.

Executive Director and Chair
SANDRA WITTE

President

JOSEPH I. CASTRO
Assistant to the President
MICHELLE NELSON
Executive Coordinator of Events
To be announced

Interim Provost and Vice President for Academic Affairs

ANDREW HOFF
Associate Vice President
for Continuing and Global Education
and Associate Provost
LYNNETTE ZELEZNY
Associate Vice President
for Academic Programs and Resources
DENNIS NEF
Associate Vice President
for Faculty Affairs
To be announced
Associate Vice President
Research and Sponsored Programs
THOMAS McCLANAHAN
AssociateVice President, Office of
Institutional Effectiveness
CHRISTINA LEIMER
Director, Teaching,
Learning and Technology
LYNNETTE ZELEZNY
Director, Jan and Bud Richter Center for
Community Engagement and Service
Learning
CHRIS FIORENTINO
Director, Community and Economic
Development
MIKE DOZIER
Director, Lyles Center for Innovation and
Entrepreneurship
TIMOTHY STEARNS

Deans of Undergraduate and Graduate Studies

Associate Vice President and Dean of Undergraduate Studies
DENNIS L. NEF

Interim Dean of Graduate Studies
SANDRA WITTE

Deans/Associate Deans

Dean of the Jordan College of Agricultural Sciences and Technology
CHARLES D. BOYER

Associate Dean
SANDRA WITTE

Dean of the College of Arts and Humanities
VIDA SAMIIAN

Associate Dean
JOSE DIAZ

Dean of the Craig School of Business
ROBERT M. HARPER

Associate Dean
KATHLEEN MOFFITT

Dean of the Kremen School of Education and Human Development and Director, Teacher Education
PAUL L. BEARE

Associate Dean
JAMES MARSHALL

Dean of the Lyles College of Engineering
RAM NUNNA

Associate Dean
MANOOCHEHR ZOGHI

Interim Dean of the College of Health and Human Services
JODY HIRONAKA-JUTEAU

Associate Dean
To be announced

Dean of the College of Science and Mathematics
SUSAN ELROD

Interim Associate Dean
RICK ZECHMAN

Dean of the College of Social Sciences
LUZ GONZALEZ

Associate Dean
XUANNING FU

Dean of Library Services
PETER McDONALD

Associate Dean
DAVE TYCKOSON

Vice President for Administration and Chief Financial Officer

CYNTHIA TENIENTE-MATSON

Associate Vice President for Financial Services
CLINTON G. MOFFITT

Associate Vice President for Auxiliary Operations and Enterprise Development
DEBORAH S. ADISHIAN-ASTONE

Associate Vice President for Facilities Management
ROBERT BOYD

Director of Public Safety and Chief of Police
DAVID HUERTA

Associate Vice President for Human Resources
JANICE A. PARTEN

Vice President for University Advancement

PETER N. SMITS

Associate Vice President for Development
To be announced

Executive Director, Advancement Services
ELLEN JAMRA

Director, Donor and Volunteer Relations
LETICIA REYNA CANO

Director, Corporate and Foundation Relations
DAN KIMBALL

Director, Planned Giving
STEVE SPRIGGS

Directors of Development

Jordan College of Agricultural Sciences and Technology
ALCIDIA FREITAS GOMES

College of Arts and Humanities
LEE ANN JANZEN

Craig School of Business
LYNDSEY SCULLY QUIST

College of Health and Human Services
DANA LUCKA

Kremen School of Education and Human Development
LEE ANN JANSEN

Lyles College of Engineering
KENT KARSEVAR

College of Science and Mathematics
KENT KARSEVAR

College of Social Sciences
KENT KARSEVAR

Henry Madden Library
MARCIA MORRISON

Student Affairs
PAUL DEROUSI

Associate Athletic Director, Development
DAN McLEAN

Director, Data and Information Services
ALEXIS PEREZ

Associate Vice President for University Communications
SHIRLEY MELIKIAN ARMBRUSTER

Director, Media and Development Communications
KATHLEEN RHODES SCHOCK

Director, Publications and New Media
BRUCE WHITWORTH

Director, Social Media Relations
TAMYRA PIERCE

Executive Director, Alumni Relations
JACQUELYN GLASENER

Director, Alumni Marketing and Engagement
PETER ROBERTSON

Manager of Smittcamp Alumni House
JENNIFER BURGESS

Vice President for Student Affairs
PAUL M. OLIARO

Associate Vice President for Enrollment Services
BERNARD J. VINOVRSKI

Associate Vice President for Student Affairs and Dean of Students Interim Director, Judicial Affairs
CAROLYN V. COON

Associate Vice President for Student Success
MAXINE McDONALD

Assistant Vice President for International Affairs
PAUL HOFMANN

Director, University Health and Psychological Services (UHPS)
CATHERINE FELIX

Coordinator of Scholarship Programs
GREG VARELA

Student Affairs Directors and Coordinators

Director, Admissions/Records/Evaluations
TINA BEDDALL

Assistant Director, Admissions/Records/ Evaluations
ANDY HERNANDEZ

Director, Career Services
RITA BOCCHINFUSO-COHEN

Director, Central Valley Cultural Heritage Institute (CVCHI)
FRANCINE OPUTA

Director, Development
PAUL DERUOSI

Director, EOP/Summer Bridge/RSP
MUI VUONG

Director, Financial Aid
MARIA HERNANDEZ

Coordinator of Health Promotion and Wellness Services
KATHY YARMO

Director, Learning Center
To be announced

Director, Nursing (UHPS)
WENDY OLIVER

Interim Coordinator, Psychological Services
REBECCA RAYA-FERNANDEZ

Director, Services for Students with Disabilities
JANICE BROWN

Coordinator of Student Activities and Leadership
GARY NELSON

Director, Student Advising and Dog Days Summer Orientation
DEAN CHRISTENSEN

Director, Student Involvement
To be announced

Director, Student Recreation Center
DEREK WALTERS

Coordinator of Testing Services
LINDA ENSCH

Assistant Director, UHPS Operations
DIRK RUTHRAUFF

Coordinator of University Migrant Services
RAUL Z. MORENO

Director, University Outreach Services
FRANCES A. PEÑA-OLGIN

Associate Director, University Student Union
MEHRZAD ZARRIN

Coordinator of Women's Resource Center
JENNIFER WHYTE

Director, Athletics
THOMAS C. BOEH

Deputy Director of Athletics/SWA
BETSY MOSHER

Senior Associate Athletics Director for Broadcasting and External Relations
PAUL LADWIG

Associate Athletics Director for Business Operations
MARTINA BUCKLEY

Associate Athletics Director for Facilities and Operations
JOHN J. KRIEBS

Assistant Athletics Director for Compliance
JOHN LUCIER

Assistant Athletics Director for Development
DAN McLEAN

Assistant Athletics Director for External Relations
RYAN REGGIANI

Assistant Athletics Director for Internal Operations
NATE WILLS

Department Chairs and Program Coordinators

Jordan College of Agricultural Sciences and Technology

Chair of Agricultural Business
ANNETTE E. LEVI

Chair of Animal Sciences and Agricultural Education
ARTHUR A. PARHAM

Chair of Child, Family, and Consumer Sciences
KATHIE REID

Interim Chair of Food Science and Nutrition
SANDRA S. WITTE

Chair of Industrial Technology
To be announced

Chair of Plant Science
ANDREW B. LAWSON

Chair of Viticulture and Enology
JAMES A. KENNEDY

College of Arts and Humanities

Coordinator of Armenian Studies Program
BARLOW DER MUGRDECHIAN

Chair of Art and Design
MARTIN VALENCIA

Chair of Communication
DOUGLAS M. FRALEIGH

Chair of English
LISA WESTON

Chair of Linguistics
XINCHUN (JEAN) WANG

Interim Chair of Mass Communication and Journalism
KATHERINE ADAMS

Chair of Modern and Classical Languages and Literatures
SAUL JIMENEZ-SANDOVAL

Chair of Music
TONY A. MOWRER

Chair of Philosophy
ANDREW FIALA

Chair of Theatre Arts
MELISSA GIBSON

The Craig School of Business

Chair of Accountancy
GARO KALFAYAN

Chair of Aerospace Studies
LT. COL. MATTHEW BUEHLER

Chair of Finance and Business Law
K.C. CHEN

Director, Graduate Business Program
TOM BURNS

Chair of Information Systems and Decision Sciences
DONALD N. STENGEL

Chair of Management
JULIE B. OLSON BUCHANAN

Chair of Marketing and Logistics
REZA MOTAMENI

Chair of Military Science
MAJOR LORENZO PARRA RIOS

Director, University Business Center
EMIL MILEVOJ

Director, Real Estate and Land Use Institute
JOHN MAHONEY

Director, Small Business Development Center
RICHARD WHEELER

Kremen School of Education and Human Development

Chair of Counselor Education and Rehabilitation
ALBERT VALENCIA

Coordinator of Counselor Education Program
KYLE WEIRE

Coordinator of Rehabilitation Counseling
CAROL RANKIN

Coordinator of School Counseling
SARAH LAM

Coordinator of Special Education Program
DANA POWELL

Chair of Curriculum and Instruction
JACQUES BENNINGA

Chair of Educational Research and Administration
KEN MAGDALENO

Coordinator of Educational Administration
DONALD WISE

Chair of Literacy, Early, Bilingual, and Special Education
GLENN DeVOOGD

Coordinator of BCLAD Program
TERESA HUERTA

Interim Coordinator of Early Childhood Education Program
SUSAN MACY

Coordinator of Reading Language Arts Program
IMELDA BASURTO

Director, Doctoral Program
SHARON BROWN-WELTY

Director, Early Education Center
KATHIE REID

Director, Reading Recovery Project
JUDITH CHIBANTE NEAL

Coordinator of Curriculum and Instruction M.A. Program
CAROL FRY BOHLIN

Coordinator of Graduate Programs
SUSAN TRACZ

Coordinator of Liberal Studies Program
JANELL TATSUMURA

Coordinator of Multiple Subject Credential Program
LISA NYBERG

Coordinator of Single Subject Credential Program
JOLYNE S. DAUGHTRY

Co-Coordinator of Victim Services Certificate Program
BERNADETTE MUSCAT

Lyles College of Engineering

Chair of Civil and Geomatics Engineering
JESUS S. LARRALDE-MURO

Coordinator of Construction Management Program
MANOOCHEHR ZOGHI

Chair of Electrical and Computer Engineering
NAGY BENGIAMIN

Interim Chair of Mechanical Engineering
MANOOCHEHR ZOGHI

College of Health and Human Services

Chair of Communicative Disorders and Deaf Studies
DON B. FREED

Director of Gerontology Program
HELEN MILTIADES

Chair of Kinesiology
MICHAEL G. COLES

Chair of Nursing
MARY BARAKZAI

Chair of Physical Therapy
PEGGY R. TRUEBLOOD

Chair of Public Health
MIGUEL A. PEREZ

Chair of Recreation Administration
NANCY NISBETT

Chair of Social Work Education
To be announced

College of Science and Mathematics

Chair of Biology
JIM PRINCE

Chair of Chemistry
SAEED ATTAR

Chair of Computer Science
J. TODD WILSON

Chair of Earth and Environmental Sciences
ROBERT G. DUNDAS

Chair of Mathematics
STEFAAN DELCROIX

Chair of Physics
DOUGLAS SINGLETON

Chair of Psychology
CONSTANCE JONES

College of Social Sciences

Coordinator of Africana Studies Program
MALIK SIMBA

Coordinator of American Indian Studies Program
JOHN PRYOR

Chair of Anthropology
JOHN PRYOR

Chair of Chicano and Latin American Studies
VICTOR M. TORRES

Chair of Criminology
RUTH E. MASTERS

Co-Coordinator of Victim Services Certificate Program
BERNADETTE MUSCAT

Chair of Economics
ANTONIO AVALOS

Chair of Geography
SEGUN O. OGUNJEMIYO

Chair of History
WILLIAM E. SKUBAN

Chair of Political Science
DAVID SCHECTER

Chair of Sociology
MATTHEW A. JENDIAN

Coordinator of Women's Studies Program
JANET SLAGTER

Policies and Regulations

Privacy Rights of Students in Education Records

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. The law 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 challenge 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.

The law generally requires the institution to receive a student's written consent before releasing personally identifiable data about the student. Fresno State has adopted a set of policies and procedures governing implementation of the statute and the regulations. Copies of these policies and procedures may be obtained at the Registrar's Office. 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 cost to be charged for reproducing copies of records, and (8) the right of the student to file a complaint with the Department of Education.

The campus must also conduct a periodic review of campus information management practices concerning student records at least every two years or more often as the need arises. The results of these reviews shall be forwarded to the chancellor by the president and shall include any changes deemed necessary.

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 public "directory information" concerning students. "Directory information" at California State University, Fresno may include the student's name; major field of study; participation of officially recognized activities and sports; weight and height of members of athletic teams; enrollment status; degrees, honors, and awards received; and the most recent educational institution attended. 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.

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 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).

For students employed in positions represented by CSU Bargaining Unit 11 only, "directory information" may also include address, department in which employed, telephone number, e-mail address, and status as a student employee (i.e. TA, GA, ISA) provided, however, such information may be considered "directory information" only for purposes of disclosure of the CSU Chancellor's Office to the Exclusive Representative of Bargaining Unit 11.

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. Students' records may also be disclosed to other persons or organizations under certain conditions (e.g., as part of 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).

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*, Section 6109 of the Internal Revenue Code (26 U.S.C. 6109). The university uses the social security number to identify students and locate their records. The social security number is used to determine financial aid eligibility and disbursement and to identify the student's 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.

Taxpayers who claim Hope Scholarship or Lifetime Learning tax credit will be required to provide their name, address, and Taxpayer Identification Number to the campus.

Research on Human Subjects

California State University, Fresno has adopted provisions for the conduct of research that employs or influences humans. All research at the university must comply with these provisions. Students must familiarize themselves with the provisions by inquiring in the departmental offices or the office of the dean of their college/school.

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 and Rubella***: All new and readmitted students must provide proof of full immunization against measles and rubella prior to enrollment. ***Hepatitis 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. ***Meningococcal Disease Information***: Each incoming freshman who will be residing in on-campus housing will be required

to return a form indicating that they have received information about meningococcal disease and the availability of the vaccine to prevent contracting the disease and indicating whether or not the student has chosen to receive the vaccination.

The above are not admission requirements, but are required of students as conditions of enrollment in CSU.

Students who need further details or have special circumstances may consult the Student Health Center, 559.278.2734.

Nondiscrimination Policy

Race, Color, Ethnicity, National Origin, Age, Religion and Veteran Status. The California State University does not discriminate on the basis of race, color, ethnicity, national origin, age, religion or veteran status 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. Brittany Grice, Institutional Compliance Administrator, has been designated to coordinate the efforts of Fresno State to comply with all applicable federal and state laws prohibiting discrimination on these bases. Inquiries concerning compliance may be presented to this person at 5150 N. Maple Avenue, M/S JA41, Joyal Administration Building 245, Fresno, CA 93740, 559.278.5013.a

Disability. The California State University does not discriminate on the basis of disability 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. Brittany Grice, Institutional Compliance Administrator, has been designated to coordinate the efforts of Fresno State 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 5150 N. Maple Avenue, M/SJA 41, Joyal Administration Building, Rm 245, Fresno, CA 93740, 559.278.5013.

Sex/Gender/Gender Identity/Sexual Orientation. The California State University does not discriminate on the basis of sex, gender, gender identity or sexual orientation 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. Janice Parten, Associate Vice President for Human Resources, has been designated to coordinate the efforts of Fresno State to comply with all applicable federal and state laws prohibiting discrimination on these bases. Inquiries concerning compliance may be presented to this person at 5150 N. Maple Avenue, M/SJA 41, Fresno, CA 93740, by calling 559.278.2364. The California State University is committed to providing equal opportunities to male and female CSU students in all campus programs, including intercollegiate athletics.

Title IX of the Education Amendments of 1972 protects all people regardless of their gender or gender identity from sex discrimination, which includes sexual harassment and violence:

- Sexual discrimination means an adverse act of sexual discrimination (including sexual harassment and sexual violence) 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 is unwelcome conduct of a sexual nature that includes, but is not limited to, sexual violence, sexual advances, requests for sexual favors, indecent exposure and other verbal, nonverbal or physical unwelcome conduct of a sexual nature, where such 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 individual, and is in fact considered by the individual as limiting the individual's ability to participate in or benefit from the services, activities or opportunities offered by the university. Sexual harassment also includes gender-based harassment, which may include acts of verbal, non-verbal or physical aggression, intimidation or hostility based on sex or sex-stereotyping, even if those acts do not involve conduct of a sexual nature.
- Sexual violence means physical sexual acts (such as unwelcome sexual touching, sexual assault, sexual battery and rape) perpetrated against an individual without consent or against an individual who is incapable of giving consent due to that individual's use of drugs or alcohol, or disability.
- See further information in Fresno State's sexual violence prevention and education statement, which includes facts and myths about sexual violence at *http://www.fresnostate.edu/titleix/students*.

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. Your campus Title IX Coordinator is available to explain and discuss your right to file a criminal complaint (sexual assault and violence); 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.**

Campus Title IX Coordinator:
Janice Parten
5150 N. Maple Avenue, M/S J/A 41
Joyal Administration Room 211
Fresno, CA 93740
jparten@csufresno.edu
Office Hours: 8 a.m. -5 p.m.

University Police
Lt. Lupe Canales-Shrum
2311 E. Barstow Avenue
Fresno, CA 93740
lupec@csufresno.edu
559.278.8400

U.S. Department of Education, Office for Civil Rights:

800.421.3481 or *ocr@ed.gov*

If you wish to fill out a complaint form online with the OCR, you may do so at: *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 sex discrimination complaints, including sexual harassment and violence. CSU Executive Order 1074 (http://www.calstate.edu/eo/EO-1074.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 in the case of a privilege recognized under California law (examples of which

include Evidence Code §§1014 (psychotherapist-patient); 1035.8 (sexual assault counselor-victim); and 1037.5 (domestic violence counselor-victim), any member of the University community who knows of or has reason to know of sexual discrimination allegations shall promptly inform the campus Title IX Coordinator.

Regardless of whether an alleged victim of sexual discrimination ultimately files a complaint, if the campus knows or has reason to know about possible sexual discrimination, harassment or violence, it must review the matter to determine if an investigation is warranted. The campus must then take appropriate steps to eliminate any sex discrimination/harassment, prevent its recurrence, and remedy its effects.

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 sexual discrimination, harassment or violence; therefore, victims should not be deterred from reporting incidents of sexual violence 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 violence shall not be subject to discipline for related violations of the Student Conduct Code.

Information Regarding Campus, Criminal and Civil Consequences of Committing Acts of Sexual Violence. Individuals alleged to have committed sexual assault may face criminal prosecution by law enforcement and may incur penalties as a result of civil litigation. In addition, employees and students may face discipline at the university. Employees may face sanctions up to and including dismissal from employment, pursuant to established CSU policies and provisions of applicable collective bargaining unit agreements.

Students charged with sexual discrimination, harassment or violence will be subject to discipline, pursuant to the California State University Student Conduct Procedures (see Executive Order 1073 at *http://www.calstate.edu/eo/EO-1073.pdf*) 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 immediate interim suspension from the university, required move from university-owned or affiliated housing, adjustment to course schedule, or prohibition from contact with parties involved in the alleged incident.

Sexual Violence Prevention
http://www.fresnostate.edu/hr/documents/SexualViolencePrevention.pdf

Sexual Violence - Risk Reduction Tips
http://www.fresnostate.edu/hr/documents/SexualViolence-RiskReductionTips.pdf

What is Dating Violence or Domestic Violence
http://www.fresnostate.edu/hr/documents/WhatisDatingViolenceorDomesticViolence.pdf

Rape and Sexual Assault
http://www.fresnostate.edu/hr/documents/RapeandSexualAssault.pdf

Are You Being Stalked?
http://www.fresnostate.edu/hr/documents/AreYouBeingStalked.pdf

Additional Resources
http://www.fresnostate.edu/hr/documents/AdditionalResources.pdf

- Fresno State's sexual violence prevention and education statement, which includes facts and myths about sexual violence, at *http://www.fresnostate.edu/titleix/students*.
- U.S. Department of Education, regional office:
  Office for Civil Rights
  50 Beale Street, Suite 7200
  San Francisco, CA 94105
  415.486.5555
  TDD 877.521.2172
- U.S. Department of Education, national office:
  Office for Civil Rights
  800.872.5327
- Know Your Rights about Title IX
  http://www2.ed.gov/about/offices/list/ocr/docs/title-ix-rights-201104.html
- California Coalition Against Sexual Assault (*http://calcasa.org/*)
  1215 K. Street, Suite 1850
  Sacramento, CA 95814
  916.446.2520
- Domestic and Family Violence, Office of Justice Programs, United States Department of Justice
- National Institute of Justice: Intimate Partner Violence, Office of Justice Programs, United States Department of Justice
- National Domestic Violence Hotline: 1.800.799.SAFE (7233)
- Office of Violence against Women, United States Department of Justice
- Centers for Disease Control and Prevention: Intimate Partner Violence
- Defending Childhood, United States Department of Justice

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 these requirements is available from the Financial Aid Office, 559.278.2182.

Student Body Fee

Procedure for the establishment or abolishment of campus-based mandatory fees. The law governing the California State University provides that Fresno State fees defined as mandatory, such as a student body association fee and a student body center fee, may be established. A student body 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 body 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 body association fees support a variety of cultural and recreational

programs, childcare centers, and special student support programs. A student body 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 body 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 1054, 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 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 Financial Management/University Controller at 559.278.2764.

Student Conduct

Title 5, California Code of Regulations, § 41301. Standards for Student Conduct. ***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.

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 are the grounds upon which student discipline can be based:

1. Dishonesty, including the following:
   a. Cheating, plagiarism, or other forms of academic dishonesty that are intended to gain unfair academic advantage.
   b. Furnishing false information to a university official, faculty member, or campus office.
   c. Forgery, alteration, or misuse of a university document, key, or identification instrument.
   d. Misrepresenting one's self 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 the following:
   a. Unauthorized entry into a file, for any purpose.
   b. Unauthorized transfer of a file.
   c. Use of another's identification or password.
   d. Use of computing facilities, campus network, or other resources to interfere with the work of another member of the university community.
   e. Use of computing facilities and resources to send obscene or intimidating and abusive messages.

f. Use of computing facilities and resources to interfere with normal university operations.
g. Use of computing facilities and resources in violation of copyright laws.
h. 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 which poses a significant threat of disruption or interference with university operations.
19. Violation of the Student Conduct Procedures, including the following:
    a. Falsification, distortion, or misrepresentation of information related to a student discipline matter.
    b. Disruption or interference with the orderly progress of a student discipline proceeding.
    c. Initiation of a student discipline proceeding in bad faith.
    d. Attempting to discourage another from participating in the student discipline matter.
    e. Attempting to influence the impartiality of any participant in a student discipline matter.
    f. Verbal or physical harassment or intimidation of any participant in a student discipline matter.
    g. 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.

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.

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.

Summary of Civil and Criminal Penalties for Violation of Federal Copyright Laws. As referenced earlier in Section XXI, Student Conduct (15) (g), the penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than $750 and not more than $30,000 per work infringed. For "willful" infringement, a court may award up to $150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys' fees. For details, see Title 17, United States Code, Sections 504, 505. Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to $250,000 per offense.

Disposition of Fees

Title 5, California Code of Regulations, § 41302. Campus Emergency; Interim Suspension of Fees. 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.

Cheating and Plagiarism

Cheating. Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving a grade or obtaining course credit. Typically, such acts occur in relation to examinations. It is the intent of this definition that the term *cheating* not be limited to examinations situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means.

Plagiarism. Plagiarism is a specific form of cheating that consists of the misuse of the published and/or unpublished works of others by misrepresenting the material so used as one's own work. Grade substitution shall not be applicable to courses for which the original grade was the result of a finding of academic dishonesty.

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.

Career Placement Policy

The Career Services Office 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 may include data concerning the average starting salary collected from graduates of the campus or of the CSU system.

Safety Checklist

In case of an emergency, students can dial "911" from campus pay phones for assistance. Blue light/yellow light emergency phones provide a direct line to the police dispatcher. Practice safety measures: be aware of who is nearby, never open the door without checking who is there, have car keys in hand and check inside the car before entering, use well-traveled routes well-lighted areas, and keep outside doors locked. During hours of darkness, the University Police Department will provide an escort on campus or to a nearby residence upon request. For more information, see the *Class Schedule*.

Service Learning Policy

Education at California State University, Fresno includes the opportunity to serve the people of California. This is partially accomplished by the link of academic study to community service. Service-learning is a method by which students learn and develop through active participation in organized service, which is conducted in and meets the needs of the community. This service is integrated into and enhances the academic curriculum and provides students with structured opportunities for critical reflection on their service experience. It also enhances students' appreciation of themselves and societal and civic issues, as well as encourages students' commitment to be active citizens throughout their lives.

Reservation to Deny Admission

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.

Smoking Policy

The university is a smoke-free campus except for officially posted designated smoking areas. In addition, the use of smokeless tobacco in any form shall not be permitted in any classroom or other enclosed building. The use of smokeless tobacco is strongly discouraged outdoors. More information and a current map of designated smoking areas are available online at *www.fresnostate.edu/smoking*.

Student Complaint Procedure

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 *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 [name, title and 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 Chancellor's Office. This procedure should not be construed to limit any right that you may have to take civil or criminal legal action to resolve your complaint.

CASTRO, JOSEPH I., PRESIDENT (2013)
Professor, Educational Research and Administration
A.B., University of California, Berkeley;
M.P.P., University of California, Berkeley;
Ph.D., Stanford University.

Faculty and Administration

***Note**: Full-time faculty are listed. Numbers in parentheses indicate year of appointment at California State University, Fresno.*

ABRAMSON, SHAREEN (1981)
Professor, Literacy, Early, Bilingual, and Special Education
B.A., University of California, Los Angeles;
M.A., Antioch University;
Ph.D., Vanderbilt University.

ADAMS, AMANDA (2006)
Associate Professor, Psychology
B.A., Oklahoma City University; M.A., University of Nevada, Reno; Ph.D., Florida State University.

ADAMS, KATHERINE L. (1983)
Professor, Communication; Interim Chair, Mass Communication and Journalism
B.S., M.A., University of Wyoming;
Ph.D., University of Utah.

ADISASMITO-SMITH, STEVEN E. (2003)
Associate Professor, English
B.A., University of Illinois;
M.A., Ph.D., University of Illinois, Urbana-Champlain.

ADISHIAN-ASTONE, DEBORAH (1988)
Associate Vice President, Auxiliary Operations and Enterprise Development
B.S., M.B.A., California State University, Fresno.

AGBAYANI, BRIAN (2001)
Professor, Linguistics
B.A., M.A., Ph.D., University of California, Irvine.

ALAMILLO, LAURA (2004)
Associate Professor, Literacy, Early, Bilingual, and Special Education
B.A., Ph.D., University of California, Berkeley.

ALEXANDROU, ATHANASIOS (2006)
Associate Professor, Plant Science
B.S., Technical Educational Institute of Larisa, Greece; M.A., Ph.D., Silsoe College, Cranfield University (England).

AMARASINGHE, THISATH R. (2000)
Professor, Mathematics
B.S., Colombo University, Colombo, Sri Lanka;
M.S., Purdue University;
Ph.D., Indiana University.

ANAGNOSTOPOULOS, MARIANA (2002)
Assistant Professor, Philosophy
B.A., University of California Los Angeles;
M.A., Ph. D. University of California Irvine.

ANDREWS, DAVID M. (1993)
Professor, Biology
B.A., Southern Connecticut State University;
M.Ed., Ed.D., University of Maine.

ANDERSON, TIM (1983)
Professor, Kinesiology
B.A., M.S., Ed.D., University of Kentucky.

ANTOINE, RON (2012)
Assistant Coach, Football, Athletics
B.S., Colorado State University

ARMBRUSTER, SHIRLEY J. (2001)
Associate Vice President, University Communications
B.A., California State University, Fresno.

ARMISTEAD, MAGDALENA (2007)
Lecturer, Social Work Education
M.S.W.,California State University, Fresno.

ARVANIGIAN, MARK E. (2003)
Associate Professor, History
B.A., M.A., California State University, Fresno;
Ph.D., University of Durham-United Kingdom.

ASAHINA, ROBERTA REESE (1984)
Professor, Mass Communication and Journalism
B.A., M.A., University of Utah;
Ph.D., Tufts University.

ATTAR, SAEED (1998)
Professor, Chair, Chemistry
B.S., M.S., Ph.D., University of Nevada, Reno.

AU, TONY M. (1985)
Professor, Industrial Technology
B.S., National Taiwan Normal University;
M.S., University of Wisconsin, Stout;
Ph.D., University of Minnesota.

AUERNHEIMER, BRENT J. (1986)
Professor, Computer Science
B.A., M.S., Ph.D., University of California, Santa Barbara.

AUSTIN, DON (2000)
Lecturer, Industrial Technology
B.A., Wake Forest University;
M.S., University of North Texas.

AUSTIN, EVAN (2012)
Head Coach, Men's Tennis, Athletics
B.S., University of Kentucky.

AVALOS-HUERTA, ANTONIO (2003)
Associate Professor, Chair, Economics
B.S., Universidad Popular Autonoma del Estado Puebla, Mexico;
M.S., Ph.D., Oklahoma State University.

AVILA, DEBBIE (2004)
Associate Professor, Foreign Language
B.A., California State University, Sacramento;
M.A., Ph.D., University of California, Irvine.

AYOTTE, KEVIN J. (2002)
Associate Professor, Communication
B.A., DePaul University;
M.A., Ph.D., University of Pittsburgh.

BAKER, TIMOTHY (2001)
Lecturer, Accountancy
B.A., California State University, Los Angeles.

BALDIS, MARK (2000)
Lecturer, Kinesiology
B.A., M.A., California State University, Fresno.

BALINT, KENNETH (2001)
Professor, Theatre Arts
B.A., Jacksonville University;
M.A., Arizona State University.

BAPTISTA, CHRIS (2005)
Assistant Coach, Track and Field, Athletics
B.A., University of Alabama-Birmingham.

BARAKZAI, MARY D. (2003)
Professor, Nursing
B.A., Wellesley College;
B.S., Cornell University;
B.S.N., Cornell University-Endowed Colleges;
M.S., M.S.N., Columbia University;
Ed.D., University of California, Davis/California State University, Fresno.

BARKER, NAN O. (1999)
Lecturer, Communicative Disorders and Deaf Studies
B.A., M.A., California State University, Fresno.

BARMAN, ANAMIKA (2013)
Assistant Professor, Social Work Education
B.A., Delhi University, India;
M.A., Jawaharlal Nehru University, India;
M.S.W., California State University, Fresno;
Ph.D., University of Southern California.

BARRERA, IRÁN (2013)
Associate Professor, Social Work Education
A.A., Fresno City College;
B.A., California State University, Long Beach;
M.S.W., California State University, Long Beach;
Ph.D., University of Texas at Arlington;
Ph.D., La Universidad Autónoma De Nuevo León.

BASURTO, IMELDA (1999)
Associate Professor, Literacy, Early, Bilingual, and Special Education
B.A., Prescott College;
M.A., Ph.D., University of New Mexico.

BATESOLE, MIKE (2003)
Head Baseball Coach
B.S., M.S., California State University, Fullerton.

BATHINA, JYOTHI (2008)
Assistant Professor, Literacy, Early, Bilingual, and Special Education
B.A., M.A., University of Illinois Urbana Campus;; Ph.D., University of Nevada, Reno.

BEAMAN, M. TERESA (1986)
Professor, Music
B.A., Yale College;
M.M., Yale University School of Music;
D.M.A., State University of New York at Stony Brook.

BEARE, PAUL L. (2003)
Dean, Kremen School of Education and Human Development; Professor, Counseling Special Education and Rehabilitation
B.A., M.Ed., Ph.D., University of Missouri – Columbia.

BEDDALL, CHRISTINA (1985)
Director of Admissions, Records, and Evaluations
B.A., California State University, Chico;
M.S., California State University, Fresno.

BEHREND, JEAN (1997)
Professor,Curriculum and Instruction
B.S., Ph.D., University of Wisconsin, Madison;
M.S., California State University, Hayward.

BELL, MONIQUE L. (2013)
Assistant Professor, Marketing and Logistics
B.A., Morgan State University;
M.A., University of Baltimore;
Ph.D., Drexel University.

Note: Faculty information is as provided by Faculty Affairs before the beginning of the fall semester.

BENES, SHARON (1998)
Professor, Plant Science
B.S., University of New Hampshire, Durham; M.S., North Carolina State University, Raleigh; Ph.D., University of California, Davis.

BENGIAMIN, NAGY N. (1999)
Professor, Chair, Electrical and Computer Engineering
B.S., Alexandria University, Egypt; M.E., Carleton University, Ottawa, Canada; Ph.D., University of Calgary, Alberta, Canada.

BENNETT, LISA (2013)
Assistant Professor, Literacy, Early, Bilingual, and Special Education
B.A., San Francisco State University; M.A., Ph.D., University of California, Davis.

BENNINGA, JACQUES S. (1983)
Professor, Chair, Curriculum and Instruction
B.A., University of North Carolina; M.A., Ph.D., George Peabody College for Teachers.

BERENDS, PATRICK (2007)
Associate Professor, Agricultural Business
B.S., M.S., University of Maine, Orono, Maine; Ph.D., Kansas St University of Agriculture.

BERGMAN, TED LARS (2004)
Associate Professor, Modern and Classical Languages and Literatures
B.A., Wesleyan University; M.A., Ph.D., Princeton University.

BERNTHAL, CRAIG A. (1988)
Professor, English
B.A., B.S., M.A., Michigan State University; J.D., University of Washington; Ph.D., Michigan State University.

BERRETT, BRYAN (1998)
Associate Professor, Communicative Disorders and Deaf Studies
B.A., California State University, Northridge; M.A., California State University, Chico; Ed.D, Pepperdine University.

BEYNON, JOHN C. (2000)
Associate Professor, English
B.A., M.A., University Utah; Ph.D., University of California, Riverside.

BIACINDO, KATHRYN J. (1989)
Associate Professor, Curriculum and Instruction
B.A., M.Ed., Ed.D., Rutgers University.

BIONDO, VINCENT (2006)
Associate Professor, Philosophy
B.S., University of California, San Diego; M.S., San Diego State University; Ph.D., University of California, Santa Barbara.

BIRCH, BARBARA (1990)
Professor, Linguistics and Literatures
B.A., M.A., Ph.D., University of Wisconsin-Madison.

BLAIR, DIANE M. (2000)
Professor, Communication
B.A., Mount Union College; M.A., Ohio State University; Ph.D., University of Maryland, College Park.

BLAKE-QUISENBERRY, JANINE (1998)
Lecturer, Curriculum and Instruction
B.A., California State University, Fresno.

BLUMENSHINE, STEVEN (2001)
Professor, Biology
B.S., University of Wisconsin-Madison; M.S., George Mason University; Ph.D., University of Notre Dame.

BOEH, THOMAS (2005)
Director of Athletics
B.A., Loras College; M.S., University of Illinois, Champaign-Urbana.

BOHLIN, CAROL FRY (1990)
Professor, Curriculum and Instruction
B.A., University of North Carolina, Chapel Hill; M.H.D.L., University of North Carolina, Charlotte; Ph.D., Ohio State University.

BOHLIN, ROY M. (1990)
Professor, Curriculum and Instruction
B.S., Bowling Green State University; M.Ed., Ph.D., Kent State University.

BOMMER, WILLIAM (2008)
Professor, Management
B.S., M.O.D., Bowling Green State University; Ph.D., Indiana University Bloomington.

BOONE, BENJAMIN (2000)
Professor, Music
B.A., B.M., University of Tennessee, Knoxville; M.M., Boston University, Boston; D.M.A., University of South Carolina, Columbia.

BORIS, VIRGINIA (2008)
Lecturer, Educational Research and Administration
B.A., University of California, Berkeley; M.A., Fresno Pacific College; E.D.D., University of San Francisco.

BOTWIN, MICHAEL D. (1990)
Professor, Psychology
B.A., Oakland University (Michigan); Ph.D., University of Michigan, Ann Arbor.

BOYD, ROBERT R. (1979)
Associate Vice President, Facilities Management
B.S., California State University, Fresno.

BOYER, CHARLES D. (2006)
Dean, Jordan College of Agricultural Sciences and Technology; Professor, Plant Science
B.S., Eastern Oregon State University; M.S., Ph.D., Pennsylvania State University.

BRADLEY, JILL (2006)
Associate Professor, Management
M.S., Ph.D., Tulane University of Louisiana.

BROOKS, CORY (2013)
Assistant Professor, Chemistry
B.Sc., University of Guelph, Canada; Ph.D., University of Victoria, Canada.

BROOKS, MANEKA DEANNA (2013)
Assistant Professor, Literacy, Early, Bilingual, and Special Education
B.A., M.A., Loyola Marymount University; Ph.D., Stanford University.

BROWN, DAVID (2012)
Assistant Coach, Football, Athletics
B.S., California Polytechnic State University, San Luis Obispo; M.A., National University San Diego.

BROWN-WELTY, SHARON (1993)
Dean, Division of Graduate Studies; Director, Doctoral Program at California State University, Fresno; Professor, Educational Research and Administration,
B.S., M.B.A., Indiana University of Pennsylvania; Ed.D., University of Pittsburgh.

BUKOFZER, DANIEL C. (1989)
Professor, Electrical and Computer Engineering
B.S., California State University, Los Angeles; M.S., University of California, Los Angeles; Ph.D., University of California, Davis.

BURGER, LANCE (2007)
Assistant Professor, Mathematics
B.A., M.A., California State University, Fresno; Ph.D., Oregon State University.

BURNS, THOMAS (1998)
Lecturer, Management
B.A., Central Washington State University; M.B.A., Pepperdine University.

BUSH, JASON A. (2006)
Associate Professor, Biology
B.S., M.S., Ph.D., University of British Columbia.

BUSHOVEN, JOHN T. (2005)
Associate Professor, Plant Science
B.S., Rhode Island College; M.S., Ph.D., University of Rhode Island.

CADY, DANIEL (2005)
Associate Professor, History
B.A., M.A., San Francisco State; Ph.D., Claremont Graduate School.

CALDERÓN-URREA, ALEJANDRO (1997)
Professor, Biology
B.A., Universidad del Valle, Colombia; M.S., Vrije Universiteit Brussel, Belgium; Ph.D., Yale University.

CALDWELL, MICHAEL D. (2002)
Associate Vice President for Faculty Affairs; Professor, Music
B.A., California State University, Fresno; M.A., Ph.D., University of Illinois Urbana-Champaign.

CALVARESE, MICHELLE (2000)
Associate Professor, Geography
B.A., Villanova University; M.A., West Chester University; Ph.D., Texas A&M University.

CAPITMAN, JOHN (2004)
Professor, Public Health
B.A., Yale University; Ph.D., Duke University.

CAPRAU, CARMEN (2007)
Assistant Professor, Mathematics
B.S., West University of Timisoara, Romania; Ph.D., University of Iowa.

CARLIN, ANDREA B. (1992)
Lecturer, Social Work Education
B.A., Colby College; M.S.W., Smith College.

CARRION, DANIEL E. (1985)
Professor, Theatre Arts
B.A., M.A., California State University, Fresno.

CHAFFE-STENGEL, PRISCILLA M. (1984)
Professor, Information Systems and Decision Sciences
B.A., University of California, San Diego; M.A., California State University, Fresno; Ph.D., Stanford University.

CHAPMAN, HONORA H. (2002)
Professor, Modern and Classical Languages and Literatures
B.A., Ph.D., Stanford University.

CHEN, JIDONG (2006)
Assistant Professor, Linguistics
B.A., Central China Normal University; M.A.,Guangdong University; Ph.D., Vrije Universiteit Amsterdam.

CHEN, KUANG C. (1988)
Professor, Chair, Finance and Business Law
B.A., National Taiwan University; M.B.A., Ph.D., Ohio State University.

CHIERO, ROBIN (1997)
Professor,
Curriculum and Instruction
B.A., University of Redlands; B.S., Coleman College; M.A., Joint Ph.D., Claremont Graduate University and San Diego State University.

CHOI, JAIPIL (2007)
Assistant Professor, Chemistry
B.S., Kon Kuk University, Seoul, South Korea; M.S., Wichita State University; Ph.D., University of Texas at Austin.

CHOO, CHING CHIAW (2007)
Assistant Professor, Civil and Geomatics Engeering
B.S., M.S.W., Ph.D., University of Kentucky.

CHURCH, STEVEN (2006)
Associate Professor, English
B.A., University of Kansas; M.F.A., Colorado State University.

CLARKE, KRIS (2007)
Associate Professor, Social Work Education
B.A., Reed College, M.S., Ph.D., University of Tampere, Finland.

CLEMENT, KEITH E. (2006)
Associate Professor, Criminology
B.A., M.A., California State University, San Diego; Ph.D., University of Tennessee-Knoxville.

CLIFTON, MICHAEL (2002)
Lecturer, English
B.A., M.A., California State University, Fresno; Ph.D., Indiana University Bloomington.

CLINE, KURT D. (2003)
Associate Professor, Political Science
B.A., M.A., University of Northern Iowa; Ph.D., Colorado State University.

CLUNE, LORI (2001)
Assistant Professor, History
B.A., Purchase College, SUNY;
M. A., New York University; M.A., California State University, Fresno; Ph.D., University of California, Davis.

COLE, CHRISTOPHER (2007)
Lecturer, Social Work Education
M.S.W. California State University, Fresno.

COLES, MICHAEL G. (1998)
Professor, Chair, Kinesiology
B.A., M.A., California State University, Fresno; Ph.D., University of Utah.

CONSTABLE, JOHN V. (2002)
Associate Professor, Biology
B.S., Syracuse University;
Ph.D., Louisiana State University.

COON, CAROLYN V. (2002)
Assistant Vice President for Student Affairs and Dean of Students
B.S., Bethel College; M.S., Wichita State University; Ph.D., Kansas State University.

CORDIERO, JOHN (1969)
Lecturer, Animal Sciences and Agricultural Education
B.S., M.S., California Polytechnic State University, San Luis Obispo.

COWGILL, ALLISON (2009)
Associate Librarian
B.A., University of Colorado; M.A., University of Denver.

CRASK, LLOYD (2009)
Assistant Professor, Construction Management
M.S., California State University, Long Beach; M.B.A., Golden Gate University.

CRISCO, VIRGINIA (1998)
Associate Professor, English
B.A., M.A., California State University, Fresno; Ph.D., University of Nebraska-Lincoln.

CROSBIE, PAUL R. (2000)
Professor, Biology
B.S., University College of Swansea, Wales; P.G.C.E., Avery Hill College, London, England;
M.A., California State University, Fresno; Ph.D., University of California, Davis.

CRUME, PETER (2013)
Assistant Professor, Communicative Disorders and Deaf Studies
B.A., M.A., East Carolina University; Ph.D., University of Illinois, Urbana-Champaign.

CUMMINS, JEFFREY (2005)
Associate Professor, Political Science
B.A., Westmont University;
M.A., Ph.D., Claremont Graduate School.

CUSICK, CAROLYN (2013)
Assistant Professor, Philosophy
B.A., Saint Louis University;
M.A., Lewis University;
Ph.D., Vanderbilt University.

CUSICK, LARRY W. (1983)
Professor, Mathematics
B.A., California State University, Fresno;
Ph.D., University of California, San Diego.

DANGI, MOHAN (2009)
Assistant Professor, Geography
B.S., M.S., Colorado School of Mines; M.S., Ph.D., Johns Hopkins University.

DARLING, MATTHEW (1996)
Professor, Music
B.A., California State University, Sacramento; M.A., Northwestern University, Evanston, Illinois; Ph.D, University of Arizona-Tucson.

DAVIS, LIZHU (2007)
Assistant Professor, Child, Family, and Consumer Sciences
B.E ; M.E., Tianjin Institute of Textile Science and Technology, China; M.S., Ph.D., University of North Carolina, Greensboro.

DAYE, COLLINS (2012)
Head Coach, Equestrian, Athletics
B.B.A., University of Georgia;
B.S., University of South Carolina.

DE SOUZA, COMLAN (2008)
Assistant Professor, Mathematics
B.S., Universite du Benn, Lome, Togo; M.S., Ph.D, Southern Illinois University, Carbond.

DECKER, JULIA (2012)
Assistant Coach, Lacrosse, Athletics
B.S., M.S., The College at Brockport State University of New York.

DEFEDE, KATHRYN M. (2000)
Lecturer, Nursing
B.S., California State University, Bakersfield; M.S., California State University, Dominguez Hills.

DEJEAN, LAURENT (2011)
Assistant Professor, Chemistry
M.S., Ph.D., University of Bordeaux 2, France.

DELCORE, HENRY D. (2000)
Professor, Anthropology
B.S., Georgetown University;
M.A., Ph.D., University of Wisconsin, Madison.

DELCROIX, STEFAAN D. (2002)
Associate Professor, Mathematics
B.A., B.S., M.S., Ph.D., Rijks Universiteit Gent.

DELEON, DOREEN (2004)
Associate Professor, Chair, Mathematics
B.S., M.S., Ph.D., University of California, Los Angeles.

DENBESTE, MICHELLE (2000)
Professor, History
B.A., University of Washington;
M.A., Ph.D., Southern Illinois University.

DEOGHARE, HARSHAVARDHAN (2011)
Assistant Professor, Physical Therapy
B.S., University of Pune, India;
Ph.D., University of Florida, Gainesville.

DER MUGRDECHIAN, BARLOW (1986)
Lecturer, Armenian Studies Program
B.A., California State University, Fresno;
M.A., University of California, Los Angeles.

DERUYTER, TIM (2011)
Head Coach, Football, Athletics
B.A., U.S. Air Force Academy;
M.B.A., Regis University.

DEVOOGD, GLENN (1998)
Professor, Chair,
Early, Bilingual, and Special Education
B.A., M.A., Ph.D., Michigan State University.

DIAZ, JOSE A. (1982)
Associate Dean, College of Arts and Humanities; Professor, Music
B.M., M.M., D.M.A., University of Texas at Austin.

DINSCORE, AMANDA (2010)
Senior Assistant Librarian
B.A., California State University, Fresno,
M.A., California State University, San Jose.

DODD, WALTER A. (1994)
Associate Professor, Anthropology
B.A., California State University, Fresno;
M.A., Eastern New Mexico University;
Ph.D., University of Utah.

DONG, HONGWEI (2011)
Assistant Professor, Geography
B.A., M.A., Wuhan University, China;
Ph.D., Portland State University.

DORMEDY, ERIN (1999)
Associate Professor,
Food Science and Nutrition
B.S., Cal Poly State University;
M.S., Ph.D, University of Nebraska, Lincoln.

DOUB, YOLANDA A. (2005)
Associate Professor, Modern and Classical Languages and Literatures
B.S., Santa Clara University;
M.A., Ph.D., University of Colorado at Boulder.

DOYLE, CAROL (1998)
Librarian, Government Documents
B.A., M.L.S., University of California, Los Angeles.

DREXLER, DAVID (2013)
Senior Assistant Librarian, Library
B.M., M.A., University of Wisconsin-Madison.

DUNCAN, DELLA C. (1989)
Professor, Mathematics
B.A., B.A.Ed., M.A., Ph.D., Arizona State University.

DUNDAS, ROBERT G. (2001)
Associate Professor,
Earth and Environmental Sciences
B.A., University of Montana;
M.A., Ph.D., University of California, Berkeley.

DUPONT-MORALES, TONI (2008)
Associate Professor, Criminology
B.A., M.S., University of Arizona; Ph.D., Northeastern University.

DURETTE, PAULA (2005)
Associate Professor, Art and Design
B.A., M.F.A., University of Maryland.

DUTRA, DANETTE (2005)
Assistant Professor, Nursing
M.A., M.S.N., California State University, Fresno; Ed.D., University of San Francisco.

DYER, KATHLEEN D. (2000)
Associate Professor, Child, Family, and Consumer Sciences
B.S., M.S., Ph.D., University of Missouri-Columbia.

EARLEY, PHILLIP (2012)
Assistant Coach, Football, Athletics
B.A., Pacific Lutheran University;
M.Ed., Western Washington University.

EASTIN, KRISTI (2007)
Assistant Professor, Modern and Classical Languages and Literature
B.A., California State University, Fresno; M.A., Ph.D., Brown University.

EDMONDSON, CHRISTINE (1996)
Professor, Psychology
B.A., Indiana University, Bloomington;
M.S., Ph.D., Purdue University.

EGAN, CANDACE (2004)
Associate Professor, Mass Communication and Journalism
B.A., M.A., California State University, Fresno.

EL KHARBAWY, A. SAMEH (2006)
Professor, Art and Design
B.Arch, M.Arch, University of Maryland; M.B.A, Ph.D, Illinois Institute of Technology, IDEC.

ELLIS, THOMAS W. (1991)
Professor, Theatre Arts
B.A., California State University, Sacramento;
M.F.A., Michigan State University.

ELROD, SUSAN (2013)
Dean, College of Science and Mathematics
B.S., California State University, Chico; Ph.D., University of California, Davis.

ENGLISH, PETER (2005)
Associate Professor, Criminology
B.A., M.A., San Jose State;
M.A., Ph.D., University of Arizona.

ESPAÑA-NÁJERA, ANNABELLA (2011)
Assistant Professor, Chicano/a Latin American Studies
B.A., University of British Columbia, Vancouver; M.A., Ph.D., Notre Dame, Indiana.

ESPINOZA, ALEX (2007)
Associate Professor, English
B.A., University of California, Riverside;
M.F.A., University of California, Irvine.

FAN, QIN (2013)
Assistant Professor, Economics
B.E., Hebei University of Science and Technology, China; M.S., University of Maine; Ph.D., Pennsylvania State University.

FENTON, ANDREW (2011)
Assistant Professor, Philosophy
B.A., Acadia University, Wolfville, Nova Scotia; M.A., Dalhousie University, Halifax, Nova Soctia; Ph.D., University of Calgary, Alberta.

FARRELL, JOHN (2007)
Lecturer, History
B.A., M.A., California State University, Fresno; Ph.D., University of California, Davis.

FELIX, CATHERINE (2011)
Director, University Health and Psychological Services
B.S., University of Santo Tomas;
M.A.Ed., California State University, Chico.

FERRIS, DENNIS (1995)
Professor, Food Science and Nutrition
B.S., M.S., Cal Poly, San Luis Obispo;
Ph.D., Kansas State University.

FIALA, ANDREW (2005)
Professor, Chair, Philosophy
B.A., University of California, Los Angeles;
M.A., California State University, Long Beach;
Ph.D., University of Wisconsin-Green Bay.

FIELDS, JILL (1999)
Professor, History
B.A., University of California, Santa Cruz;
M.A., Ph.D., University of Southern California.

FINE, L. JAY (1990)
Professor, Recreation Administration
B.S., University of New Hampshire;
M.S., Southern Connecticut State University;
Ph.D., Southern Illinois University at Carbondale.

FIORENTINO, CHRIS (1996)
Lecturer, Students for Community Service
B.A., M.A., California State University, Fresno.

FLECK, JEANNE (2008)
Head Swimming and Diving Coach
B.A., Iowa State University.

FLEMING, PAULETTE S. (1988)
Professor, Art and Design
B.A., Hampton Institute;
M.F.A., Brandeis University;
Ph.D., Ohio State University.

FLOREZ, CORINNE (2007)
Lecturer, Social Work Education
B.S., M.S.W., California State University, Fresno.

FORBES, KATHRYN E. (1998)
Associate Professor, Women's Studies Program
B.A., University of Southern Carolina;
M.A., Ph.D., University of California, Berkeley.

FORD, TRISHA (2012)
Head Coach, Softball, Athletics
B.A., St. Mary's University.

FORESTIERE, ANTHONY (2011)
University Controller
B.S., M.S.. California State University, Fresno.

FORGACS, TAMAS (2007)
Assistant Professor, Mathematics
B.A., Budapest University of Economics Sciences; M.S., University of Iowa; M.A., Eastern Illinois University; Ph.D., University of Illinois Urbana Campus.

FORSYTHE, LYNN M. (1980)
Professor, Finance and Business Law
B.A., Pennsylvania State University;
J.D., University of Pittsburgh School of Law.

FRALEIGH, DOUGLAS M. (1990)
Professor, Chair, Communication
B.A., California State University, Sacramento;
J.D., University of California, Berkeley.

FREED, DONALD (1996)
Professor, Chair, Communicative Disorders and Deaf Studies
B.S., M.S., Ph.D., University of Oregon.

FROELICH, KENNETH D. (2005)
Associate Professor, Music
B.M.Ed., University of Southern California;
D.M.A., Indiana University Bloomington;
M.A., Indiana University Bloomington.

FU, XUANNING (2003)
Associate Dean, College of Social Sciences; Professor, Sociology
B.A., Anhui University, Hefei, China;
M.A., Shandong University, Shandong, China;
Ph.D., Brigham Young University.

FULOP, SEAN (2004)
Associate Professor, Linguistics
B.S., M.A., University of Calgary (Canada);
M.A., Ph.D., University of California, Los Angeles.

FUSICH, MONICA (1996)
Librarian, Reference, Henry Madden Library
B.A., M.L.S., University of California, Berkeley.

GANDLER, JOSEPH R. (1981)
Professor, Chemistry
B.S., Brooklyn College;
Ph.D., University of California, Santa Cruz.

GAO, YONGSHENG (2007)
Associate Professor, Physics
B.S., M.S., Shandong University, China; Ph.D., University of Wisconsin, Madison.

GARCIA, BETTY (1993)
Professor, Social Work Education
B.S., California State Polytechnic University, Pomona; M.S.W., San Diego State University;
Ph.D., Boston University.

GARCIA, JUAN C. (1987)
Professor, Counselor Education and Rehabilitation
B.A., University of California, Santa Cruz;
M.A., Stanford University;
M.S., San Jose State University;
Ph.D., Stanford University.

GARCIA, PETER (2013)
Assistant Professor, Nursing
B.S.N., M.S.N., California State University, Fresno;
D.N.P, University of San Francisco.

GECHTER, GENA (1984)
Coordinator, Psychological Services; Professor, Health and Psychological Services
B.A., M.A., Humboldt State University;
Ph.D., California School of Professional Psychology; Licensed Clinical Psychologist.

GERINGER, SUSAN (2005)
Assistant Professor, Marketing and Logistics
B.A., M.A., California State University, Sacramento; Ph.D., Henley-on-Thames.

GERMANO, PETER (2012)
Assistant Coach, Football, Athletics
B.S., Ohio Wesleyan University;
M.Ed., Bowling Green State University.

GHAZINEJA, MAZIAR (2013)
Assistant Professor, Mechanical Engineering
B.S., K. N. Toosi University of Technology;
M.S., Iran University of Science and Technology;
M.S., Ph.D.,University of California, Riverside.

GIANNETTA, TEREA (1984)
Lecturer, Nursing
B.S.N., California State University, Sacramento; M.S.N., California State University, Fresno.

GIBSON, MALLORI (2012)
Assistant Coach, Volleyball, Athletics
B.A., M.A., University of the Pacific.

GIBSON, MELISSA D. (2000)
Professor, Chair, Theatre Arts
B.A., Franklin and Marshall College;
M.A., University of Iowa;
Ph.D., University of Pittsburg.

GILBERT, JENELLE N. (2000)
Professor, Kinesiology
B.P.E., M.A., B.Ed., Ph.D., University of Ottawa.

GILBERT, WADE D. (2000)
Professor, Kinesiology
B.A., M.A., Ph.D., University of Ottawa.

GILEWICZ, MAGDALENA (1990)
Professor, English
M.A., University of Wroclaw (Poland); Ph.D., State University of New York at Stony Brook.

GILLUM, EDWARD (1995)
Associate Professor, Art and Design
B.A., University of California, Santa Cruz; M.F.A., Southern Illinois University, Carbondale.

GILROY, GARY P. (1993)
Professor, Music
B.S., California State University, San Jose; M.S., University of Illinois at Urbana-Champaign; D.M.A., University of Oregon School of Music.

GODFREY, KATHLEEN (1999)
Associate Professor, English
B.A., Brigham Young University; M.A., Ph.D., Arizona State University.

GOLDEN, MELISSA (2006)
Associate Professor, Chemistry
B.S., University of Central Arkansas; Ph.D., Texas, A&M University.

GOLSTON, CHRIS (1996)
Professor, Linguistics
B.S., University of California, Berkeley; M.A., Ph.D., University of California, Los Angeles.

GONSOULIN, MARGARET (2005)
Associate Professor, Sociology
B.S., University of Southwestern Louisiana; M.S., University of Arkansas at Little Rock; Ph.D., University of Virginia Main Campus.

GONZALEZ, JUAN CARLOS (2009)
Assistant Professor, Educational Research and Administration
B.A., California State University, San Bernardino; M.A., Ohio State University; Ph.D., Arizona State University.

GONZALEZ, LUZ (1989)
Dean, College of Social Sciences; Professor, Chicano and Latin American Studies
B.A., M.A., California State University, Fresno; Ph.D., University of Arizona.

GOORAHOO, DAVE (2006)
Associate Professor, Plant Science
B.S., University of the West Indies; M.S., Ph.D., University of Guelph.

GOTO, JOY (2007)
Associate Professor, Chemistry
B.S., University of California, Davis; Ph.D., University of California, Los Angeles.

GOUSSET, KARINE (2013)
Assistant Professor, Biology
B.S., University of Maryland, College Park; Ph.D., University of California, Davis.

GREER, FELICIA (2002)
Associate Professor, Kinesiology
B.S., University of New Brunswick; M.S., Queen's University, Ontario; Ph.D., University of Guelph.

GRAHAM, SHANNON (2013)
Assistant Professor, Communicative Disorders and Deaf Studies
B.A., M.A., M.S., Gallaudet University; Ph.D., University of Tennessee-Knoxville.

GRIFFIN, F. NDIDI UCHE (1993)
Professor, Nursing
B.S.N., California State University, Stanislaus; M.S.N., California State University, Fresno; Ed.D., University of San Francisco.

GRIFFIN, RUTH H. (1977)
Professor, Theatre Arts
B.A., M.A., M.F.A., Case Western Reserve University.

GU, SANLIANG (1999)
Associate Professor, Viticulture and Enology
B.S., Shandong Agricultural University; M.S., Ph.D; Oregon State University.

GUERRA, CYNDI (2013)
Assistant Professor, Nursing
B.S.N., M.S.N., California State University, Fresno; D.N.P, University of San Francisco.

GURLANDJONES, GERMAYNE (2007)
Lecturer, Counseling and Special Education
B.S., M.A., California State University, Fresno.

HALES, CORRINNE (1986)
Professor, English
B.A., M.A., University of Utah; Ph.D., State University of New York at Binghamton.

HALES, JOHN R. (1985)
Professor, English
B.A., M.A., University of Utah; Ph.D., State University of New York at Binghamton.

HALL, RAYMOND (1999)
Professor, Physics
B.S., California State University, Fresno; M.S., Ph.D., University of California, Riverside.

HAMEL, TIMOTHY (2001)
Lecturer, Kinesiology
B.A., California State University, Fresno; M.A., California State University, Fullerton.

HAMMONS, AMBER (2011)
Assistant Professor, Child, Family, and Consumer Science
Ph.D., University of California, Riverside.

HANSEN, DOUGLAS (2002)
Professor, Art and Design
B.A., M.A., California State University, Fresno.

HANSEN, KENNETH (2005)
Professor, Political Science
B.A., M.A., California State University Fullerton; Ph.D., University of Arkansas Fayetteville.

HANSEN, RICHARD T. (1994)
Associate Professor, English
B.A., M.A., California State University, Fresno; Ph.D., University of California, Davis.

HANSZ, J. ANDREW (2009)
Professor, Finance and Business Law
B.S., Pennsylvania State University; M.B.A., LeHigh University; Ph.D., Georgia State University.

HAO, LIZHONG (2013)
Assistant Professor, Accountancy
B.A., Hebei Normal University; M.S., Kent State University; Ph.D., Florida Atlantic University.

HAPPAWANA, GEMUNU (2008)
Professor, Mechanical Engineering
B.S., University of Colombo, Sri Lanka; M.S., Purdue University North Central Camp; Ph.D., Purdue University Main Campus.

HARDINA, DONNA (1993)
Professor, Social Work Education
B.A., Northern Illinois University; M.A., University of Chicago; Ph.D., University of Illinois at Chicago.

HARPER, ROBERT M. (1990)
Dean, Craig School of Business; Professor, Accountancy
B.S., M.B.A., D.B.A., Florida State University.

HARRIS, DEBRA (1999)
Professor, Social Work Education
B.A., Texas Tech, Lubbock; M.S.W., Our Lady of the Lake University; Ph.D., University of Texas, Arlington.

HART, DEBORAH (2007)
Lecturer, Finance and Business Law
B.A., Tufts University; M.A., University of California, Los Angeles.

HART, STEVEN MICHAEL (2006)
Associate Professor, Literacy and Early Education
B.S., Kutztown University; M.A., College of William and Mary; Ph.D., University of South Florida.

HASSON, ALAM (2001)
Professor, Chemistry
B.S., University of Oxford; Ph.D., University of Birmingham.

HAUSER, LINDA (2008)
Assistant Professor, Educational Research and Administration
B.A., California State University, Fresno; M.A., Fresno Pacific College; Ed.D, University of Laverne.

HAYS, BETSY (1999)
Associate Professor, Mass Communication and Journalism
B.A., M.A., California State University, Fresno.

HELSEL, DEBORAH G. (2000)
Associate Professor, Sociology
A.S., Palomar College; B.A., California State University, Stanislaus; Ph.D., University of California, San Francisco.

HENDRIX, LAUREL L. (1990)
Professor, English
B.A., Eastern Illinois University; M.A., Ph.D., University of California, Riverside.

HENRIQUES, DONALD A. (2006)
Associate Professor, Music
B.A., California State University, East Bay; M.A., Indiana University, Bloomington; M.A., Ph.D., University of Texas, Austin.

HENSON, CHRISTI L. (1984)
Professor, English
B.A., Washburn University of Topeka; M.A., Ph.D., University of Kansas.

HENSON, JAMES M. (2000)
Professor, Information Systems and Decision Sciences
B.S., M.B.A., University of West Florida; Ph.D., University of Memphis.

HENSON, JOHN (2000)
Professor, Animal Sciences and Agricultural Education
A.S., West Hills Community College; B.S., California State University, Fresno; M.S., University of Nebraska, Lincoln; Ph.D., South Dakota State University.

HERNÁNDEZ, IGNACIO (2013)
Assistant Professor, Educational Research and Administration
A.A., Mt. San Antonio College;
B.S., M.S., California State University, Long Beach; Ph.D., Iowa State University.

HERNANDEZ, SUSANA (2013)
Assistant Professor, Educational Research and Administration
B.A., University of California, Irvine;
M.S., California State University, Long Beach: Ph.D., Iowa State University.

HERNANDEZ, VIRGINIA R. (2002)
Professor, Social Work Education
B.A., M.S., California State University, Sacramento;
Ph.D., Case Western Reserve University.

HERRERA, CRISTINA (2006)
Assistant Professor, Chicano and Latin American Studies
B.A., California State University, Northridge;
M.A., California State University, Dominguez Hills; Ph.D., Claremont Graduate School.

HERRING, J. DANIEL (2007)
Professor, Theatre Arts
B.A., Virginia Tech; M.F.A., Arizona State University.

HERZIG, LISA A. (2007)
Assistant Professor, Food Science and Nutrition
B.S., Georgia State University; M.S., University of New Mexico, Albuquerque; Ph.D., California Institute of Integral Studies.

HEUPEL, KENNETH L. (1999)
Lecturer, Plant Science
B.S., California State University, Fresno;
M.A., California State University, San Jose.

HICKEY, CHERLY (2008)
Assistant Professor, Physical Therapy
B.S., M.P.T., Ed.D., California State University, Fresno.

HIEBERT, THOMAS NELS (1987)
Professor, Music
B.A., Bethel College;
M.M., Eastman School of Music;
D.M.A., University of Wisconsin, Madison.

HIGGINBOTTOM, GRETCHEN (2007)
Lecturer, Library
M.L.S, University of Pittsburg, Bradford.

HIRONAKA-JUTEAU, JODY (1999)
Professor, Recreation Administration; Associate Dean, College of Health and Human Services
B.S., M.A., California State University, Fresno; Ed.D., Fielding Graduate University.

HO, PEI CHUN (2007)
Assistant Professor, Physics
B.S., National TsingHua University, Taiwan;
M.S., Ph.D., University of California, San Diego.

HOFMANN, PAUL (2012)
Assistant Vice President for International Affairs
B.A., Adrian College; M.A., University of Toledo; M.A., San Jose State University; Ph.D., Bowling Green State University.

HOLYOKE, THOMAS T. (2005)
Associate Professor, Political Science
B.A., Drake University;
M.A., Syracuse University Main Campus;
M.A., Ph.D., George Washington University.

HOUTS, LISA M. (2000)
Lecturer, Management
B.A., Bellevue College;
M.B.A., California State University, Fresno.

HOWARD, HANNA (2012)
Assistant Coach, Women's Basketball, Athletics
B.A., University of Portland;
M.A., Concordia University Irvine.

HUBBARD, ERIC (2013)
Assistant Coach, Equestrian
B.S. Idaho State University.

HUDA, AMIRUDDIN S. (2000)
Professor, Physics
B.S., M.S., Kansas State University;
Ph.D., University of California, Los Angeles.

HUERTA, DAVID W. (2003)
Chief of Police and Director of Public Safety
B.S., University of San Francisco;
M.S., California State University, Fresno.

HUERTA, TERESA (2006)
Associate Professor, Literacy and Early Education
B.A., California State University, Fresno; M.A., California State University, San Diego; Ph.D., Harvard University.

HUFF, PATRICIA L. (1993)
Professor, Accountancy
B.S., M.B.A., California State University, Fresno; Ph.D., University of Arkansas; C.P.A.

HUGHES, EMMA (2007)
Associate Professor, Criminology
B.A., Stanford University; M.A., Columbia University; M.Phil., University of Cambridge, England; Ph.D., University of Central England, Brimingham.

HUNTER, JEFFREY (1996)
Professor, Theatre Arts
B.S., East Texas State University;
M.A., Southwest Texas State University;
M.F.A., University of Texas, Austin.

HUTCHINGS, JUSTIN (2012)
Assistant Coach, Volleyball, Athletics
B.S., Utah Valley State University.

HYATT, BRAD A. (2009)
Assistant Professor, Construction Management
B.S., University of Kentucky; M.S., University of Texas at Austin.

IMMEKUS, JASON (2007)
Assistant Professor, Educational Research and Administration
B.A., La Roche College; M.S., Ph.D., Purdue University.

INOUE, ASAO (2007)
Associate Professor, English
B.S., M.A., Oregon State University; Ph.D., Washington State University.

IRIBERRI, ALICIA (2013)
Assistant Professor, Information Systems and Decision Sciences
B.A., Universidad Iberoamericana, Mexico City; M.S., Ph.D., Claremont Graduate University.

ISHIGAKI, MILES M. (1987)
Professor, Music
B.M., University of Northern Colorado;
M.M., Colorado State University;
D.M.A., University of Oklahoma, Norman.

JACKSON, CATHERINE G.R. (1997)
Professor, Kinesiology
B.A., M.A., Montclair State University;
Ph.D., University of Colorado, Boulder.

JACKSON, JEROME E. (1990)
Professor, Criminology
B.A., Southern University;
M.P.A., Texas Southern University;
Ph.D., Sam Houston State University.

JACKSON, MARIANNE (2008)
Assistant Professor, Psychology
B.A., University of Strathclyde, Glasgow, Scotland; M.A., University of Nevada, Reno.

JAMGOCHIAN, ELISA (2011)
Assistant Professor, Counselor Education and Rehabilitation
B.A., University of California, Davis;
M.S., California State University, Fullerton;
Ph.D., University of Oregon.

JARRAR, RANDA (2010)
Assistant Professor, English
B.A., Sarah Lawrence College;
M.A., University of Texas at Austin;
M.F.A., University of Michigan Ann Arbor.

JASSIM, AMIR A. (1985)
Professor, Finance and Business Law
B.B.A., University (Iraq);
M.B.A., Indiana University;
Ph.D., University of Georgia.

JENDIAN, MATTHEW A. (1998)
Professor, Chair, Sociology; Director, Humanics Program
B.A., California State University, Fresno;
M.A., Ph.D., University of Southern California.

JENKINS, RUTH Y. (1988)
Professor, English
B.S., M.A., Miami University;
Ph.D., State University of New York at Stony Brook.

JIMENEZ-SANDOVAL, SAUL (2000)
Professor, Chair, Modern and Classical Languages and Literatures
B.A., M.A., Ph.D., University of California, Irvine.

JOHNSON, ANDREA (2007)
Lecturer, History
Ph.D., University of Missouri, Columbia.

JOHNSON, KEITH (2006)
Assistant Professor, Modern and Classical Languages and Literature
B.A., San Francisco State University; M.A., Ph.D., University of Arizona.

JOHNSON, TALIB (2008)
Assistant Professor, Africana and American Indian Studies
B.A., California State University, Dominguez Hills; M.A., Temple University; Ph.D., Claremont Graduate School.

JONES, ANDREW (2007)
Assistant Professor, Sociology
B.A., University of Kansas; M.S., Pittsburg State University; M.A., University of Oregon; Ph.D., University of Oregon.

JONES, BRADLEY (2006)
Associate Professor, History
B.A., Miami University of Ohio; Ph.D., University of Glasgow, UK.

JONES, BYRON (2011)
Assistant Coach, Men's Basketball
B.S., M.Ed., Central Oklahoma University.

JONES, CONSTANCE J. C. (1993)
Professor, Chair, Psychology
B.A., University of California, Berkeley;
M.S., Ph.D., The Pennsylvania State University.

JONES, IDA M. (1987)
Professor, Finance and Business Law
B.A., Creighton University;
J.D., New York University.

JORDAN, KEITH (2007)
Assistant Professor, Art and Design
B.A., M.S.W., Rutgers University, New Brunswick; Ph.D., Cuny New York City Tech College.

JORDINE, MELISSA (2003)
Associate Professor, History
B.A., Western Illinois University;
M.A., Ph.D., Southern Illinois University-Carbondale.

JOUBERT, CASSANDRA (2008)
Director, Central California Children's Institute
B.S., Howard University; Sc.D., Johns Hopkins University.

KALFAYAN, GARO (1987)
Professor, Chair, Department of Accountancy
B.S., University of California, Berkeley;
J.D., University of California, Los Angeles;
L.L.M., University of Florida; C.P.A.

KARR, JOHN (2005)
Associate Professor, Music
B.M.Ed., University of Montevallo; M.A., University of Louisville; Ph.D., University of Kentucky.

KARTCH, FALON (2013)
Assistant Professor, Communication
B.A., M.A., Northern Illinois University;
Ph.D., University of Wisconsin-Milwaukee.

KATTI, MADHUSUDAN (2004)
Associate Professor, Biology
B.S., Institute of Science, University of Bombay, India; M.S., Wildlife Institute of India, Dehradun; Ph.D., University of California, San Diego.

KELM, KATHERINE (2002)
Associate Professor, Mathematics
B.A., University of California Berkeley; M.S., Ph.D., University of Oregon.

KELM, TRAVIS (2004)
Lecturer, Mathematics
B.A., Ph.D., University of Oregon.

KEMP, DEBORAH J. (1990)
Professor, Finance and Business Law
B.A., J.D., University of Florida.

KENNEDY, JAMES A. (2010)
Professor, Chair, Viticulture and Enology
B.S., Ph.D., University of California, Davis.

KENSINGER, LORETTA (1998)
Professor, Women's Studies Program
B.S., Ball State University;
M.A., Ph.D., Purdue University.

KEPPLER, MARK J. (1987)
Executive Director, Maddy Institute, Professor, Management
B.S., State University of New York at Oswego;
M.S., J.D., University of Wisconsin.

KERN, RUTH ANN (1999)
Associate Professor, Biology
B.S., University of Minnesota;
Ph.D., Duke University.

KIKUCHI, GEORGE (2011)
Assistant Professor, Criminology
B.S., University of Tsukubo, Japan; M.S., Ph.D., Purdue University, Indiana.

KIM, GILL (2009)
Assistant Professor, Economics
B.A., Sejong University, Seoul, Korea; M.A., Cleveland State University; M.S., Ph.D., University of Kentucky.

KIM, YOUNG (2008)
Assistant Professor, Electrical and Computer Engineering
B.S., Seoul National University, Korea; M.S., Ph.D., University of Texas at Austin.

KINNUNEN, DAVID (2008)
Assistant Professor, Kinesiology
B.A., M.A., Idaho State University; Ph.D., Michigan State University.

KISSNER, MICHAEL J. (2005)
Associate Professor, Criminology
B.A., University of Florida;
J.D., Cornell Law School;
Ph.D., Florida State University.

KONDURU, SRINIVASA (2007)
Assistant Professor, Agricultural Business
B.S., A.N.G.R. Agricultural University, Hyderabad, India; M.S., M.B.S., University of Missouri, Columbia; Ph.D., University of Missouri, Columbia.

KOTKIN-JASZI, SUZANNE (2005)
Professor, Public Health
B.S., University of California, Berkeley;
M.S., University of North Carolina Chapel;
Ph.D., University of California, Berkeley.

KREJCAR SHARMA, JOAN (2003)
Professor, Art and Design
B.F.A., Temple University; M.F.A., Indiana University, Bloomington.

KRENZ, VICKIE D. (1990)
Professor, Public Health
B.A., L.I.F.E. Bible College;
M.A., Azusa Pacific College;
M.S., Ph.D., University of Utah.

KRIEBS, JOHN (2001)
Associate Athletics Director/Facilities and Operations
B.A., University of Northern Iowa.

KRIEHN, GREGORY R. (2003)
Associate Professor, Electrical and Computer Engineering
B.S., Rose-Hulman Institute of Technology;
M.S., Ph. D., University of Colorado at Boulder.

KRISHNAN, VISWANATHAN (KRISH) (2006)
Professor, Chemistry
B.S., M.S., Madurai Kamaraj University India;
Ph.D., Indiana Institute of Science, India.

KRYDER, PAUL (2001)
Lecturer, Mathematics
M.S., California State University, Fresno.

KUBAL, TIMOTHY J. (2002)
Associate Professor, Sociology
B.A., M.A., Ph.D., Southern Illinois University, Carbondale.

KUBO, HIROMI (2009)
Senior Assistant Librarian, Library
B.A., Okayama University, Japan; MLIS, University of Missouri, Columbia.

KUHN, ROSE MARIE (1988)
Professor, Modern and Classical Languages and Literatures
B.A., Facultes Universitaires Saint-Louis Brussels (Belgium);
M.A., Universite de Louvain (Belgium);
M.A., Ph.D., Catholic University of America.

KURTURAL, SAHAP (2008)
Assistant Professor, Viticulture and Enology
B.S., M.S., Ph.D., Southern Illinois University - Carbond.

KUSWA, KEVIN (2011)
Assistant Professor, Communications
B.S., Georgetown University;
M.A., Ph.D., University of Texas at Austin.

KWON, JAYMIN (2011)
Assistant Professor, Public Health
B.S., M.S., Yonsei University, Seoul Korea;
Ph.D., Rutgers, The State University of New Jersey at Brunswick-Piscataway.

KWON, OJOUNG (2001)
Professor, Information Systems and Decisions Sciences
B.S.E.E., Yeungnam University, South Korea;
M.B.A., New Hapshire College; Ph.D., University of Alabama.

KYTLE, ETHAN (2007)
Assistant Professor, History
B.A., Haverford College; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel.

LA PORTA, SERGIO (2009)
Associate Professor, Armenian Studies
B.A., Columbia University; M.A., Ph.D., Harvard University.

LACHS, LORIN (2002)
Professor, Psychology
B.A., Brandeis University;
Ph.D., Indiana University Bloomington.

LADWIG, PAUL (2005)
Associate Athletics Director/Broadcasting and External Relations
Associate's degree, The Broadcast Center.

LAING, BRENDA (2007)
Lecturer, Nursing
B.A., B.S., California State University, Fresno;
M.S.W. University of California, San Francisco.

LAM, SARAH KIT-YEE (2001)
Professor, Counselor Education and Rehabilitation
B.S., University of Hong Kong;
M.S., California State University, Fresno;
Ed.D., California State University, Fresno and UC Davis.

LAMA, GYANESH K. (2013)
Assistant Professor, Social Work Education
B.S.W., Katmandu University, Napal;
M.S.W., Ph.D., Washington University in St. Louis.

LAROSA, PATRICIA A. (1988)
Associate Professor, Information Systems and Decision Sciences
B.S., M.A., Eastern Kentucky University;
Ph.D., Arizona State University.

LARRALDE-MURO, JESUS S. (1994)
Professor, Chair, Civil and Geomatics Engineering
B.S., University of Zacatecas, Mexico;
M.S., Ph.D., Purdue University.

LAU, TAMMY (1996)
Librarian, Sanoian Special Collections
B.A., Yale University;
M.I.L.S., University of Michigan, Ann Arbor.

LAUTENBACH, SARAH (2012)
Assistant Coach, Lacrosse, Athletics
B.S., Old Dominion University.

LAW, DEIFY (2013)
Assistant Professor, Mechanical Engineering
B.S., M.S., Iowa State University;
Ph.D., Virginia Polytechnic Institute and State University.

LAWSON, ANDREW (2001)
Professor, Chair, Plant Science
B.S., Dalhousie University;
Ph.D., University of California, Berkeley.

LEE, CHUNGHYOUNG (2006)
Assistant Professor, Philosophy
B.S., Seoul National University, Republic of Korea; Ph.D., University of Minnesota, Twin Cities.

LEE, KEVIN (2011)
Assistant Professor, Finance and Business
B.A., M.B.A., University of Hawaii, Honolulu.

LEE, SONG (2006)
Assistant Professor, Counselor Education and Rehabilitation
B.S., University of California, Davis; M.S., California State University, Fresno; Ph.D., North Carolina State University, Raleigh.

LEUNG, CHI KIN (1989)
Professor, Geography
B.S.Sc., The Chinese University of Hong Kong;
M.T.C.P, The University of Sydney;
Ph.D., University of Hawaii, Manoa.

LEVI, ANNETTE (2008)
Professor, Chair, Agricultural Business
B.S., University of California, Riverside;
M.S., California State polytechnic university, Pomona; Ph.D., Washington State University.

LEWIS-KINNUNEN, DAWN (2006)
Associate Professor, Kinesiology
B.S., Hunter College of the City University of New York; M.S., Ph.D., Michigan State University.

LEWIS, STEPHEN (1998)
Associate Professor, Chair,
Earth and Environmental Sciences
B.S., University of California, Santa Cruz;
M.A., M.Phil., Ph.D., Columbia University.

LI, MING (2006)
Associate Professor, Computer Science
B.S., M.S., Shanghai Jiao Tong University;
M.S., University of Texas; Ph.D., University of Texas, Dallas.

LIGUORI, ERIC (2011)
Assistant Professor, Management
B.S., Florida State University;
M.B.A., University of South Florida.

LIN, CUI (2011)
Assistant Professor, Computer Science
B.Eng., Beijing Information Science and Technology University;
Ph.D., Wayne State University.

LIN, SHU (2006)
Associate Professor, Accountancy
B.A., M.A., Zhongshan University; Ph.D., University of Texas, Dallas.

LIPP, ELLEN (1985)
Professor, Linguistics
B.A., Connecticut College;
M.A., Ph.D., American University.

LIU, LUBO (2008)
Assistant Professor,
B.S., M.S., Tsinghua University, Beijing; Ph.D., University of South Carolina, Columbia.

LIU, SHIHHSI (2007)
Assistant Professor, Computer Science
B.S., National ChiaoTung University, Taiwan;
M.S., University of Houston; Ph.D., University of Alabama at Birmingham.

LIU, WALLACE C. (1979-1997)
Professor, Information Systems and Decision Sciences
B.C., National Chengchi University (Taiwan);
M.B.A., M.S., Western Illinois University;
Ph.D., University of Alabama.

LOEWENHEIM, THOMAS (2007)
Associate Professor, Music
B.A., Foreign institution; M.A., University of Michigan Ann Arbor; Ph.D., Indiana University Bloomington.

LOMELI, JOSE (1995)
Professor,
Curriculum and Instruction
B.A., California State University, Fresno;
M.A., Fresno Pacific College;
Ed.D., University of Southern California, Los Angeles.

LONE, TODD (2008)
Lecturer, Agricultural Business
B.S., M.S., South Dakota State University;
Ph.D., University of Washington.

LOPES, MARIA (2007)
Associate Professor,
Chicano and Latin American Studies
B.A., Pontificia Universidade Catolica de Sao Paulo; Ph.D., M.A., El Colegio De Mexico.

LOPEZ, MARITERE (2002)
Professor, History
B.A., M.A., Ph.D., State University of New York, Buffalo.

MERCADO-LOPEZ, LARISSA (2013)
Assistant Professor, Women's Studies Program
B.A., M.A., Ph.D., Univeristy of Texas at San Antonio.

LOWE, MITZI A. (1999)
Professor, Social Work Education
B.A., M.S.W., California State University, Fresno; Ph.D, University of Kentucky.

LOWE, PRUDENCE M. (2000)
Lecturer, Computer Science
Pharm.D., University of California, San Francisco; M.L.S., University of California, Berkeley; M.S., California State University, Fresno.

LUCEY, CHRISTOPHER (1998)
Professor, Counselor Education and Rehabilitation
B.A., Allentown College;
M.S., West Chester University;
Ph.D., Kent State University.

LUNA, MAJ. MAXIMO (2001)
Assistant Professor, Military Science
B.A. University of Hawaii.

LUO, YUPENG (2008)
Assistant Professor, Construction Management
B.E., Hubei polytechnic University; M.S., University of Pittsburgh; Ph.D., Pennsylvania State University.

MACY, SUSAN R. (1998)
Lecturer, Literacy and Early Education
B.S., M.A., California State University, Fresno;
Ed.D., University of California, Davis/California State University, Fresno.

MAGDALENO, KEN ROBERT (2005)
Associate Professor, Chair, Educational Research and Administration
B.A., M.S., California Lutheran University;
Ed.D., University of California, Los Angeles.

MAGEE, JANE (2007)
Senior Associate Librarian, Henry Madden Library
B.A., M.S.L., University of Wisconsin, Madison.

MAHALIK, NITAIGOUR (2008)
Associate Professor, Industrial Technology
B.Sc., M.E., University College of Engineering, Burla, India; Ph.D., De Montfort University, UK.

MAHONEY, MICHAEL (2006)
Associate Professor, Recreation Administration
B.A., California State University, Chico; M.Ed., Ed.D., Temple University, Philadelphia.

MAISCHAK, LARS (2007)
Lecturer, History
M.A., Free University of Berlin; M.A., John Hopkins University; Ph.D., John Hopkins University.

MAITRA, SANTANU (2008)
Assistant Professor, Chemistry
B.S., St. Xavier's College University of Calcutta; Ph.D., University of Nevada, Reno.

MAJOR, ALMA (2004)
Lecturer,
Child, Family, and Consumer Sciences
B.A., M.A., California State University, Fresno.

MALDONADO, ROBERT D. (1991)
Professor, Philosophy
A.B., University of California, Davis;
S.T.L., Jesuit School of Theology, Berkeley;
M.A., Ph.D., Graduate Theological Union, Berkeley, California.

MANDAVILLE, ALISON (2013)
Assistant Professor, English
B.A., University of California, Berkeley;
M.F.A., Ph.D., University of Washington.

MARDON, RUSSELL J. (1988)
Professor, Political Science
B.A., M.P.A., Ph.D., Michigan State University.

MARSHALL, JAMES E., II (1990)
Associate Dean, Kremen School of Education and Human Development;
Professor, Curriculum and Instruction
B.S., University of Florida;
M.A., Ph.D., University of South Florida.

MATHIS, CATHERINE (1995)
Program Administrator,
Early, Bilingual, and Special Education
B.S., M.A., California State University, Fresno.

MATLOSZ, DONALD L. (1982)
Professor, Public Health
B.S., University of Houston;
M.S., North Texas State University;
Dr.P.H., University of Texas.

MAUL, CHRISTINE (2009)
Lecturer, Communicative Disorders and Deaf Studies
B.A., M.A., California State University, Fresno;
Ph.D., University of California, Santa Barbara.

MCALPINE, JUSTINE J. (2000)
Lecturer, Kinesiology
B.A., California State University, San Diego;
M.A., California State University, Humboldt.

MCCLANAHAN, THOMAS (1996)
Associate Vice President for University Grants and Sponsored Programs
B.A., Baylor University;
M.A., Ph.D., University of South Carolina.

MCDONALD, MAXINE (1982)
Assistant Vice President, Student Success
B.S., Southern University Agricultural and Mechanical College;
M.A., California State University, Fresno.

MCDONALD, PETER (2006)
Dean, Library Services;
Librarian, Henry Madden Library
B.A., McGill University, Montreal; M.L.S., University of Washington, Seattle.

MCFEETERS, STUART (2006)
Assistant Professor, Geography
B.S., M.A., California State University, Fresno; Ph.D., University of Nebraska, Lincoln.

MCFREDERIC, QUINN (2013)
Assistant Professor, Biology
B.A., UC Berkeley;
M.A., San Francisco State University;
Ph.D., University of Virginia.

MCKAY, JOANNE (2005)
Assistant Professor,
Literacy and Early Education
B.S., M.Ed, University of Oklahoma Norman Campus; Ph.D., University of Oklahoma.

MCKINLEY, KATHLEEN S. (1983)
Professor, Theatre Arts
B.A., California State University, Fresno; M.F.A., University of California, Davis.

MCMANUS, SEAN (2008)
Assistant Track and Field Coach (Cross Country)
B.S., University of Notre Dame; M.A., University of Florida.

MCMILLEN, JOHN (2007)
Professor, Kinesiology
B.A., University of Nebraska Lincoln; M.Ed., JD Drake University Law School; Ph.D., University of Nebraska, Lincoln.

MCQUONE, RICHARD (1996)
Associate Professor, Art and Design
B.A., California Polytechnic State University, San Luis Obispo; M.C.R.P., California State University, Fresno.

MEDINA-SANCHO, GLORIA (2005)
Associate Professor, Modern and Classical Languages and Literatures
B.A., University of Chile;
M.A., University of Iowa;
Ph.D., Washington University.

MEYER, LAURA D. (2003)
Associate Professor, Art and Design
B.A., Wesleyan University; M.A., University of California, Riverside; M.F.A., Ph.D., University of California, Los Angeles.

MICHAEL, JAMES D. (1989)
Executive Director, Information Technology Services
B.S., University of California, Davis.

MILLER, SYLVIA (2004)
Associate Professor, Nursing
B.S., M.A., M.S., California State University, Fresno; Ed.D., University of San Francisco.

MILTIADES, HELEN B. (2005)
Associate Professor, Public Health;
Director, Gerontology Program
B.A., M.S., Ph.D., University of Massachusetts, Boston.

MINNIEAR, THOMAS (1999)
Assistant Professor, Kinesiology
B.S., M.S., Purdue University; Ph.D., University of New Mexico.

MISIPEKA, LISA (2008)
Assistant Track and Field Coach (Throws)
B.A., University of South Carolina, Columbia.

MIZUNO, WALTER K. (1995)
Lecturer, Mechanical
and Industrial Engineering
B.S., M.S., University of California, Berkeley.

MJURKA, UNA (2006)
Associate Professor, Art and Design
B.A. Latvian Academy of Arts; M.F.A., California State University, San Jose.

MOFFITT, CLINTON G. (2007)
Associate Vice President, Financial Services
B.A., Utah State University.

MOFFITT, KATHLEEN E. (1989)
Associate Dean, Craig School of Business;
Professor, Information Systems
and Decision Sciences
B.A., University of Colorado;
M.A., University of Arizona;
Ph.D., Arizona State University.

MONTANA, SALVADOR (2006)
Associate Professor, Social Work Education
B.A., University of California, Santa Barbara;
M.A., California State University, Fresno;
Ph.D., University of Texas.

MOORE, JULIE RENEE (2005)
Librarian, Henry Madden Library
Administration
B.A., Ball State University;
M.A., University of South Florida.

MOORE, SCOTT D. (1997)
Professor, Communication; Associate Dean, Continuing and Global Education
B.A., Austin College;
M.A., Ph.D., University of Oklahoma.

MOORE, STEPHANIE (2013)
Assistant Professor, Kinesiology
B.S., Central Missouri University;
M.S., Illinois State University;
Ph.D., University of Kentucky.

MOOSOOLIAN, JANE (1999)
Lecturer, Curriculum and Instruction
B.S., California State University, Fresno;
M.Ed., University of Southern California.

MORALES, JACOBO O. (1990)
Professor, Kinesiology
B.A., University of Puerto Rico;
M.A., Ph.D., University of Maryland.

MOREMAN, SHANE T. (2003)
Associate Professor, Communication
B.A., University of Texas San Antonio;
M.A., Ph.D., University of South Florida.

MORIN, KIM V. (1987)
Professor, Theatre Arts
B.A., Florida State University;
B.S., University of Alabama;
M.F.A., Arizona State University.

MORTIMER, AMANDA (2006)
Associate Professor, Psychology
B.A., Ph.D., Indiana University, Bloomington.

MOTAMENI, REZA (1989)
Professor, Chair, Marketing and Logistics
B.S., College of Mass Communication, Tehran (Iran); M.S., West Coast University;
Ph.D., University of Georgia.

MOUFFAK, ZOULIKHA (2011)
Assistant Professor, Electrical and Computer Engineering
B.S., University of Tlemcen, Algeria;
M.S., Université d'Oran-Essenia, Oran, Algeria;
Ph.D., University of Houston, Texas.

MOUNTCASTLE, KEITHA (2004)
Assistant Professor, Nursing
B.S., University of Arizona; M.S., University of Utah; Ed.D., University of California, Davis/ California State University, Fresno.

MOWRER, TONY (2007)
Associate Professor, Chair, Music
B.A., Lubbuck Christian University; M.A., West Chester University; Ph.D., Temple University.

MÜLLER, ULRIKE (2007)
Assistant Professor, Biology
B.S., Universitat des Saarlandes, Germany;
M.S., University Bielefeld, Germany; Ph.D., Foreign Institution; University of Groningen, The Netherlands.

MULLOOLY, JAMES J. (2003)
Professor, Anthropology
B.A., University of Wisconsin;
M.A., Ph.D., Columbia University.

MUNJY, RIADH A. HALIM (1982)
Professor, Civil and Geomatics Engineering
B.S.C.E., University of Baghdad (Iraq);
M.S.C.E., M.S.-Applied Math,
Ph.D., University of Washington;
Registered Civil Engineer.

MUNOZ, GERARDO A. (1991)
Professor,, Physics
B.S., Universidad de Concepcion (Chile);
M.A., Ph.D., Johns Hopkins University.

MUNOZ, NATALIE (2013)
Assistant Professor, Modern and Classical Languages
B.A., California State University, Fresno;
M.A., Ph.D., University of California, Los Angeles.

MUSCAT, BERNADETTE T. (2003)
Professor, Chair, Criminology
B.S., Santa Clara University;
M.S., Ph.D., Pennsylvania State University.

MYERS, BRADLEY J. (1984)
Professor, Theatre Arts
B.A., University of Wisconsin-Eau Claire;
M.F.A., University of Arizona.

NA, WOONKI (2013)
Assistant Professor, Electrical and Computer Engineering
B.S., M.S., Kwangwoon University, Seoul, Korea; Ph.D., University of Texas at Arlington.

NADANER, DANIEL G. (1988)
Professor, Art and Design
A.B., Harvard University;
M.F.A., University of California, Berkeley;
Ph.D., Stanford University.

NAJMI, SAMINA (2006)
Associate Professor, English
B.A., University of Karachi; M.A., Ph.D., Tufts University, Medford, MA.

NAMBIAR, ARUN (2008)
Assistant Professor, Industrial Technology
B.E., Birla institute of Technology and Science;
M.S., Ph.D., Ohio University.

NEF, DENNIS L. (1983)
Associate Vice President
and Dean of Undergraduate Studies;
Professor, Agricultural Business
B.S., Brigham Young University;
M.S., Utah State University;
Ph.D., Iowa State University.

NELSON, MICHELLE E. (1988)
Assistant to the President
A.A., San Joaquin Delta College;
B.A., M.P.A., California State University, Fresno.

NETHERBY-SEWELL, LAUREN (2008)
Head Volleyball Coach
B.A., University of Nevada.

NEWELL, PATRICK A. (2002)
Librarian,
Library Automation Coordinator,
Henry Madden Library
B.A., Santa Clara University;
M.A., Fordham University;
M.L.S., University of California, Los Angeles.

NG, KIN CHIU (1983)
Professor, Chemistry
B.S., Northern Arizona University;
M.S., Murray State University;
Ph.D., University of Cincinnati.

NI, HONG (2009)
Assistant Professor, Psychology
B.A., M.A., Nanjing University, Nanjing, P.R., China; Ed.D., Ph.D., University of Nebraska, Lincoln.

NILES, MARNEL (2007)
Associate Professor, Communication
B.A., Oakwood College; M.A., Howard University; Ph.D., Howard University.

NISBETT, NANCY (1997)
Professor, Chair, Recreation Administration
B.A., Michigan State University;
M.A., Central Michigan University;
Ed.D., University of California, Davis.

NOGIN, MARIA (2003)
Associate Professor, Mathematics
D.I.P., Moscow State University, Moscow, Russia; M.A., Ph.D., University of Rochester.

NORCROSS, CAMERON (2012)
Assistant Coach, Football, Athletics
B.S., University of Nevada.

NUNNA, RAMAKRISHNA (1998)
Interim Dean, Lyles College of Engineering;
Professor, Electrical and
Computer Engineering
B.E., Bangalore India;
M.S., Ph.D., University of Louisiana.

NYBERG, LISA (1998)
Professor, Curriculum and Instruction
B.A., B.S., M.S., University of Kansas;
Ph.D., University of Oregon.

OGDEN, BERNARD (2002)
Director, Financial Aid
B.A., Azusa Pacific University;
M.A., Fresno Pacific University.

OGUNJEMIYO, SEGUN (2005)
Associate Professor, Geography
B.S., Federal University of Technology, Akure, Nigeria; M.S., University of Gent, Gent Belgium; Ph.D., McGill University, Montreal Canada.

OLIARO, PAUL M. (2002)
Vice President, Student Affairs
Professor, Counseling, Special Education, and Rehabilitation
B.S., St. Mary's College;
M.S., Ph.D., Michigan State University.

OLIVER, DIANE (2009)
Assistant Professor, Educational Research and Administration
B.A., San Francisco State University; M.A., Salve Regina University; Ph.D., Walden University.

OLSON-BUCHANAN, JULIE B. (1992)
Professor, Chair, Management
B.S., M.A., Ph.D., University of Illinois at Urbana-Champaign.

OMOLAYO, ARIBILOLOA (1993)
Professor, Chair, Geography
B.S., University of Ife, Nigeria; M.S., Massachusetts Institute of Technology; Ph.D., University of New South Wales.

ONG, BENG SOO (1990)
Professor, Marketing and Logistics
B.S., M.B.A., Central Missouri State University; Ph.D., University of Arkansas, Fayetteville.

ORTIZ, CHRISTINE (2001)
Assistant Professor, Nursing
B.S., California State University, Fresno;
M.S., University of California, San Francisco.

OSBORN, JOHN P. (1979)
Professor, Accountancy
B.S., M.B.A., Arizona State University;
Ph.D., University of Georgia.

OSWALD, KARL M. (2000)
Associate Professor, Psychology
B.S., University of California, Los Angeles;
M.A., Ph.D., Duke University.

OVERLAND, RYAN (2012)
Assistant Coach, Baseball, Athletics
B.A., California State University, Fresno.

PARHAM, ARTHUR A. (1985)
Professor, Chair, Animal Sciences and Agricultural Education
B.S., California State University, Fresno;
M.S., Ph.D., University of Wyoming.

PARK, JIN (2011)
Assistant Professor, Computer Science
B.S., Dong-A University J. Busas, Korea;
M.S., The Ohio University, Athens, Ohio;
Ph.D., Oklahoma State University, Stillwater.

PARKS, JOE (1998)
Professor, Curriculum and Instruction
B.A., Ohio University;
M.A., Western Michigan University;
Ed.D., Illinois State University. **PARTEN, JANICE A. (2006)**

Associate Vice President, Human Resources
B.A., M.B.A., University of North Texas.

PATRICK, TARYN (2008)
Assistant Diving Coach
B.A., University of Kentucky.

PATTERSON, DENISE M. (1994)
Professor, Accountancy
B.S., B.A., Stetson University;
M.B.A., University of Central Florida;
Ph.D., Georgia State University; C.P.A.

PAUSEWANG, JESSICA (2011)
Head Coach, Lacrosse
B.S., State University of New York at Geneseo.

PAULINO, KENTON (2012)
Assistant Coach, Men's Basketball, Athletics
B.A., University of Texas.

PAYNE, ELIZABETH (2008)
Assistant Professor, Theatre Arts
B.A., Morehead State University; M.F.A., New York University.

PEBLEY, RAEGAN (2012)
Head Coach, Women's Basketball, Athletics
B.A., University of Colorado.

PENBERA, JOSEPH JOHN (1985)
Professor, Management
B.A., Rutgers, The State University of New Jersey, New Brunswick Campus;
M.P.A., City University of New York, Bernard Baruch College; Ph.D., American University.

PEREZ, CARLOS (1999)
Associate Professor, Chicano and Latin American Studies
B.A., University of California, Berkeley;
M.A., Ph.D., University of California, Los Angeles.

PEREZ, MIGUEL (1999)
Professor, Chair, Public Health
B.A., Dominguez Hills;
M.S., Ph.D., Pennsylvania State University.

PERRY, RANDY C. (1990)
Professor, Animal Sciences and Agricultural Education
B.S., California Polytechnic State University, San Luis Obispo; M.S., Ph.D., Kansas State University.

PERSON, ERIC C. (2005)
Associate Professor, Chemistry
B.A., Carleton College;
M.B.A., University of Phoenix;
Ph.D., University of San Francisco.

PETERSON, JANICE LYNN (2006)
Associate Professor, Economics
B.A., California State University, Fresno;
M.A., University of Wisconsin, Madison;
Ph.D., University of Nebraska, Lincoln.

PETERSON, JORDAN (2012)
Assistant Coach, Football, Athletics
B. S., M.A., Texas A&M.

PEYVANDI, ALI (1979)
Professor, Accountancy
B.S., College of Accounting (Iran);
M.A., Ball State University;
Ph.D., University of Missouri, Columbia.

PHAM, KIEN TRUNG (1990)
Associate Professor,
Curriculum and Instruction
B.S., M.Ed., University of Texas at El Paso;
Ph.D., University of Texas at Austin.

PICKERING, SARA (2012)
Assistant Coach, Softball, Athletics
B.S., University of Washington.

PIERCE, LAURA (2011)
Assistant Professor, Counselor Education and Rehabilitation
B.M., Brenau University;
M.S., Ed.S., University of North Carolina at Greensboro; Ph.D., University of Tennessee, Knoxville.

PIERCE, TAMYRA A. (2003)
Professor, Mass Communication and Journalism
B.S., M.A., Southwest Missouri State University; Ph.D. University of Missouri-Columbia.

PINZON-PEREZ, HELDA (1999)
Professor, Public Health
B.S.N., Pontificia Universidad Javeriana, Colombia; M.S., California State University, Fresno; Ph.D., Pennsylvania State University.

PITT, JANELLE (2009)
Assistant Professor, Counseling, Special Education and Rehabilitation
B.A., University of California, Riverside; M.A., Ph.D., Michigan State University.

PLUHAR, CHRIS (2007)
Assistant Professor,
Earth and Environmental Science
B.S., California Institute of Technology; Ph.D., University of California Santa Cruz.

POMAVILLE, FRANCES (1999)
Assistant Professor, Communicative Disorders and Deaf Studies
B.A., M.A., California State University, Fresno; Ph.D., Capella University.

POPMA, PAULA J. (2005)
Librarian, Henry Madden Library Administration
B.A., Occidental College; M.A., University of Denver.

POTTER, NICK (2001)
Associate Professor, Art and Design
B.F.A., Cheltenham College of Art, England; M.F.A., Birmingham Institute of Art, England.

POWELL, DANA L. (1993)
Professor, Counselor Education and Rehabilitation
B.A., M.A., Ph.D., University of New Mexico, Albuquerque.

POWELL, ROBERT G. (1990)
Professor, Communication
B.A., California State University, Fresno; M.A., Miami University; Ph.D., University of Nebraska.

PRICE, PAUL (1996)
Professor, Psychology
B.A., Washington University; M.A., Ph.D., University of Michigan.

PRINCE, JAMES P. (1995)
Professor, Biology
B.S., University of California, Davis; Ph.D., Cornell University.

PRYOR, JOHN H. (1990)
Professor, Chair, Anthropology
B.A., University of California, Santa Cruz; M.A., Ph.D., State University of New York at Binghamton.

PUTRIKA, KEITH D. (2002)
Professor, Earth and Environmental Sciences
B.S., California State University, Northridge; M.A., California State University, Los Angeles; Ph.D., Columbia University.

RADFORD, ANTHONY (2008)
Assistant Professor, Music
B.A., York University, Toronto; M.A., New England College; D.M.A., University of Nebraska - Lincoln.

RAEISI, REZA (2007)
Professor, Electrical and Computer Engineering
A.A., Midlands Tech College; B.S., University of North Carolina at Char; M.S., Ph.D., University of Cincinnati.

RAHMAN, MOHAMMAD (2006)
Associate Professor, Public Health
B.A., University of Dhaka; M.A., Ph.D., Brandeis University.

RAHMATIAN, SASAN (1985)
Professor, Information Systems and Decision Sciences
B.A., LaSalle College; M.A., Temple University; Ph.D., University of Pennsylvania.

RAM, MELANIE (2006)
Associate Professor, Political Science
B.A., University of Southern California; M.A., Elliot School of International Affairs; Ph.D., George Washington University, Washington D.C.

RANDLES, JENNIFER (2013)
Assistant Professor, Sociology
B.A., Austin College; M.A., University of California, Berkeley; Ph.D., University of Cal-Berkeley.

RANGEL, JOSEPHINE (1987)
Counselor, Health and Psychological Services
B.S., M.S.W., California State University, Fresno; Licensed Clinical Social Worker.

RAWAT, MAMTA (2003)
Professor, Biology
B.S., University of Toronto; Ph.D., Louisiana State University.

RAYA-FERNANDEZ, REBECCA (2006)
Associate Professor, Counselor, Health and Psychological Services
B.S., University of California, Irvine; M.S., California State University, Fresno; M.A., Psy.D., California School of Professional Psychology.

REESE, DEANNA (2007)
Assistant Professor, History
B.A. University of California, Riverside; M.A., Ph.D., University of Missouri Columbia.

REGONINI, WILLIAM (2001)
Lecturer, Mathematics
B.S., Framingham State College; M.A., M.Ed., Arizona State University.

REID, KATHLEEN (1998)
Associate Professor, Chair, Child, Family, and Consumer Sciences
B.S., California State University, Fresno; M.S., Ph.D., University of Tennessee, Knoxville.

RICE, GARY H. (2003)
Associate Professor, Mass Communication and Journalism
B.A., Southwest Texas State University; M.A., Ph.D., University of Texas.

RICE, WILLIAM E. (1983)
Professor, Marketing and Logistics
B.S., M.S., California State University, Northridge; D.B.A., University of Colorado.

RICHAUD, MATHIEU (2007)
Assistant Professor, Earth and Environmental Science
B.S., Lyon University, Lyon, France; M.S., Bordeaux University, Talence, France; Ph.D., Northern Illinois University.

RILEY, LARRY (2005)
Associate Professor, Biology
B.A., M.A., California State University, Fresno; Ph.D., University of Hawaii at Hilo.

RINGWALD, FREDERICK A. (2000)
Professor, Physics
B.A., Northwestern University; Ph.D., Dartmouth College.

RINDAHL, KATHLEEN (2013)
Assistant Professor, Nursing
B.S.N., M.S.N., California State University, Fresno; Ph.D., Western University of Health Science.

RIOS, CONRAD (2007)
Lecturer, Nursing
M.S.W. University of California, San Francisco.

RIOS, LT. COL. LORENZO (2012)
Chair, Department of Military Science, Army, ROTC
B.S., M.S., Gonzaga University: Ph.D., Arizona State.

RITTER, JEAN M. (1990)
Professor, Psychology
B.A., Hendrix College; Ph.D., University of Texas at Austin.

ROBERTELLO, STEVE (2012)
Associate Athletics Director, Intercollegiate Services
B.S., M.S., Sport Management, West Virginia University.

ROBERTS, BRUCE (2004)
Professor, Plant Science
B.S., California State University, Fresno; M.S., Utah State University.

ROBERTS, KATHLEEN BLAIN (2007)
Assistant Professor, History
B.A., University of St. Andrews, Scotland; M.A., University of North Carolina, Chapel Hill; Ph.D., University of North Carolina at Charlotte.

ROBISON, JON D. (1996)
Professor, Animal Sciences and Agricultural Education
B.S., M.S., University of Nevada, Reno; Ph.D., University of Arizona.

ROBISON, RUSTY (2013)
Assistant Professor, Art and Design
B.A., Sarah Lawrence College; M.F.A., Parsons School of Design.

ROCCA, STEVEN (2003)
Associate Professor, Animal Sciences and Agricultural Education
B.S., M.A., California State University Fresno; Ph.D., University of Florida.

ROUSEY, STEVE (2010)
Associate Baseball Coach
B.A, California State University, Fresno; M.A, Physical Education.

RUNDE, KARL B. (1998)
Lecturer, Physics
B.S., Freie University, Berlin; M.A., Ph.D., University of California, Santa Barbara.

RYAN, KENNETH JAMES (2006)
Associate Professor, Criminology
M.A., University of Missouri; Ph.D., Washington University.

RYAN, STEPHANIE J. (2000)
Associate Professor, Art and Design
B.F.A., Washington University; M.F.A., University of Arizona, Tucson.

SABUWALA, ADNAN (2008)
Assistant Professor, Mathematics
B.Tech., Indian Institute of Technology Bombay; M.S., Ph.D., University of Florida.

SAILOR, SCOTT R. (1991)
Professor, Kinesiology
B.A., California State University, Fresno; M.S., University of Arizona; Ed.D, California State University, Fresno.

SALA, LESLIE RAMOS, (2013)
Assistant Professor, Communication
B.A., M.A., California State University, Long Beach; Ph.D., Arizona State University.

SAMIIAN, VIDA (1984)
Dean, College of Arts and Humanities; Professor, Linguistics
B.A., M.A., Ph.D., University of California, Los Angeles.

SANCHEZ, ANGEL (2013)
Director of Institutional Effectiveness
B.A., California State University, Stanislaus; M.A., Ph.D., University of California, Los Angeles.

SANCHEZ, RAMON (2006)
Assistant Professor, Chicano and Latin American Studies
B.A., University of Texas, El Paso; M.F.A., Bowling Green State University; Ph.D., University of New Mexico.

SANCHEZ, RUDOLPH J. (2001)
Associate Professor, Management
B.A., University of California, Irvine; M.S., California State University, San Bernardino; Ph.D., Portland State University.

SANMARTIN, PAULA (2007)
Associate Professor, Modern and Classical Languages and Literature
Licenciatura in English Philology, Universidad Complutense de Madrid, Spain; M.A., University of Texas at Austin; Ph.D., University of Texas at Austin.

SAWDON-BEA, JENNA (2008)
Associate Professor, Physical Therapy
B.S., M.P.T., California State University, Fresno; Ph.D., Texas Woman's University.

SAYASENG, KAMMI (2013)
Assistant Professor, Nursing
B.S.N., M.S.N., California State University, Fresno;
D.N.P, University of San Francisco.

SCHECTER, DAVID (2001)
Professor, Chair, Political Science
B.S., M.S., Florida State University; Ph.D., University of Florida.

SCHETTLER, META (2000)
Associate Professor, Ethnic Studies Program
B.A., Brown University;
M.A., Yale University;
Ph.D., Temple University.

SCHMIDTKE, JAMES (2001)
Associate Professor, Management
B.B.A., University of Wisconsin-Madison; Ph.D., University of Illinois.

SCHRAMM, DAVID (2012)
Assistant Football Coach, Athletics
B.S., San Diego State University.

SCHWARTZ, MICHAEL (2011)
Assistant Coach, Men's Basketballs
B.S., University of Texas.

SCHWEIZER, HARALD (1999)
Professor, Criminology
B.S., State University College of New York; M.P.A., University of Arizona; Ph.D., Sam Houston State University.

SEKI, SHIGEKO (1984)
Professor, Computer Science
B.S., M.S., Ph.D., Kyoto University (Japan).

SETHURAMASAMYRAJA, BALAJI (2006)
Assistant Professor, Industrial Technology
B.S., University of Madras; M.S., University of Cincinnati; Ph.D., University of Nebraska, Lincoln.

SHAHROKHI, MANUCHEHR (1986)
Professor,
Finance and Business Law
B.B.A., Tehran Business School (Iran); M.B.A., George Washington University; Ph.D., Ohio State University.

SHAPIRO, MARTIN (2003)
Associate Professor, Psychology
B.S., California Polytechnic State University, San Luis Obispo; M.A., California State University, Humboldt; M.A., Ph.D., University of Hawaii, Manoa.

SHARMA, DEVANDRA (2005)
Associate Professor, Communication
B.Sc., University of Delhi, India; M.A., Jamia Millia Islamia University, Delhi, India; Ph.D., Ohio University.

SHARPS, MATTHEW J. (1990)
Professor, Psychology
B.A., University of Colorado, Boulder; M.A., University of California, Los Angeles; M.A., Ph.D., University of Colorado, Boulder.

SHEN, HONG (1999)
Professor, Counselor Education and Rehabilitation
B.Ed., East China Normal University, Shanghai, China;
M.Ed., Ph.D., University of Illinois.

SHEPHERD, MICHAEL (2013)
Assistant Professor, Linguistics
B.A., M.A., California State University, Northridge;
M.A., Ph.D., University of Southern California.

SHIELDS, CHARLES (1996)
Professor, Art and Design
A.A., El Camino College, Torrance; B.F.A., M.F.A., Art Center College of Design, Pasadena.

SHRESTHA, ANIL (2008)
Associate Professor, Plant Science
B.S., Narendra Dev. University of Agriculture and Tech; M.S., Cornell University; Ph.D., Michigan State University.

SIEGEL, DOLORES (2007)
Lecturer, Social Work Education
M.S.W., University of Illinois Urbana Campus.

SIMBA, MALIK (1989)
Professor, History; Coordinator, Africana and American Indian Studies Program
B.A., University of Southern Colorado; M.A., Ph.D., University of Minnesota.

SIMPSON, ROGER (2001)
Associate Professor, Social Work
B.A., Whittier College;
M.S.W., Ph.D., University of Michigan.

SINGLETON, DOUGLAS (1998)
Professor, Chair, Physics
B.S., Massachusetts Institute of Technology; M.A., Ph.D., University of Virginia.

SKEEN, TIMOTHY (2004)
Associate Professor, English
B.A., Marietta College; M.A., Miami University, Oxford; Ph.D., University of Nebraska, Lincoln.

SKELTON, STEVEN L. (1998)
Associate Professor, Communicative Disorders and Deaf Studies
B.A., California State University, Bakersfield; M.A., California State University, Fresno; Ph.D., University of California, Santa Barbara.

SKRAPEC, CANDICE ANN (1994)
Professor, Criminology
B.S., M.S., University of Calgary, Calgary (Canada); Ph.D., City University of New York.

SKUBAN, WILLIAM (1998)
Professor, Chair, History
A.A., Hartnell College;
B.A., B.S., California State University, Hayward; M.A., Ph.D, University of California, Davis.

SLAGTER, JANET T. (1998)
Associate Professor, Coordinator, chair Women's Studies Program
B.A., M.A., Ph.D., Southern Illinois University, Carbondale.

SMITH, H. DAN (1978)
Professor, Counselor Education and Rehabilitation
B.S., M.Ed., University of Texas at El Paso; Ed.D., University of Northern Colorado; Licensed Marriage, Family, and Child Counselor.

SMITS, PETER N. (1994)
Vice President for University Advancement
B.S., M.S., State University of New York at Albany; Ph.D., State University of New York at Buffalo.

SNELGRO, DANYELLE (2012)
Assistant Coach, Women's Basketball, Athletics
B.S., Utah State University.

SOMMA, MARK (1997)
Professor, Political Science
B.A., M.A., Southern Illinois University; Ph.D., University of Iowa.

SORENSEN, IRA (2008)
Assistant Professor, Mechanical and Industrial Engineering
B.S., California Polytechnic State University, San Luis Obispo; M.S., Ph.D., Virginia Polytechnic Institute and State University.

SPENCER, JANINE (1999)
Associate Professor, Nursing
B.S.N., M.S.N., California State University, Fresno; Ed.D., University of Southern California.

SPIRO, NEAL (2007)
Assistant Professor, Animal Sciences and Agricultural Education
B.S., California Polytechnic State University, San Luis Obispo; D.V.M., Ross University, West Indies.

STEARNS, TIMOTHY M. (1994)
Professor, Management
B.S., San Jose State University; M.B.A., D.B.A., Indiana University.

STENGEL, DONALD N. (1983)
Professor, Chair, Information Systems and Decision Sciences
B.A., Lehigh University;
M.S., Ph.D., Stanford University.

STERLING, CHRISTOPHER (2013)
Assistant Professor, Management
B.A., B.S., Avans Hogeschool/Eastern Kentucky University;
M.S., Corvinus University Budapest, Hungary; Ph.D., University of Kentucky.

STEVENS, MARK (2008)
Assistant Professor, Criminology
B.A., West Virginia Wesleyan College; J.D., Thomas Jefferson University.

STEWART, RON (2012)
Assistant Coach, Women's Basketball, Athletics
B.S., Indiana University;
M.S., Butler University.

STOTLAND, RYAN (2012)
Head Coach, Women's Tennis, Athletics
B.B.A., University of New Mexico.

STRATEMEYER, ANDREAS (2006)
Associate Professor, Marketing
B.S., University of Texas; M.A., Ph.D., New Mexico State University.

TAKAHASHI, YOSHIKO (2008)
Assistant Professor, Criminology
B.A., Toin University of Yokohama, Japan; M.S., Ph.D., University of North Carolina at Char.

TEHRANI, FARIBORZ (2010)
Associate Professor, Civil & Geomatics Engineering
B.S., Sharif University of Technology; M.S., Amirkabir University of Technology; M.S., Ph.D., University of California, Los Angeles.

TENBERGEN, KLAUS (2006)
Associate Professor, Food Science and Nutrition
B.A., Kendall College; M.A., Cardinal Stritch University.

TENIENTE-MATSON, CYNTHIA (2004)
Vice President for Administration and Chief Financial Officer
B.A., University of Alaska Fairbanks; M.B.A., University of Alaska, Anchorage; Ed.D., California State University, Fresno.

TENNANT, CHRISTOPHER J. (1986)
Professor, Public Health
B.Sc., Plymouth Polytechnic (England); Ph.D., The University of Aston in Birmingham (England).

TERRY, RODNEY (2011)
Head Men's Basketball Coach
B.A., St. Edward's University.

THACKREY, MICHAEL J. (1989)
Professor, Psychology
B.A., M.A., California State University, Long Beach; Ph.D., Vanderbilt University; Licensed Psychologist; Diplomate, American Board of Professional Psychology.

THATCHER, GREGORY (2007)
Assistant Professor, Public Health
B.A., Bowling Green State University; M.S.P.H., Ph.D., University of Southern California.

THOMAS, MICHAEL W. (1985)
Professor, Animal Sciences and Agricultural Education
B.S., Brigham Young University; D.V.M., Washington State University.

THORNTON, BRUCE S. (1985)
Professor, Modern and Classical Languages and Literatures; Coordinator, Humanities
B.A., University of California, Los Angeles; M.A., California State University, Fresno; Ph.D., University of California, Los Angeles.

THORNTON, ROY (2001)
Professor, Viticulture and Enology
B.S., Ph.D., Strathclyde University.

TILLMAN, MICHAEL (1996)
Librarian, Curriculum/Juvenile Collection
B.S., Moorhead State University; M.L.S., University of Arizona; M.S., University of Albany.

TORGERSON, COLLEEN (1999)
Professor, Counselor Education and Rehabilitation
B.A., California State University, Fresno; M.A., California State University, Northridge; Ed.D., University of California, Davis/California State University, Fresno.

TOREN-IMMERMAN, LIMOR (2011)
Assistant Professor, Music
B.M., Jerusalem Rubin Academy of Music and Dance; M.M., Ph.D., University of Southern California.

TORO, ROSA (2013)
Assistant Professor, Psychology
B.A., University of Southern California; M.A., Ph.D., University of California, Riverside.

TORRES, VICTOR (1996)
Professor, Chair, Chicano and Latin American Studies
B.A., M.A., Ph.D., University of California, Irvine.

TOTH, NICK (2012)
Assistant Coach, Football, Athletics
B.A., M.S., Ohio University.

TRACZ, SUSAN M. (1984)
Professor, Educational Research and Administration
B.A., Depaul University; M.A., Ph.D., Southern Illinois University at Carbondale.

TRAYLER, WILLIAM (2001)
Lecturer, Biology
B.A., M.S., California State University, Fresno.

TRUEBLOOD, PEGGY (1995)
Professor, Chair, Physical Therapy
B.A., College of St. Scholastica; M.S., University of Southern California; Ph.D., University of California, Los Angeles.

TSUKIMURA, BRIAN (1994)
Professor, Biology
B.A., University of California, Berkeley; M.S., Ph.D., University of Hawaii.

TUSKA, AGNES (1992)
Professor, Mathematics
Teachers Diploma, Eotvos Lorand University of Science, Budapest (Hungary); M.S., Ph.D., Ohio State University.

TYCKOSON, DAVID (1997)
Associate Dean, Library Services; Librarian, Reference
B.S., M.L.S., University of Illinois, Urbana.

VALENCIA, ALBERT (1996)
Professor, Chair, Counselor Education and Rehabilitation
B.A., California State University, Los Angeles; M.A., San Jose State University; Ed.D., University of the Pacific, Stockton.

VALENCIA MARTIN R. (2002)
Professor, Chair, Art and Design
B.A., Northern Arizona University; M.A., University of Arizona.

VAN VLECK, VANEE (2004)
Associate Professor, Economics
B.A., Nebraska Wesleyan University; M.A., Columbia University; Ph.D., University of Iowa.

VAN ZYL, SONET (2011)
Visiting Scholar, Viticulture and Enology
B.Sc., M.Sc., Stellenbosch University, South Africa and UC Davis.

VANDEWATER, PETER (2007)
Assistant Professor, Earth and Environmental Science
B.A., B.S., Anthropology Washington State University; M.S., University of Arizona; Ph.D., University of Arizona.

VANG, ANTHONY (1999)
Associate Professor, Literacy and Early Education
B.S., M.A., Ed.D., University of San Francisco.

VANG, VANG (1998)
Librarian, Reference Department
B.A., University of California, Santa Cruz; M.A., Simmons College.

VAUGHN, ROSCO (2001)
Professor, Animal Sciences and Agricultural Education
B.S., M.A., Ph.D., New Mexico State University.

VEGA, OSCAR (2007)
Assistant Professor, Mathematics
B.S., Universidad de Chile; Master's, Universidad de Sao Paulo, Brazil; Ph.D., University of Iowa.

VERA CASTRO, DAVID (2011)
Assistant Professor, Economics
B.A., Universidad Central de Venezuela; M.A., Ph.D., University of California, San Diego.

VERMOTE, FREDERIK (2013)
Assistant Professor, History
B.A., Catholic University Leuven, Belgium; M.A., Catholic University Leuven, Belgium; Ph.D., University of British Columbia, Canada.

VINOVRSKI, BERNARD J. (1998)
Associate Vice President for Enrollment Services
B.S., M.S., M.B.A., Wilkes College.

VUNGKHANCHING, MARTHA (2007)
Associate Professor, Social Work Education
B.A., St. Mary's College, Inda; M.A., Tata Institute of Social Sciences, Inda; Ph.D., University of Hong Kong, Hong Kong.

WADE, JOE (2009)
Assistant Coach, Football, Athletics
B.A., Linfield College.

WAITE, MICHAEL J. (1989)
Professor, Public Health
B.A., M.S., California State University, Fresno; Ed.D., University of San Francisco.

WAKABAYASHI, JOHN (2005)
Associate Professor, Earth and Environmental Sciences
B.A., University of California, Berkeley; Ph.D., University of California Davis.

WALDMAN, ELIZABETH (2013)
Assistant Professor, Theatre Arts
B.A., Colorado College; M.A., University of New Mexico; M.F.A., Tulane University of Louisiana.

WALL, CLARE-MARIE (1988)
Associate Professor, English
B.A., M.A., Ph.D., University of Colorado.

WANDELER, CHRISTIAN A. (2013)
Assistant Professor, Educational Research and Administration
B.A., M.A., University of Fribourg, Switzerland; Ph.D., University of Zurich, Switzerland.

WANG, BO (2005)
Associate Professor, English
B.A., Shandong University, PR China; M.A., Foreign Institution Ph.D., University of Arizona.

WANG, JIA (1991)
Professor, Management
Diploma, Fudan University (Shanghai); M.B.A., California State University, Fresno; Ph.D., University of Tennessee, Knoxville.

WANG, XINCHUN (2002)
Associate Professor, Chair, Linguistics
B.A., Shanghai Teachers University; M.A., Ph.D., Simon Fraser University, Canada.

WANG, ZHI (2002)
Associate Professor,
Earth and Environmental Sciences
B.S., Xi'an University of Technology, Xi'an, China; M.S., Northwestern Agricultural University, China; Ph.D., University of Leuven, Belgium.

WANJEMA, RICHARD (2013)
Assistant Professor, Art and Design
B.F.A., Indiana University - Purdue University Fort Wayne; M.F.A., Ohio State University.

WEERASINGHE, AJITH R. A. (2013)
Assistant Professor, Mechanical Engineering
B.Eng, University of Leicester, England; M.Phil, Brunel University, London; Ph.D., Sheffield Hallam University, England.

WEIN, TONI (2002)
Professor, English
B.A., City University of New York Brooklyn College;
Ph.D., University of California, Berkeley.

WEIR, KYLE (2005)
Associate Professor,
Counseling and Special Education
B.S., M.A., Ph.D., University of Southern California.

WENRICK, MELANIE R. (2002)
Assistant Professor,
Curriculum and Instruction
B.A., Tulane University;
M.A., Washington University;
Ph.D., University of Texas at Austin.

WERZ, ANDREAS (1987)
Professor, Music
"Staatliche Musiklehrerpruefung," "Kuenstlerische Reifepruefung," Music Conservatory of Cologne (West Germany); "Solistenpruefung," Music Conservatory of Freiburg (West Germany).

WESTON, LISA M. C. (1985)
Professor, Chair, English
B.A., M.A., Ph.D., University of California, Los Angeles.

WHITE, STEVEN J. (1994)
Professor, Physics
B.A., Willamette University;
B.S., University of Nevada, Reno; M.S., Ph.D., University of California, Davis.

WHITEHEAD, COREY (2006)
Associate Professor, Music
B.M., M.M., D.M.A., University of Arizona.

WHITLEY, SARAH (2013)
Assistant Professor, Sociology
B.A., University of Oklahoma; M.A., Ph.D., Washington State University.

WHITTLE, CHERYL (2007)
Lecturer, Social Work Education
M.S.W. California State University, Fresno.

WIELAND, LIZA A. (1991)
Professor, English
B.A., Harvard College;
M.A., Ph.D., Columbia University.

WILHITE, CHRISTINE (1998)
Lecturer, Psychology
B.A., M.A., California State University, Fresno.

WILLIAMS, LYNN R. (1997)
Associate Professor, Agricultural Business
B.S., California State University, Fresno;
Ph.D., Texas A & M University.

WILLIAMSON, SCOTT A. (1985)
Professor, Animal Sciences
and Agricultural Education
B.S., Purdue University; M.S., Ph.D., University of Illinois at Urbana-Champaign.

WILSON, GARY S. (1985)
Senior Director, Facilities Management
B.S., California State University, Fresno.

WILSON, MARILYN S. (1992)
Professor, Psychology
B.S., M.S., Ed.S., Ph.D., Iowa State University.

WILSON, TODD (1997)
Professor, Chair, Computer Sciences
B.S., M.A., California State University, Fresno;
Ph.D., Carnegie Mellon University.

WINANT, TERRY R. (1990)
Associate Professor, Philosophy
B.A., Reed College;
Ph.D., Claremont Graduate School.

WINSOR, SCOTT (2008)
Head Track and Field Coach, Athletics
B.S., Loras College; M.S., Notre Dame University.

WISE, DONALD (1999)
Professor,
Educational Research and Administration
B.S., Humboldt State University;
M.A., Ph.D., University of Alabama.

WITTE, SANDRA S. (1992)
Associate Dean, Jordan College of
Agricultural Sciences and Technology;
Professor, Interim Chair,
Food Science and Nutrition
B.S., California Polytechnic University, Pomona; M.S., California State University, Fresno; Ph.D., Oregon State University.

WON, CHULHO (2007)
Assistant Professor,
Electrical and Computer Engineering
B.S., Hankuk Aviation University, Korea; M.S.W., Korea Advanced Institute of Science; and Technology; Ph.D., Oregon State University.

WRIGHT, ALICE (1998)
Professor, Biology
B.S., Wayne State University;
M.S., Ph.D., University of Michigan.

WRIGHT, WILLIAM (1999)
Associate Professor, Civil and
Geomatics Engineering
B.S., University of California, Berkeley;
M.S., Ph.D., University of California, Davis.

WU, KE (2001)
Professor, Mathematics
B.S., Shanghai Jiao Tong University;
M.A., Shanghai University of Finance and Economics; Ph.D., Texas Tech University.

WU, WEI (2013)
Assistant Professor, Construction
Management
B.Eng., Hunan University;
M.Sc., University of Oxford;
Ph.D., University of Florida.

WYNN, CARLY (2012)
Assistant Coach, Softball, Athletics
B.S., M.A., Florida State University.

XIAO, MING (2005)
Associate Professor, Civil and Geomatics
Engineering
B.S., Shandong University, PR China;
M.S., Zhejiang University, PR China;
M.S., Kansas State University;
Ph.D., University of Kansas Main Campus.

XU, PEI (2011)
Assistant Professor, Agricultural Business
B.S., Bejing Union University;
M.S., University of Alaska, Fairbanks;
Ph.D., Purdue University, Indiana.

YANG, BEE (2007)
Lecturer, Social Work Education
M.S.W., California State University, Fresno.

YAZDIPOUR, RASSOUL (1987)
Professor, Finance and Business Law
B.B.A., Tehran Business School (Iran);
M.B.A., Indiana University, Bloomington;
Ph.D., Ohio State University.

YOCKEY, RONALD D. (2000)
Associate Professor, Psychology
B.A., Sonoma State University;
M.Ed., Ph.D., University of Texas, Austin.

YOUDELMAN, NANCY (1999)
Lecturer, Art and Design
B.A., California institute of Arts; M.F.A., University of California, Los Angeles.

YOUN, HWAN (2008)
Assistant Professor, Biology
B.S., M.S., Ph.D., Seoul National University, South Korea.

YOUNG, DEBORAH R. (2000)
Lecturer, Management
B.A., University of Arizona, Tucson;
M.B.A., Pittsburg State University.

YUN, CATHY (2013)
Assistant Professor, Literacy, Early, Bilingual,
and Special Education
B.A., Wellesley;
Ed.M., M.A., Columbia University;
Ph.D., Vanderbilt University.

ZELEZNY, LYNNETTE (1995)
Associate Provost; Associate Vice President,
Division of Continuing and Global Education;
Professor, Psychology
B.A., M.A., Humboldt State University;
M.B.A., California State University, Fresno;
Ph.D., Claremont Graduate School.

ZHANG, DAMING (2008)
Associate Professor, Industrial Technology
B.S., Northwestern Polytechnical University, China; Ph.D., Iowa State University

ZHANG, DAQING (2005)
Associate Professor, Physics
B.S., Shandong University, PR China;
M.S., Chinese Academy of Sciences, PR China; M.E., Ph.D., University of Idaho.

ZHAO, JAIXIN (2010)
Lecturer, Mechanical Engineering
B.S., University of Science and Technology of China;
M.S., University of Missouri, Rolla;
Ph.D., Purdue University, West Lafayette.

ZOGHI, MANOOCHEHR (2009)
Interim Associate Dean, Lyles College of
Engineering
B.S., M.E., University of Kentucky, Louisville;
Ph.D., University of Cincinnati.

ZOGRAFOS, KARA (2007)
Assistant Professor, Public Health
B.S., M.P.H., California State University, Fresno; Ph.D., Loma Linda University.

ZOLDOSKE, DAVID (1994)
Director, Center for Irrigation Technology
B.A., M.S., California State University, Fresno;
Ed.D., University of Laverne.

ZWASCHKA, BRIAN (2009)
Head Coach, Women's Soccer, Athletics
B.A., Grand View University.

Participants in the Faculty Early Retirement Program

ABOSCH, YISHAIYA (2002-2013)
Associate Professor, Political Science
B.A., Princeton University;
M.A., State University of New York, Buffalo;
Ph.D, Claremont Graduate School.

AMARAL, JACINTA (1988-2012)*
Professor Emerita, Modern and Classical Languages and Literatures
B.A., Wells College;
M.A., New York University;
Ph.D., Yale University.

AMARAL, PEDRO (1987-2013)
Professor, Philosophy
B.A., Ph.D., University of Pittsburgh.

BAKER, DENNIS M. (1984-2011)*
Professor Emeritus, Accountancy
B.S., California State University, Fresno;
Ph.D., University of California, Los Angeles;
C.P.A.

ANDERSON, RANDY J. (1982-2013)
Professor, Information Systems and Decision Sciences
B.S., M.A., Arizona State University;
Ph.D., North Texas State University.

ARENZ, BERNARD (2001-2013)
Professor, Curriculum and Instruction
B.S., University of Minnesota;
M.S., Ph.D., University of Wisconsin.

BENAVIDES, OTTO (1990-2012)*
Associate Professor Emeritus, Curriculum and Instruction
B.A., Universidad La Gran Colombia;
M.Ed., Ed.S., Northeast Louisiana University.

BOCHIN, JANET S. (1973-2012)*
Librarian Emerita Music Library
B.M., M.L.S., University of Texas at Austin;
M.A., California State University, Fresno.

BRIAN, NANCY K. (1987-2010)*
Professor Emerita, Art and Design
B.F.A., M.F.A., University of Georgia.

BUCHER, MANFRED (1982-2010)*
Professor Emeritus, Physics
Diplom-Physiker, Dr. Phil. Nat., Goethe University (Germany).

CARPENTER, ANGELICA (1999-2011)*
Librarian Emerita, Henry Madden Library
B.A., M.S., M.Ed., University of Illinois at Urbana, Champaign.

CROSSFIELD, JAMES K. (1984-2012)*
Professor Emertus, Civil and Geomatics Engineering
B.S., CHEM., B.S.C.E., M.S., Ph.D., University of Wisconsin, Madison.

CUELLAR, BENJAMIN (1978-2010)*
Dean Emeritus, the College of Health and Human Services; Professor, Social Work Education
B.A., San Jose State University;
M.S.W., University of California, Berkeley;
D.S.W., Columbia University.

DAUGHTRY, JOLYNE S. (1985-2013)*
Professor Emerita, Curriculum and Instruction; Coordinator, Single Subject Credential Program
B.S., Virginia Commonwealth University;
M.A., College of William and Mary;
Ed.D., University of Virginia.

DONOHUE, SANDRA (2001-2011)
Associate Professor, Public Health
B.S., M.S., California State University, Northridge; Dr.P.A., University of La Verne.

DULL, R. THOMAS (1986-2010)*
Professor Emeritus, Criminology B.S., San Jose State University;
M.S., Michigan State University;
Ph.D., Sam Houston State University.

DUSSICH, JOHN P.J. (2003-2011)*
Professor Emeritus, Criminology
B.S., M.S., Ph.D., Florida State University.

DWORKIN, SARI H. (1985-2010)*
Professor Emerita, Counseling, Special Education, and Rehabilitation
B.A., M.S., City University of New York, Lehman College; Ph.D., University of Nebraska, Lincoln; Licensed Marriage, Family, and Child Counselor.

EMANUEL, EDWARD F. (1969-2010)*
Professor Emeritus, Theatre Arts
B.A., M.A., San Jose State College;
Ph.D., University of Minnesota.

ENGLE, DAVID G. (1988-2012)*
Professor Emeritus, Modern and Classical Languages and Literatures
B.A., M.A., Ph.D., University of California, Los Angeles.

FAYAZMANESH, SASAN (1997-2010)*
Professor Emeritus, Economics
B.A., California State University, Los Angeles;
M.A., University of California, Los Angeles;
M.A., Ph.D., University of California, Riverside.

FIGUEROA-UNDA, MANUEL (1981-2009)*
Professor Emeritus, Chicano and Latin American Studies
B.A., Catholic University of Chile;
M.A., Ph.D., Stanford University.

FRANCO-SANCHEZ, ERNESTO (1982-2011)*
Professor Emeritus, Mathematics
B.S., University of Puerto Rico;
M.A., Ph.D., University of California, Berkeley.

FRANK, DAVID L. (1970-2010)*
Professor Emeritus, Chemistry
B.A., Alfred University;
Ph.D., University of Rochester.

FUGELSANG, KENNETH (2001-2011)*
Professor Emeritus, Viticulture and Enology
B.A., M.A., California State University, Fresno.

GONZALEZ, BERTA (1985-2011)*
Associate Vice President Emerita, Continuing and Global Education;
Professor Emerita, Education
B.A., California State University, Fresno;
M.A., California State University, Chico;
Ed.D., University of the Pacific.

HAMRE, ANNA (1999-2013)*
Professor Emerita, Music
B.A., Augustana College;
M.M., University of Northern Colorado;
D.M.A., University of Colorado.

HARDING, ETHELYNDA E. (1977-2010)
Professor Emerita, Biology
B.S., New Mexico Institute of Mining and Technology;
M.S., Ph.D., New Mexico State University.

HATCHER, MYRON (1982-2012)*
Professor Emeritus, Information Systems and Decision Sciences
B.S.I.E., M.E., University of Toledo;
M.S.E., University of Michigan;
M.P.H., D.S., Johns Hopkins University.

HICKEY, ERIC W. (1990-2011)*
Professor Emeritus, Criminology
B.S., Brigham Young University;
M.A., University of Alberta;
Ph.D., Brigham Young University.

HIGHSMITH, JAMES M. (1978-2009)*
Professor Emeritus of Finance and Business Law
B.B.A., Ohio University;
J.D., Ohio State University.

IVAN, MARY RUTH (1985-2012)
Professor, Nursing
A.B., Simmons College;
M.S., University of Hawaii;
Ph.D., University of Utah.

JOHNSON, JAMES L. (1989-2012)
Associate Professor, English
B.A., University of California, Santa Barbara;
M.A., California State University, Fresno;
M.A., D.A., Ph.D., University of Oregon.

JORDAN, G. MICHAEL (1990-2006)*
Professor Emeritus, Curriculum, Teaching, and Educational Technology; Coordinator, Multiple Subject Program
B.M.Ed., Troy State University;
M.A., California State University, Fresno;
Ed.D., University of Southern California.

JOSEPH-WEIL, HELENE (1987-2010)*
Professor, Music
B.M., Oberlin College;
M.A., San Jose State University.

KATKANANT, VANVILAI (1987-2011)*
Professor Emerita Physics
B.Ed., Chulalongkorn University (Thailand);
M.S., East Texas State University;
M.S., Ph.D., University of Nebraska, Lincoln.

KOVACS, SHIRLEY A. H. (1986-2010)*
Professor Emerita, Biology
B.A., University of California, Santa Barbara;
M.S., Ph.D., Oregon State University.

KRAUTER, CHARLES F. (1979-2010)*
Professor Emeritus, Plant Science
B.S., Ph.D., University of California, Davis.

LA BAUGH, ROSS (1996-2013)*
Librarian Emeritus, Reference/Library Instruction
B.A., North Adams State College;
M.S., University of Rhode Island;
M.A., University of Massachusetts, Dartmouth.

LACY, RICHARD C. (1981-2010)*
Professor Emeritus, Information Systems and Decision Sciences
B.A., University of Northern Iowa;
M.Ed., Ed.D., University of Missouri.

LAJEUNESSE, ROGER M. (1974-2013)*
Professor Emeritus, Anthropology
B.A., California State University, Fresno;
M.A., San Francisco State College;
Ph.D., Washington State University.

LANE-GARON, PAMELA (1997-2012)*
Professor Emerita, Curriculum and Instruction
B.A., College of Notre Dame;
M.Ed., M.C., Ph.D., Arizona State University.

LENTELL, GARY LEE (1984-2013)
Professor, Physical Therapy
B.S., California State University, Fresno;
M.S., D.PT., Massachusetts General Hospital Institute of Health Professions.

LOSCUTOFF, WALTER V. (1987-2012)*
Professor Emeritus, Mechanical and Industrial Engineering
B.S., M.S., Ph.D., University of California, Berkeley.

LUNA, JESUS (1976-2009)*
Professor Emeritus, History
B.A., Pan American University;
M.A., East Texas State University;
Ph.D., North Texas State University.

MAJORS, DIANE L. (1968-2009)*
Librarian Emerita, Reference Department
B.A., California State University, Fresno;
M.L.S., University of California, Los Angeles.

MASTERS, RUTH (1972-2012)*
Professor Emerita, Criminology
B.A., University of California, Berkeley;
M.S., California State University, Fresno;
Ed.D., University of Southern California.

MATA, SUSANA C. (1990-2012)
Associate Professor, Curriculum and Instruction
B.S., California State University, Fresno;
M.A., Ph.D., Stanford University.

MAYER, BARBARA J. (1983-2010)*
Professor Emerita, Chemistry
B.S., University of Puget Sound;
Ph.D., Dartmouth College.

MIDDLETON, E. JANE (2000-2012)*
Professor Emerita, Chair Emerita, Social Work Education
B.S.W., M.S.W., Temple University;
D.S.W., University of Pennsylvania.

MILLER, THOMAS CLAY JR. (2003-2010)
Professor, Mass Communication and Journalism
B.A., Baylor University;
M.A., University of California, Berkeley.

MINAMI, DWIGHT D. (1994-2013)
Professor, Agricultural Business
B.S., M.A., Ph.D., University of California, Davis.

MOGHADDAM, JAHANGUIR M. (1979-2013)*
Professor Emeritus, Management
B.A., Iranian Institute of Advanced Accounting (Iran); M.B.A., Saint Mary's University;
Ph.D., North Texas State University.

MORILLO, JANELL (2007-2012)
Lecturer, Counseling and Special Education
B.A., M.A., California State University, Fresno.

NG, FRANKLIN CHEW LUN (1975-2011)*
Professor Emeritus, Anthropology; Coordinator, Asian American Studies Program
B.A., Johns Hopkins University;
M.A., Harvard University;
M.A., Ph.D., University of Chicago.

OWEN, BARBARA A. (1990-2011)*
Professor Emerita, Criminology
B.A., University of California, Davis;
M.A., San Francisco State University;
Ph.D., University of California, Berkeley.

PALACIO, ROBERT S. (1980-81; 1987-2012)
Professor, Sociology
B.A., California State University, Fresno;
M.A., Ph.D., University of California, Berkeley.

PARKER, RON M. (1982-2010)*
Professor Emeritus, Communicative Disorders and Deaf Studies
B.S., Andhra University (India);
M.S., India Institute of Speech and Hearing;
Ph.D., Wichita State University.

PETROVICH, ANNE S. (2000-2013)*
Professor Emerita, Social Work Education
B.A., Oberlin College;
M.S.W., University of Michigan;
Ph.D., California School of Professional Psychology.

READ, WALTER (1969-2009)
Professor, Computer Science
B.A., Pennsylvania State University; M.A., Ph.D., University of Rochester.

SALSGIVER, RICHARD O. (1994-2009)*
Professor Emeritus, Social Work Education
B.S., M.A., Indiana University of Pennsylvania;
M.S.W., University of Pittsburgh; Doctor of Arts, Carnegie Mellon University.

SCHREIBER, FRED E. (1973-2010)*
Professor Emeritus, Biology
B.S., M.S., Northern Illinois University;
Ph.D., Ohio State University.

SOLIS, RAFAEL (1985-2013)*
Professor Emeritus, Information Systems and Decision Sciences; Director, Business Graduate Program
B.Sc., National Autonomous University of Mexico; M.Sc., College of Postgraduate Studies, National School of Agriculture, Chapingo, Mexico; Ph.D., University of Waterloo (Canada).

SHELTON, MARILYN R. (1987-2011)*
Professor Emerita, Literacy and Early Education
B.S., M.A., Western Oregon State College;
Ph.D., Ohio State University.

STRUMWASSER, GINA (1971-2012)*
Professor Emerita, Art and Design
B.A., University of California, Berkeley;
M.A., California State College, Los Angeles;
Ph.D., University of California, Los Angeles.

SUEN, CHI-YEUNG JOHN (1990-2011)*
Professor Emeritus, Earth and Environmental Sciences
B.Sc., McGill University (Canada);
Sc.D., Massachusetts Institute of Technology;
Professional Geologist.

TAI, BENJAMIN (1985-2010)*
Professor Emeritus, Accountancy
B.S., M.S., Illinois State University;
Ph.D., University of Missouri;
C.P.A., C.M.A.

TANNENBAUM, SALLY (2002-2010)*
Associate Professor Emerita, Communication
B.A., M.A., University of California, Santa Barbara; Ed.D., University of California, Davis/ California State University, Fresno.

TANNER, DAVID E. (1985-2013)*
Professor Emeritus, Curriculum and Instruction
B.A., M.A., Brigham Young University;
Ph.D., Texas A & M University.

TSENG, KUO-CHENG (1984-2010)*
Professor Emeritus, Finance and Business Law
B.A., National Taiwan University; M.A., Clark University;
Ph.D., Pennsylvania State University.

TYNER, TONI (1995-2013)
Assistant Professor, Physical Therapy
B.S., California State University, Fresno;
M.H.S.L., University of San Francisco.

ULLRICH, WALTER (1998-2012)*
Professor Emeritus, Curriculum and Instruction
B.S., University of Wisconsin, Stevens Point;
M.L.S., M.S., Ph.D., University of Wisconsin, Madison.

UNRUH, RONALD P. (1993-2011)*
Professor Emeritus, Educational Research and Administration
B.A., M.A., San Jose State University;
Ph.D., University of Houston.

WALKER, STEVEN (1989-92; 1998-2010)*
Professor Emeritus Criminology
B.A., Washburn University;
M.Div., Central Baptist Theological Seminary;
Ph.D., California School of Professional Psychology, Fresno.

WALTON, JAMES E. (1990-2013)*
Professor Emeritus, English
B.S., Kent State University;
M.A., Ph.D., University of Akron.

WIELICKI, TOMASZ R. (1984-2012)*
Professor Emeritus, Information Systems and Decision Sciences
M.B.A., Ph.D., Technical University of Wroclaw (Poland).

WINT, ARTHUR V. N. (1986-2011)*
Professor Emeritus, Criminology
B.A., Washington State University;
J.D., University of Washington.

YEN, MATTHEW M. (1989-2013)*
Professor Emeritus, Industrial Technology
B.A., National Taiwan University; M.S., University of Idaho;
Ph.D., Purdue University.

*Indicates that these FERP professors are also honored as emeritus.

Emeriti

ADAMS, PAUL D. (1987-2004)
Professor Emeritus, Mass Communication and Journalism
B.A., University of Oklahoma, Norman;
M.A., Ph.D., University of Texas at Austin.

ADRIAN, MERLE S. (1973-2005)
Professor Emeritus, Industrial Technology
B.S., M.A., California State University, Fresno;
Ed.D., University of Southern California.

AGNEW, ALLEN M. (1965-86)
Professor Emeritus, Information Management
B.A., M.A., San Jose State College; Ed.D., University of California, Los Angeles.

AIKEN, JOYCE B. (1956-58; 1962-92)
Professor Emerita, Art
B.A., M.A., California State University, Fresno.

ALBRIGHT, W. DONALD (1958-82)
Coordinator Emeritus, Services to Older Adults
B.S., Northeast Missouri State Teachers College; M.Ed., University of Missouri; Ed.D., Teachers College, Columbia University.

ALCOCER, ANTHONY (1995-2005)
Professor Emeritus, Public Health
B.A., Loyola University; M.S., California State University, Los Angeles; Ph.D., University of California, Los Angeles.

ALDREDGE, JAMES E. (1990-2002)
Professor Emeritus, Social Work Education
B.S., M.P.A, California State University, Fresno; Ph.D., University of Southern California.

ALDRICH, KENNETH R. (1988-2008)
Professor Emeritus, Kinesiology
B.A., California State University, San Bernardino; M.A., University of Oregon; Ed.D., University of California, Davis/California State University, Fresno.

ALDRICH, LESLIE L. (1955-93)
Professor Emeritus, Industrial Technology
B.A., Willamette University; M.A., Oregon State College.

ALEXANDER, LINNEA M. (1983-2008)
Professor Emerita, English
B.A., M.A., California State University, Fresno; Ph.D., University of Iowa.

ALI, MIR K. (1968-92)
Professor Emeritus, Mathematics
B.S., M.A., Osmania University; M.S., Montana State University; Ph.D., Washington State University.

ALLENDER, JUDITH A (1987-2000)
Professor Emerita, Nursing
B.S., State University of New York at Plattsburgh; M.Ed., Xavier University; M.S.N., Wright State University; Ed.D., University of Southern California.

ALVARADO, ANDREW J. (1978-2004)
Professor Emeritus, Social Work Education
B.S., M.S.W., California State University, Fresno; Ed.D., University of California, Los Angeles.

ANDERSON, AUDREY SPRINGS (1987-2003)
Dean Emerita, Division of Extended Education; Professor Emerita, Child, Family, and Consumer Sciences
B.S., M.S., Ed.D., Northern Illinois University.

ANDERSON, DAVID C. (1966-99)
Professor Emeritus, Management
B.S., M.S., West Virgina University; D.B.A., Georgia State University.

ANDERSON, LAWRENCE L. (1971-2004)
Professor Emeritus, Art and Design
B.A., M.A., San Jose State College.

ANDERSON, R. GENE (1970-96)
Professor Emeritus, Communication
B.A., M.A., Baylor University; Ph.D., University of Colorado, Boulder.

ARNOLD, ROBERT F. (1968-2003)
Professor Emeritis of Mathematics B.S., M.A., California State University, Fresno; Ph.D., University of California, Berkeley.

ARPAD, SUSAN S. (1986-2001)
Professor Emerita, Women's Studies
B.A., Tulane University; M.A., Ph.D., University of Delaware.

ATWOOD, RITA ANN (1987)
Professor Emerita, Mass Communication and Journalism
B.A., M.A., California State University, Fresno; Ph.D., University of Washington, Seattle.

AUSTIN, ELLIS T. (1958-86)
Professor Emeritus, Finance
B.A., University of Washington; Ph.D., Michigan State University.

AVENT, CAROL L. (1966-99)
Professor Emerita, Nursing
B.S., Boston University; M.S., University of Colorado.

AVENT, JON C. (1965-99)
Professor Emeritus, Geology
B.A., University of Colorado; M.S., Ph.D., University of Washington.

AYER, SALLY L. (1971-2000)
Professor Emerita, Kinesiology
B.A., Colorado State College; M.A., Northern Arizona University; Ed.D., University of Utah.

BACA, MARIO L. M. (1983-2005)
Professor Emeritus, Curriculum and Instruction
B.S.Ed., University of New Mexico; M.A., University of Washington; Ph.D., University of New Mexico.

BADR, SAYED A. (1970-2005)
Chair Emeritus, Viticulture; Professor Emeritus, Viticulture and Enology
B.S., Ain-Shams University (Egypt); M.S., Ph.D., University of California, Davis.

BAKKEGARD, BENJAMIN M. (1958-80)
Professor Emeritus, Music
B.S., University of North Dakota; M.Ed., University of Minnesota; Ed.D., Teachers College, Columbia University.

BALLARD, O. DUANE, JR. (1968-2002)
Professor Emeritus, Kinesiology
B.S., M.S., Brigham Young University; R.P.T., Stanford University.

BALTRA, ARMANDO (1987-2006)
Professor Emeritus of Literacy and Early Education
B.A., University of Chile; M.Sc., University of Edinburgh (Scotland); Ph.D., Catholic University of Sao Paulo (Brazil).

BARABAS, ARTHUR H. (1983-2006)
Professor Emeritus, Earth and Environmental Sciences
A.B., Princeton University; M.PHIL., Ph.D., Yale University.

BARTA, JOHN (1968-97)
Professor Emeritus, Foreign Languages
B.A., M.A., Ph.D., University of California, Los Angeles.

BASDEN, BARBARA H. (1973-2005)
Professor Emerita, Psychology
B.A., College of Idaho; Ph.D., University of California, Santa Barbara.

BASDEN, DAVID R. (1969-2005)
Professor Emeritus, Psychology
B.A., College of Idaho; Ph.D., University of California, Santa Barbara.

BASSETT, EARLE L. (1948-87)
Director Emeritus, Auxiliary Services
B.A., California State University, Fresno.

BATHURST, LEONARD H. (1954-94)
Professor Emeritus, Education
B.A., M.Ed., Ed.D., Pennsylvania State University.

BATTENBURG, JOSEPH R. (1981-98)
Professor Emeritus, Mechanical and Industrial Engineering
B.S., Andrews University; B.S.E., University of Michigan; M.S.E., University of Southern California; Ph.D., University of Wisconsin.

BEACH, PHILIP F. (1964-97)
Professor Emeritus, Political Science
B.A., University of Washington; M.A., Ph.D., Northwestern University.

BEDARD, MARCIA (1987-99)
Professor Emerita, Women's Studies
B.A., Saint Mary's College of California; M.A., University of San Francisco; Ph.D., The Fielding Institute of California.

BELL, KAREN R. (1987-2006)
Professor Emerita, Philosophy
A.B., Boston University; M.A., M.Phil., Ph.D., University of Kansas.

BENNETT, BOB G. (1969-2002)
Head Baseball Coach Emeritus, Athletics
A.B., M.A., California State University, Fresno.

BENNETT, BOB L. (1955-86)
Professor Emeritus, Music
B.A., California State University, Fresno; M.S., Juilliard School of Music; D.M.A., Stanford University.

BERGEY, JOHN (1961-83)
Professor Emeritus, Nursing
B.S., Yankton College; M.A., University of Pittsburgh; Registered Nurse.

BERGMANN, RALPH H. (1979-92)
Professor Emeritus, Management
B.A., Cornell University; Ph.D., Massachusetts Institute of Technology.

BERLINER, ANN E. (1984-2010)
Professor Emerita, Philosophy
B.A., Goddard College; M.A., California State University, Sonoma; Ph.D., Graduate Theological Union.

BERRETT, RICHARD D. (1969-2004)
Professor Emeritus, Child, Family, and Consumer Sciences
B.S., M.S., Brigham Young University; Ph.D., Florida State University.

BEST, HAROLD L. (1970-92)
Director Emeritus, Institutional Research; Professor Emeritus, Management
B.A., M.A., Ph.D., George Washington University; Licensed Psychologist.

BETANCOURT, RAUL (1972-92)
Professor Emeritus, Psychology
B.A., California State College, Hayward; M.A., Ph.D., University of California, Berkeley.

BEVANS, BONNIE JO (1970-88)
Professor Emerita, Physical Education and Human Performance
B.A., University of California, Santa Barbara; M.A., California State University, Fresno.

BHANGOO, MAHENDRA S. (1976-92)
Professor Emeritus, Soil Science
B.S., Agra University (India); M.S., University of California, Los Angeles; Ph.D., Kansas State University.

BLACKERBY, BRUCE A. (1963-2005)
Professor Emeritus, Earth and Environmental Sciences
B.A., University of California, Riverside; Ph.D., University of California, Los Angeles.

BLAKELEY, DONALD N. (1989-2003)
Professor Emeritus, Philosophy
B.A., California State University, Fresno; M.A., Ph.D., University of Hawaii.

BLISS, WILLIAM H. (1950-76)
Professor Emeritus, Industrial Arts and Technology
B.S., Central Missouri State College; M.A., University of Northern Colorado; Ed.D., Bradley University.

BLOMGREN, GLEN H. (1962-91)
Professor Emeritus, Industrial Technology
B.A., M.A., California State University, Fresno; Ed.D., University of California, Los Angeles.

BLOOM, MELANIE M. (1985-2004)
Professor Emerita, Communication
B.A., Wayne State University; M.A., Ph.D., Ohio University.

BLUESTONE, SYDNEY (1963-2001)
Professor Emeritus, Chemistry
B.S., Brooklyn College; Ph.D., Rutgers University.

BOARD, ROBERT P. (1964-87)
Registrar Emeritus
B.S., University of Santa Clara.

BOCHIN, HAL W. (1969-2005)
Professor Emeritus of Speech Communications
B.S., John Carroll University; M.A., University of Wisconsin; Ph.D., Indiana University.

BOHNSTEDT, JOHN W. (1956-2002)
Professor Emeritus, History
B.A. Michigan State University; M.A., Ph.D., University of Minnesota.

BONHAM, CLIFFORD V. (1964-91)
Professor Emeritus, Social Work Education
B.A., M.S.W., University of California, Berkeley.

BOWDEN, SHIRLEY J. (1968-91)
Professor Emerita, Enology, Food Science, and Nutrition
B.S., University of California, Los Angeles; Dietetic Internship, Johns Hopkins Hospital; M.S., California State University, Fresno; Ph.D., Oregon State University; Registered Dietitian.

BOWEN, THOMAS G. (1970-1992)
Professor Emeritus, Anthropology
B.A. Grinnell College; M.A., Ph.D., University of Colorado.

BOWEN, WAYNE S. (1964-90)
Professor Emeritus, Spanish
B.A., Ohio State University; M.A., Emory University, Georgia; Ph.D., Ohio State University.

BOWERMAN, EARL H. (1979-2004)
Professor Emeritus, Plant Science
B.S.A., M.S., University of Arkansas; Ph.D., Rutgers University, New Brunswick.

BRADY, ROLAND H. (1986-2007)
Professor Emeritus, Earth and Environmental Sciences
B.S., Sonoma State University; *Ph.D., University of California, Davis.*

BRAHMA, CHANDRA S. (1980-2002)
Professor Emeritus, Civil and Geomatics Engineering
B.S., Calcutta University; M.S., Michigan State University; Ph.D., Ohio State University; Registered Professional Engineer.

BREEN, THOMAS E. (1966-2001)
Professor Emeritus, Psychology
B.S., University of Illinois;
M.A., Ph.D., Louisiana State University.

BRENGELMAN, FREDERICK H. (1957-94)
Professor Emeritus, Linguistics B.A., Dana College; M.A., University of Nebraska; Ph.D., University of Washington.

BRENNER, ROBERT D. (1968-89)
Professor Emeritus, Education
B.A., Ottawa University; M.A., Ed.D., Northern Colorado University.

BREWER, RAY E. (1965-96)
Professor Emeritus, Education
B.S., Kansas State University; M.A., New Mexico State University; Ph.D., University of Arizona.

BROOKS, WAYNE A. (1956-92)
Professor Emeritus, Business Law
B.A., St. Ambrose College; J.D., University of Iowa; L.L.M., Stanford University; J.S.D., University of California, Berkeley; Member, Iowa Bar, California Bar.

BROUWER, JAMES M. (1964-2001)
Professor Emeritus, History
B.A., M.A., Yale University.

BROWN, SANFORD M. (1976-2001)
Professor Emeritus, Public Health
B.S., Ursinus College; M.P.H., University of Michigan; Ph.D., University of Kansas; Registered Sanitarian.

BROWNELL, JAMES R. (1969-92)
Professor Emeritus, Soil Science
B.S., Pennsylvania State University; M.S., University of Minnesota; Ph.D., University of California, Davis.

BROYLES, DON R. (1968-2001)
Professor Emeritus, Political Science
B.A., Sacramento State College; M.A. Ph.D., Claremont Graduate School.

BRYAN, GERALD O. (1973-2003)
Professor Emeritus, Marketing and E-Business
A.B., M.A., University of Northern Colorado; D.B.A., Arizona State University.

BRYON, JEANETTE P. (1956-98)
Professor Emerita, Theatre Arts
B.A., University of Maine; M.A., University of North Carolina.

BUMPASS, L. KATHRYN (1985-2004)
Professor Emerita, Music
B.A., Austin College; M.A., Columbia University; Ph.D., University of Illinois, Urbana-Champaign.

BURDICK, DONALD J. (1960-91)
Professor Emeritus, Biology
B.A., San Jose State College; Ph.D., University of California, Berkeley.

BURGE, JOHN H. (1984-2004)
Professor Emeritus, Criminology B.S., M.S., California State University, Fresno; Ed.D., University of the Pacific.

BURNS, FELTON (1969-99)
Counselor Emeritus, Health and Psychological Services
B.A., M.A., California State University, Fresno; Ed.D., University of Southern California.

BURTNER, DALE C. (1958-93)
Professor Emeritus, Chemistry
B.A., Reed College; M.S., Ph.D., University of Washington.

BUSH, PAUL D. (1961-2001)
Professor Emeritus, Economics
B.A., M.A., University of Denver; Ph.D., Claremont Graduate School.

CAGLE, JOHN A. (1970-2006)
Chair Emeritus and Professor Emeritus, Communication
B.A., M.A., San Fernando Valley State College; Ph.D., University of Iowa.

CAID, N. JOANNE (1967-2000)
Professor Emerita and Chair Emerita, Food Science and Nutrition
B.S., Rochester Institute of Technology; M.S., Michigan State University; Registered Dietitian.

CAILLIET, GREG M. (1974-2009)
Professor Emeritus, Biology at Moss Landing Marine Laboratories
B.A., Ph.D., University of California, Santa Barbara.

CALVO, JUDITH T. (1988-2003)
Professor Emerita, Sociology
B.A., University of Texas; M.A., Ph.D., Stanford University.

CARMICHAEL, CARL W. (1988-2003)
Professor Emeritus, Communication
B.A., Westminster College; M.A., Louisiana State University; Ph.D., University of Iowa.

CASEY, JAMES E. (1999-2008)
Professor Emeritus and Chair Emeritus, Agricultural Economics
B.S., M.S., Ph.D., Texas A & M University.

CHA, MARN J. (1969-2004)
Professor Emeritus, Political Science
B.A., M.P.A., Ph.D., University of Southern California.

CHADWICK, VIRGINIA F. (1984-2004)
Professor Emerita, Kinesiology
B.S., Northern Arizona University;
M.S., Arizona State University;
Ph.D., Oregon State University.

CHANG, SHYHMING (1976-98)
Professor Emeritus, Mechanical and Industrial Engineering
B.S.M.E., National Taiwan University; M.S., University of Alabama; Ph.D., University of Oklahoma.

CHANG, SIDNEY H. (1966-2002)
Professor Emeritus, History
B.A., National Taiwan University; M.A., University of Missouri; M.S., Florida State University; Ph.D., University of Wisconsin.

CHEN, ROSITA (1980-2005)
Professor Emerita, Accountancy
B.A., National Taiwan University; M.A.S., State University of New York; Ph.D., University of Illinois.

CHESEMORE, DAVID L. (1972-2001)
Professor Emeritus, Biology
B.S., Wisconsin State University;
M.S., University of Alaska;
Ph.D., Oklahoma State University.

CHEUK, S. FAI (1970-2003)
Professor Emeritus, Biology
B.Sc., M.Sc., University of Manitoba; Ph.D., McGill University.

CHILDERS, FREDERICK (1981-2004)
Professor Emeritus, Social Work Education
B.A., California State University, Long Beach; M.S.W., D.S.W., University of Southern California.

CHITTICK, ROGER D. (1956-88)
Professor Emeritus, English
B.A., Butler University; M.A., Washington State College; Ph.D., Stanford University.

CHRISTENSEN, ELWYN L. (1968-92)
Professor Emeritus, Accountancy
B.A., Andrews University; M. Acct.,
D.B.A., University of Southern California;
C.P.A.

CHRISTENSEN, JACK D. (1968-88)
Professor Emeritus, History
B.A., University of California, Berkeley; M.A., California State University, Fresno; Ph.D., Stanford University.

CHRISTISON, CHESTER E. (1970-91)
Professor Emeritus, Industrial Technology
B.S., Mankato State College; M.S., Ed.D., University of Northern Colorado.

CHUA, CHENG LOK (1986-2008)
Professor Emeritus, English
B.A., DePauw University;
M.A., Ph.D., University of Connecticut.

CLAASSEN, ALFRED J. (1969-2001)
Professor Emeritus, Sociology
A.B., University of California, Berkeley; Ph.D., University of Colorado.

CLARK, ZANE A. (1968-96)
Librarian Emeritus
B.S., Utah State University; M.A., University of Denver.

CLARK, DAVID E. (1950-51; 1953-90)
Professor Emeritus, Chemistry
B.A., University of Redlands; M.S., Ph.D., Stanford University.

CLARK, WAYNE N. (1973-2005)
Professor Emeritus, Public Health
B.S., M.S., Ph.D., Utah State University; M.P.H., University of Hawaii; Registered Sanitarian.

CLAY, CORINNE (SISTER) (1972-88)
Professor Emerita, Biology
B.S., Mt. Angel College; M.S., Ph.D., Oregon State University.

CLOUGH, CARMEN P. (1963-83)
Professor Emerita, Foreign Languages
M.A., University of Michigan; Dr. Ped., University de la Habana.

COHEN, MOSES E. (1969-2004)
Professor Emeritus, Mathematics
B.S., Sir John Cass College, London University; Ph.D., University of Wales.

COLEMAN, DONALD G. (1988-2004)
Professor Emeritus, Educational Research and Administration
B.S., Indiana University;
M.S., St. Frances College;
Ed.D., Ball State University.

COLLIN, WILLIAM K. (1975-2003)
Professor Emeritus, Biology
B.A., University of California, Davis; Ph.D., University of California, Los Angeles.

COMEGYS, ROBERT G. (1955-80)
Professor Emeritus, History
B.A., M.A., University of Washington; Ph.D., Stanford University.

CONLEE, CONSTANCE J. (1983-2006)
Professor Emerita, Communication
B.S., Georgia State University;
M.A., Auburn University;
Ph.D., University of Oklahoma.

COOPER, ARNOLD M. (1957-80)
Professor Emeritus, Psychology
B.A., San Francisco State College; M.A., Ph.D., Claremont Graduate School.

CORDS, DOUGLAS A. (1969-2008)
Professor Emeritus, Marketing and Logistics
B.S., M.B.A., California State University, Fresno; Ph.D., University of California, Los Angeles.

COSTIS, HARRY G. (1967-2001)
Professor Emeritus, Information Systems and Decision Sciences
B.S., The Graduate School of Commerce and Economics, Athens; M.S., University of Georgia; Ph.D., University of Texas.

COTHERN, JAMES H. (1989-2001)
Professor Emeritus, Agricultural Economics
B.S., University of Idaho;
M.S., Michigan State University;
Ph.D., Montana State University.

COUGHRAN, WILLIAM M. (1959-92)
Professor Emeritus, Management
B.A., M.A., California State University, Fresno;
Ed.D., University of Southern California.

CROSSLEY, JOHN C. (2000-2007)
Professor Emeritus, Recreation Administration
B.S., Florida State University;
M.Ed., University of Georgia;
Ed.D., University of Utah.

CULLEN, CLIFT C. (1971-2001)
Professor Emeritus, Industrial Technology
B.A., M.A., California State University, Fresno.

CURTIS, KATHLEEN (1995-2007)
Professor Emerita, Physical Therapy
lB.S., Northeastern University, Boston;
M.A., San Jose State University;
Ph.D., University of California, Los Angeles.

CYPHER, JAMES M. (1967-2008)
Professor Emeritus, Economics
B.A., M.A., University of California, Santa Barbara; Ph.D., University of California, Riverside.

DACKAWICH, S. JOHN (1970-94)
Professor Emeritus, Sociology
B.A., University of Maryland; Ph.D., University of Colorado.

DARGAHI, GHOLAM H. (1967-68; 1970-88)
Professor Emeritus, Political Science
B.A., University of Tehran (Iran); M.A., University of Denver; Ph.D., University of Utah.

DAUBS, EDWIN H. (1963-75)
Professor Emeritus, Biology
B.S., M.S., Ph.D., University of Illinois.

DAVIS, MARTHA A. (1960-92)
Professor Emerita, Nursing
B.S., St. Louis University; M.A., Teachers College, Columbia University; Registered Nurse.

DAVOLI, GERALD (1997-2007)
Professor Emeritus, Public Health
B.A., California State University, Long Beach;
M.P.H., University of California, Berkeley;
Ph.D., University of Massachusetts Amherst.

DEHN, MARLENE (1984-2000)
Professor Emerita, Nursing
B.S.N., University of California, San Francisco;
M.P.H., University of California, Berkeley;
Ph.D., University of Oregon.

DELANEY, RICHARD W. (1965-2004)
Professor Emeritus, Art and Design
B.A., M.A., San Francisco State College.

DICKERSON, DIANNE K. (1985-2010)
Associate Dean Emerita, Graduate Studies; Professor Emerita, Child, Family, and Consumer Sciences
B.S., Andrews University;
M.A., Loma Linda University;
Ph.D., Texas Woman's University.

DIESTEL, GEORGE (1969-96)
Professor Emeritus, Communication
B.A., St. Mary's College; M.A., California State University, Fresno; Ph.D., University of Southern California.

DILBECK, NINA J. (1971-2003)
Chair Emerita, Child, Family, and Consumer Sciences and Professor Emerita, Home Economics Education, Clothing and Textiles and Fashion Merchandising
B.S., Oklahoma College of Liberal Arts;
M.S., Kansas State University.

DINKIN, ROBERT J. (1968-2001)
Professor Emeritus, History
B.A., Brooklyn College; M.A., Ph.D., Columbia University.

DONALDSON, JOHN R. (1956-91)
Professor Emeritus, Physics
B.S., M.A., Rice University; M.S., Ph.D., Yale University.

DOYEL, TOM (1970-2004)
Professor Emeritus of Finance and Business Law
B.S., California State University, Fresno;
M.B.A., Ph.D., University of California, Los Angeles.

DRAKE, MARY C. (1985-2004)
Professor Emerita, Theatre Arts B.F.A., Auburn University; M.F.A., University of Southern Mississippi.

DUTTARER, JANET K. (1984-2004)
Professor Emerita, Physical Therapy
B.S., University of California, Los Angeles;
M.A., University of Southern California; Ph.D., Louisiana State University Medical Center.

DUTTON, BONNIE L. (1985-2004)
Professor Emerita, Literacy and Early Education
B.A., California State University, Los Angeles;
M.E., Louisiana State University; Ph.D., University of Toledo.

EBERT, THOMAS J. (1970-2005)
Associate Vice President Emeritus for Academic Personnel; Member Emeritus, Library Faculty, Documents Department
B.A., M.A., M.L.S., State University of New York at Albany.

ECHOLS, JAMES P. (1964-86)
Professor Emeritus, Education
B.A., College of Idaho; M.A., University of California, Berkeley; Ph.D., Stanford University.

ECKHARDT, WYMOND W. (1970-90)
Professor Emeritus, Instructional Media Center
B.A., George Pepperdine College;
M.S., Ed.D., University of Southern California.

ELHAG-ALI, MOSTAFA (1970-2002)
Professor Emeritus, Information Systems and Decision Sciences
B.S., Ein-Shams University (Egypt); M.B.A., Ph.D., University of Texas.

ELLIS, DAVID L. (1966-2002)
Professor Emeritus, Social Work Education
B.A., University of Oklahoma; M.S.W., University of California, Los Angeles.

ERB, CHARLOTTE M. (1970-87)
Professor Emerita, Human Resource Management
B.A., MacMurray College; Ph.D., University of Wisconsin; S.P.H.R.

ERVIN, STEPHEN H. (1974-2006)
Professor Emeritus, Biology
B.A., M.A., Ph.D., University of California, Santa Barbara.

ESTES, GENE L. (1964-2000)
Head Coach Emeritus Men's Cross Country/ Track; Professor Emeritus, Kinesiology
B.S., M.S., University of Oregon; D.Ed., Colorado State College.

EVANS, ALFRED B., JR. (1971-2002)
Professor Emeritus, Political Science
B.A., M.A., University of Texas;
Ph.D., University of Wisconsin.

EVANS, RONALD L. (1963-96)
Professor Emeritus, Biology
B.A., M.A., University of Toronto; Ph.D., Stanford University.

EVANS-SCHILLING, DEANNA E. (1978-2003)
Professor Emerita, Counseling, Special Education, and Rehabilitation
B.A., University of Maryland;
M.A., Ph.D., University of California, Davis.

EVERWINE, PETER P. (1962-91)
Professor Emeritus, English
B.S., Northwestern University; Ph.D., University of Iowa.

FADERMAN, LILLIAN (1967-2002)
Professor Emerita, English
A.B., University of California, Berkeley;
M.A., Ph.D., University of California, Los Angeles.

FAGNANI, AUDREY M. (1973-92)
Professor Emeritus, Recreation
A.B., M.S., San Francisco State College;
Re.D., Indiana University.

FASSE, WILLIAM R. (1985-2008)
Associate Professor Emeritus, Child, Family and Consumer Sciences
B.A., Washburn University;M.S., Kansas State University;Ph.D., University of Missouri, Columbia.

FAST, PETER G. (1957-87)
Professor Emeritus, Education
B.A., Goshen College; M.A., Ball State Teachers College; Ed.D., Indiana University.

FISCHER, ROBERT D. (1972-2001)
Professor Emeritus, Sociology
B.S., Portland State University; M.A., University of Michigan; Ph.D., Michigan State University.

FLAM, ROBERT A. (1969-82)
Associate Professor Emeritus, Information Management
B.S., Valley City State College; M.E., University of North Dakota; Ed.D., University of Wyoming.

FLANERY, JAMES A. (1997-2002)
Professor Emeritus, Mass Communication and Journalism
B.A., Fresno State College; M.S., University of California, Los Angeles; Ph.D., Northwestern University.

FLYNN, GEORGE A. (1985-2000)
Associate Professor Emeritus, Mass Communication and Journalism
B.A., University of Miami; M.A., Florida Atlantic University; Ph.D., North Texas State University.

FORTNER, JACK R. (1970-2003)
Professor Emeritus, Music
B.Mus., Aquinas College; M.Mus., A.Mus.D., University of Michigan.

FOSTER, HAGUE D. (1966-98)
Professor Emeritus, Philosophy
B.A., Ph.D., University of Chicago.

FOSTON, ARTHUR L. (1968-93)
Professor Emeritus, Industrial Technology
B.S., B.S.E.E., M.S., Prairie View A and M College; M.A.T., Colorado State University.

FRANCIS, RICHARD W. (1965-2002)
Professor Emeritus, Kinesiology
B.A., San Jose State College; M.A., California State University, Fresno; Ed.D., University of Northern Colorado.

FRANKLIN, SAMUEL S. (1969-2004)
Professor Emeritus, Psychology
B.A., University of California, Los Angeles;
M.A., University of California, Santa Barbara;
Ph.D., University of Kansas.

FRANZ, JOHN B. (1985-2010)
Professor Emeritus, Social Work Education
B.S., University of Oregon;
M.S.W., University of Kansas;
Ph.D., University of Southern California.

FREEMAN, G. RONALD (1969-2000)
Professor Emeritus, Foreign Languages and Literatures
B.A., University of Utah; M.A., Ph.D., University of Washington.

FREY, JAMES E. (1969-94)
Professor Emeritus, English
B.A., Jamestown College; M.A., Columbia University; Ph.D., University of California, Berkeley.

FROM, BENDT A. (1968-91)
Professor Emeritus, Mechanized Agriculture
B.A., M.Ed., University of California, Davis.

FUTRELL, MAX D. (1970-2001)
Professor Emeritus, Criminology
B.S., M.S., California State University, Fresno;
Ed.D., University of Southern California.

GAINES, CHARLES F. (1968-2005)
Professor Emeritus, Art and Design
B.A., Jersey City State College; M.F.A., Rochester Institute of Technology.

GAMMON, EDWARD R. (1966-87)
Professor Emeritus, Linguistics
B.A., Reed College; M.A., University of Oregon; Ph.D., Stanford University.

GARAN, ELAINE (1999-2013)
Professor Emerita, Literacy and Early Education
B.S., Ohio University; M.Ed., Edinboro University; Ph.D., State University of New York at Buffalo.

GARCIA, MANUEL R. (1969-88)
Professor Emeritus, Industrial Technology
B.A., M.A., California State University, Fresno.

GENDRON, MAURICE C. (1969-2001)
Professor Emeritus, Modern and Classical Languages and Literatures
B.A., M.A., Ph.D., University of California, Los Angeles.

GIGLIOTTI, HELEN (1966-99)
Professor Emerita, Chemistry
B.A., Vassar College; Ph.D., University of Michigan.

GILBERTSON, DIANA L. (1988-2001)
Professor Emerita, Management
B.S.Ed., M.S.Ed., Northern Illinois University;
M.B.A., North Texas State University;
Ph.D., University of North Texas.

GILL, JUNE M. (1971-2004)
Professor Emerita, Foreign Languages and Literatures
B.A., M.A., Ph.D., University of California, Berkeley.

GILLIS, ALBERT C. (1969-86)
Professor Emeritus, Music
B.M., Mus.M., Yale University.

GLIM, ROBERT J. (1948-78)
Professor Emeritus, Agricultural Economics
B.S., M.Ed., University of California, Davis.

GOISHI, FRANK H. (1966-67; 1970-2002)
Professor Emeritus, Civil and Geomatics Engineering and Construction
B.A., M.A., California State University, Fresno;
Ed.D., University of Missouri.

GOLDBLOOM, DAVID E. (1968-95)
Professor Emeritus, Enology, Food Science, and Nutrition
B.A., M.A., Cambridge University (England);
Ph.D., University of California, Berkeley.

GOODWIN, H. MARSHALL JR. (1964-2000)
Professor Emeritus, History
B.A., M.A., San Diego State College; Ph.D., University of California, Los Angeles.

GORMAN, MICHAEL (1988-2007)
University Librarian Emeritus, the Henry Madden Library
Ealing School of Librarianship (England);Fellow, British Library Association.

GOTHE, A. GERALD (1965)
Librarian Emeritus, Collection Development
B.A., University of California, Santa Barbara;
M.L.S., University of California, Berkeley.

GOTHE, SANDRA L. (1967)
Associate Emerita, University Librarian
B.A., M.A., Indiana University.

GRAHAM, GAYLORD O. (1957-92)
Professor Emeritus, Theatre Arts
B.A., M.A., Iowa State University.

GREGORY, EDDIE J. (1969-89)
Professor Emeritus, Physical Education and Human Performance
B.S., Pepperdine College; M.S., University of Southern California.

GRUBBS, DAVID E. (1973-2004)
Professor Emeritus, Biology
B.A., University of California, Santa Barbara;
Ph.D., University of California, Irvine.

GRUENBAUM, ELLEN (1997-2008)
Professor Emerita, Anthropology
A.B., Stanford University;
M.A., Ph.D., University of Connecticut.

GULLICKSON, NORMAN A. (1971-2005)
Professor Emeritus, Industrial Technology
B.S., M.S., University of Wisconsin, Stout;
Ed.D., University of Northern Colorado.

GUMP, BARRY (1967- 2002)
Professor Emeritus, Chemistry
B.S., Ohio State University;
Ph.D., University of California, Los Angeles.

GUNN, THOMAS I. (1967-91)
Professor Emeritus, Agricultural Economics
B.S., Brigham Young University; M.S., Utah State University; Ph.D., Cornell University.

GYSLER, R. LOUIS (1966-71; 1973-2003)
Professor Emeritus, Civil and Geomatics Engineering
B.S., M.A., Kent State University;
Ph.D., Ohio State University;
J.D., San Joaquin College of Law.

HAAS, RICHARD (1969-92)
Professor Emeritus, Biology
B.A., M.A., Ph.D., University of California, Los Angeles.

HAFFNER, SUSANNE A. (1965-2004)
Librarian Emerita, Catalogue Department
B.A., University of Oregon;
M.L., University of Washington.

HAGEN, JOHN W. (1969-2001)
Professor Emeritus, Agricultural Economics
B.S., M.S., North Dakota State College; Ph.D., Washington State University.

HAGGBLADE, BERLE (1963-92)
Professor Emeritus, Information Systems and Decision Sciences
B.A., University of Northern Iowa; M.A., University of Northern Colorado; Ed.D., University of California, Los Angeles.

HALFHILL, SUSAN M. (1982-2003)
Professor Emerita, Management
B.S., University of Wisconsin; M.B.A, Rider College; Ph.D., University of Bradford.

HANNA, MARK G. (1989-2008)
Professor Emeritus, Social Work Education
B.A., M.Ed., University of Maryland; M.S.W., D.S.W., Columbia University.

HANSON, VICTOR D. (1985-2004)
Professor Emeritus, Classics
B.A., University of California, Santa Cruz; Ph.D., Stanford University.

HANZLICEK, CHARLES G. (1966-2001)
Professor Emeritus, English
B.A., University of Minnesota; M.F.A., University of Iowa.

HARBERTSON, NOAL C. (1971-2006)
Professor Emeritus, Mathematics
B.S., University of Utah;
M.S., Ph.D., North Carolina State University.

HARKINS, FRANCES H. (1967-92)
Professor Emerita, Child, Family, and Consumer Sciences
B.S., Indiana University of Pennsylvania; M.S., Oklahoma State University.

HARRIS, HARRY, G. (1982-97)
Professor Emeritus, Management
A.B., M.A., University of California, Berkeley; M.P.A., Ph.D., Harvard University.

HARRIS, SUSAN B. (1987-2004)
Professor Emerita, Curriculum and Instruction
B.A., M.A., Stanford University;
Ed.D., Texas A & M University.

HART, F. ANDREW (1965-2003)
Professor Emeritus, English
B.A., Harvard University; M.A., Ph.D., University of Utah.

HART, PATRICIA B. (1988-2002)
Assistant to the Provost for Special Projects Emerita
B.M.E., M.M., Northeast Louisiana University; B.A., University of West Florida; Ed.D., Auburn University.

HART, RUSS ALLEN (1984-2001)
Professor Emeritus, Mass Communication and Journalism
B.A., Texas Tech University;
M.A., University of Arizona;
Ph.D., University of Wyoming.

HASLAM, HAROLD B. (1970-2002)
Professor Emeritus, Mathematics
B.S., California State University, Fresno;
M.A., Ph.D., University of California, Irvine.

HATMAKER, ROBERT L. (1969-95)
Professor Emeritus, Social Work Education
A.B., Wheaton College, Illinois; M.A., University of Michigan, Ann Arbor; Ph.D., University of Southern California.

HEANEY, ALBERT (1981-2009)
Professor Emeritus, Electrical and Computer Engineering
B.E.E., M.S.E.E., Polytechnic Institute of New York; Ph.D., Worcester Polytechnic Institute.

HECHT, ROBERT W. (1988-2008)
Associate Professor Emeritus, Electrical and Computer Engineering
B.S., M.S., Ph.D., University of Illinois.

HEGDE, MAHABALAGIRI N. (1980-2004)
Professor Emeritus, Communicative Disorders and Deaf Studies
M.A., D.M.S.P., University of Bangalore; Ph.D., Southern Illinois University.

HELMERS, MERRILEE K. (1972)
Professor Emerita, Mathematics
B.S., University of Washington;
M.S., Ph.D., Michigan State University.

HENNINGS, L. RALPH (1969-2003)
Professor Emeritus, Communication
A.B., M.A., San Diego State College; Ph.D., University of Oregon.

HENNINGS, PATRICIA L. (1970-2003)
Professor Emerita, Art and Design
B.A., University of California, Santa Barbara; M.S., University of Wyoming.

HERNANDEZ, ROBERT P. (1971-2007)
Executive Director Emeritus, Judicial Affairs
B.A., M.S., California State University, Fresno.

HERON, JOAN (1983 – 1995) (2008)
Professor Emerita, Nursing
B.S., Hunter College; M.S., Adelphi University; Ph.D., New York University.

HERRELL, ADRIENNE L. (1989-2004)
Professor Emerita, Literacy and Early Education
B.Ed., University of Miami; M.A., University of Central Florida; Ph.D., Florida State University.

HERRERA, JUAN F. (1990)
Professor Emeritus, Chair Emeritus, Chicano and Latin American Studies
B.A., University of California, Los Angeles;
M.A., Stanford University;
M.F.A., University of Iowa.

HICKS, CHRISTY V. (1970-2008)
Librarian Emerita, Library Service
B.A., University of California, Santa Barbara; M.L.S., University of California, Los Angeles.

HILE, MAHLON M. S. (1977-2004)
Professor Emeritus, Plant Science
B.A., Chico State College; M.S., California State University, Chico; Ph.D., Oregon State University.

HILLMAN, STEPHANIE (1958-95)
Associate University Librarian Emerita
A.B., University of California, Los Angeles; M.L.S., University of California, Berkeley.

HOLMES, DONALD E. (1971-91)
Professor Emeritus, Physics
B.S., University of Oklahoma; M.S., San Diego State University; Ph.D., University of California, Los Angeles.

HOFF, ANDREW (1987-2012)
Interim Provost and Vice President, Academic Affairs; Dean Emeritus, College of Health and Human Services;
Professor Emeritus, Recreation Administration
B.A., M.A., California State University, Fresno; Ph.D., University of Utah.

HOPKINS, JERRY D. (1964-79)
Professor Emeritus, Linguistics
B.A., Indiana University.

HOPSON, CATHERINE (1968-88)
Professor Emerita, Social Work Education
B.A., University of Manchester (England); Mental Health Certificate, University of London (England).

HOWARD, KATSUYO (1981-2010)
Counselor Emerita, International Student Services
B.A., Chiba University, Japan;
M.A., California State University, Fresno;
Ed.D., San Francisco University;
Licensed Marriage and Family Therapist.

HSU, MARILYN M. (1971-2004)
Librarian Emerita, Catalogue Department
B.A., National Taiwan University; M.A.L.S., Immaculate Heart College.

HUDSON, DAVID C. (1968-2004)
Professor Emeritus, History
B.A., University of Notre Dame;
M.A., Ph.D., Columbia University.

HUFF, ARTHUR E. (1964-88)
Professor Emeritus, Music
B.A., M.A., San Jose State College; D.M.A., University of Arizona.

HUFF, DELORES J. (1985-2005)
Professor Emerita, Ethnic Studies
B.A., M.A., Tufts University; Ed.D., Harvard University.

HULL, F. LEE (1968-89)
Professor Emeritus, Finance and Business Law
B.S., M.S., University of Illinois; Ph.D., University of Illinois at Urbana.

HURST, ROLLAND WOOD (1968-84)
Professor Emeritus, Music
B.A., Grinnell College; M.M., Eastman School of Music; Ed.D., Columbia University.

HUSSAIN, MUSHTAQ (1978-2001)
Professor Emeritus, Civil and Geomatics Engineering and Construction
B.S., Punjab University (Pakistan);
M.S.C.E., Ph.D., University of Washington;
Registered Professional Engineer, Registered Civil Engineer.

IBRAHIM, MEDHAT A. (1980-98)
Professor Emeritus, Electrical Engineering
B.S., Cairo University; M.S., M.A., Ph.D., University of Michigan.

IRWIN, PHYLLIS A. (1963-92)
Professor Emerita, Music
B.S., M.Ed., University of Houston; Ed.D., Columbia University.

JACKSON, B. CAROLYN (1983-2003)
Professor Emerita, Home Economics Education, Clothing and Textiles and Fashion Merchandising
B.S., University of Arkansas;
M.Ed., Rollins College;
Ph.D., University of the Pacific.

JACOBS, JOHN A. (1971-97)
Professor Emeritus, Animal Sciences and Agricultural Education
B.S., M.S., University of Kentucky;
Ph.D., University of Wyoming.

JACOBSSON, M. LYNN (1989-2006)
Professor Emeritus, Social Work Education
B.A., Lawrence University;
M.S.W., University of Connecticut;
Ph.D., Columbia University.

JAMES, HELEN G. (1973-86)
Professor Emerita, Physical Therapy
B.S., East Stroudsburg State College; M.S., Stanford University; R.P.T., University of Pennsylvania.

JEN, SHIEN-MIN (1970-2000)
Professor Emeritus, Anthropology
B.A., National Taiwan University; M.A., New York University; Ph.D., University of Wisconsin.

JENNE, RICHARD (1969-96)
Professor Emeritus, Industrial Technology and Art and Design
B.P.A., Art Center School, Los Angeles; M.A., Chico State College.

JENSEN, KAREN M. (1970-98)
Professor Emerita, Communicative Disorders and Deaf Studies
B.S., Northern Illinois University; M.Ed., Smith College.

JIN, LAN (1989-2011)
Professor Emeritus, Computer Science
B.S.E.E., Tsinghua University (China); Ph.D., Moscow Electrical Engineering Institute.

JOHNSON, BIRGER L. (1955-83)
Professor Emeritus, Physical Education
B.A., North Dakota State Teachers College; M.S., University of Oregon; Ph.D., University of Southern California.

JOHNSON, GORDON F. (1966-92)
Professor Emeritus, Education (Special Education)
B.S., M.S., Oregon College of Education; Ed.S., Stanford University; D.Ed., University of Oregon.

JOHNSON, RONALD D. (1968-2003)
Chair Emeritus, Theatre Arts; Chair Emeritus, Communication Arts and Sciences; Professor Emeritus, Theatre Arts
B.A., University of California, Santa Barbara; M.A., San Francisco State College.

JOHNSTON, GERALD L. (1971-94)
Associate Professor Emeritus, Accountancy
B.S., Arizona State University; M.B.A., Kent State University; C.P.A.

JONES, HAROLD D. (1957-83)
Director Emeritus, Career Planning and Placement
B.S., Northern State Teachers College, South Dakota; M.Ed., University of Colorado; Ed.D., University of Denver.

JONES, GERALD L. (1979-2005)
Professor Emeritus, Management
B.S., University of Oklahoma, Norman; M.S., Purdue University.

JONES, MARIANNE (1997-2011)
Professor Emerita, Child, Family, and Consumer Sciences
B.A., M.A., Pacific Oaks College; Ed.D., University of California, Davis/California State University, Fresno.

KALLENBERG, RUTH (1988-2003)
Librarian Emerita, Acquisitions/Periodicals Department
B.A., Whitman College; M.A., Indiana University.

KAO, JOSEPH J.S. (1981-97)
Professor Emeritus, Civil Engineering
B.S., Cheng-Kung University of Taiwan; M.A., Ph.D., Northwestern University.

KAPOOR, SUDARSHAN (1967-2000)
Professor Emeritus, Social Work Education
B.A., DAV College (India); M.A., Delhi College of Social Work; M.S.W., Ph.D., Florida State University.

KAPRIELIAN, ISABEL (1996-2006)
Professor Emerita, History/Armenian and Immigration History
B.A., McMaster University, Hamilton, Ontario, Canada; M.Ed., Ph.D., University of Toronto, Ontario, Canada.

KARIKKA, KATHERINE (1967-80)
Professor Emerita, Home Economics
B.S., Utah State University; M.S., Cornell University.

KARLE, HARRY P. (1962-91)
Professor Emeritus, Plant Pathology and Viticulture
B.S., California State University, Fresno; M.S., Ph.D., University of California, Davis.

KARR, HAROLD S. (1966-85)
Professor Emeritus, English
B.A., United College (Winnipeg); M.A., Ph.D., University of Minnesota.

KAUFFMAN, GEORGE B. (1956-92)
Professor Emeritus, Chemistry
B.A., University of Pennsylvania; Ph.D., University of Florida.

KEHOE, BRANDT (1972-2000)
Director Emeritus, Institutional Research
B.A., Cornell University; M.S., Ph.D., University of Wisconsin.

KENDALL, JOHN C. (1968-2001)
Professor Emeritus, History
B.A., M.A., Carleton University (Canada); Ph.D., McGill University (Canada).

KENSEL, W. HUDSON (1965-2002)
Professor Emeritus, History
B.A., University of Washington; B.A., M.Ed., Central Washington State College; Ph.D., Washington State University.

KESSLER, WARREN L. (1968-2007)
Professor Emeritus, Philosophy
B.A., Rutgers University; M.A., Ph.D., University of Wisconsin.

KILNER, MICHELE M. (1970-2004)
Professor Emerita, Child, Family, and Consumer Sciences
B.S., M.S., University of Arizona.

KIM, JOO I. (1970-2003)
Professor Emeritus, Food Science and Nutrition
B.Sc., Seoul National University (Korea); M.Sc., Israel Institute of Technology; Ph.D., University of British Columbia.

KINDELL, DOLORES J. (1970-85)
Associate Professor Emerita, Nursing
B.S.N., University of Rochester; M.S.N., Marquette University.

KINNEY, KAREN (2001-2004)
Librarian Emerita, Henry Madden Library
B.A., University of Wisconsin; M.L.S., Columbia University; M.A., Teachers College, Columbia University; M.B.A., New York University.

KINZEL, PAUL F. (1963-92)
Professor Emeritus, French
B.A., California State University, Fresno; M.A., Columbia University; Ph.D., University of Washington.

KIPPS, THOMAS C. (1956-92)
Professor Emeritus, Mathematics
B.A., M.A., Ph.D., University of California, Berkeley.

KISSICK, ELENA F. (1966-2000)
Professor Emerita, Food Science and Nutrition
B.S., University of California, Davis; M.A., San Jose State College.

KITTREDGE, ROBERT E. (1969-92)
Counselor Emeritus
B.A., State University of New York; M.A., Ph.D., Michigan State University; Licensed Marriage Counselor.

KLASSEN, PETER J. (1966-2002)
Dean Emeritus, Social Sciences; Professor Emeritus, History
B.A., University of British Columbia; M.A., Ph.D., University of Southern California.

KLIEWER, PAULINE A. (1987-1992)
Professor Emerita, Nursing
B.S., University of British Columbia; M.A., Ph.D., University of Washington.

KNUDSEN, ROBERT G. (1964-2002)
Director Emeritus, Athletic Academic Support Services
B.S., M.S., Utah State University; Ed.D., Brigham Young University.

KOCH, GARY M. (1970-2000)
Professor Emeritus, Plant Science
B.S., M.S., Ph.D., Pennsylvania State University.

KOLLER, E. FRANK (1969-92)
Professor Emeritus, Geography
B.A., University of Utah; M.A., Brigham Young University; Ph.D., Pennsylvania State University.

KOUYMJIAN, DICKRAN (1977-2003)
Professor Emeritus, Coordinator, Armenian Studies Program
B.S., University of Wisconsin; M.A., American University of Beirut; Ph.D., Columbia University.

KREBS, EUGENE (1981-1998)
Professor Emeritus, Child, Family, and Consumer Sciences
B.S., M.S., Ph.D., Southern Illinois University.

KRELL, FRED C. (1963-92)
Associate Professor Emeritus, Nursing
B.S.N., State University of Iowa; M.S., Boston University; Registered Nurse.

KUEHN, PHYLLIS A. (1990-2004)
Professor Emerita, Educational Research, Administration, and Foundations
B.S., University of California, Davis; M.A., American University (Egypt); Ph.D., Georgia State University.

KUIPERS, JUDITH (1984-2010)
Vice President Emerita, Academic Affairs
B.S., Michigan State University; M.A., Central Michigan University; Ph.D., Michigan State University.

KUNIMITSU, DONALD K. (1967-2003)
Professor Emeritus, Chemistry
B.A., Ph.D., University of Hawaii.

KUNIMITSU, VIVIAN Y. (1968-99)
Professor Emerita, Child, Family, and Consumer Sciences
B.S., University of Hawaii; M.S., California State University, Fresno; Ph.D., University of Hawaii.

KUSEL, HEINZ N. (1965-84)
Professor Emeritus, Art
B.S., Skidmore College; M.A., California State University, Fresno.

KUS, JAMES S. (1970-2006)
Professor Emeritus, Geography
B.A., Case Western Reserve University; M.A., Michigan State University; Ph.D., University of California, Los Angeles.

KUZMA, DENNIS C. (1982-2000)
Professor Emeritus, Mechanical and Industrial Engineering
B.S., M.E., M.S., Ph.D., Michigan State University.

LACKS, BERNICE (1989-96)
Librarian Emerita
B.A., State University of New York, Postdam; M.L.S., Rutgers University.

LALEHZARIAN, HAMO (1987)
Professor Emeritus, Mechanical and Industrial Engineering
B.S.I.E., M.S.I.E., Ph.D., University of Texas at Arlington.

LANE, PHILIP J. (1969-2005)
Professor Emeritus, Mass Communication and Journalism
B.A., University of Portland; M.A., University of Kansas; Ph.D., Northwestern University.

LANGE, PAUL M. (1968-2000)
Professor Emeritus, Finance and Business Law
B.S., B.A., Northwestern University; M.A., Mankato State University; J.D., University of Minnesota; Member, Minnesota State Bar.

LARK, ALEXANDER H. (1968-1994)
Professor Emeritus, Curriculum and Instruction
B.A., Goshen College; M.A., Roosevelt University; Ph.D., University of Southern California.

LATIMER, HOWARD L. (1958-92)
Professor Emeritus, Biology
B.S., M.S., State College of Washington; Ph.D., Claremont College.

LAURY, FRANK B. (1959-92)
Professor Emeritus, Art
B.A., University of Northern Iowa; M.A., Stanford University.

LAURY, RITVA (1994-2007)
Professor Emerita, Linguistics
B.A., Helsinki School of Economics, Finland;M. A., California State University, Fresno;M. A., Wellesley College;Ph.D., University of California, Santa Barbara..

LEE, ROBERT E. (1964-2000)
Professor Emeritus, Geography
B.A., M.A., San Jose State College; Ph.D., University of California, Los Angeles.

LEET, DON R. (1969-71; 1972-2006)
Professor Emeritus, Economics
B.A., University of Pittsburgh; M.A., Ph.D., University of Pennsylvania.

LESLIE, GLENN F. (1958-77)
Professor Emeritus, Education
B.S., Central Missouri State College; M.Ed., Ed.D., University of Missouri.

LESOURD, SANDRA J. (1986-2000)
Associate Professor Emerita, Curriculum, Teaching, and Educational Technology
B.A., Southern Illinois University; M.A., Ed.S., Ed.D., University of Georgia.

LEVIN, CARL (1942-80)
Director Emeritus, Business Affairs
B.A., California State University, Fresno.

LEVINE, PHILIP (1958-92)
Professor Emeritus, English
A.B., A.M., Wayne University; M.F.A., State University of Iowa.

LEVINE, ROBERT V. (1973-2008)
Professor Emeritus, Psychology
A.B., University of California, Berkeley;M. S., Florida State University; Ph.D., New York University.

LEWIS, D. GREGORY (1980-2006)
Professor Emeritus, Mass Communication and Journalism
B.A., M.A., California State University, Northridge.

LINDAE, DETLEV (1971-96)
Professor Emeritus, Mathematics
B.A., M.A., Ph.D., University of California, Berkeley.

LINDBERG, JOHN E. (1969-82)
Professor Emeritus, Social Work Education
B.S., M.S.W., University of California, Berkeley.

LINDQUIST, STANLEY E. (1953-88)
Professor Emeritus, Psychology
B.A., California State University, Fresno; Ph.D., University of Chicago; Licensed Psychologist.

LIVINGSTON, WILLIAM H. (1966-86)
Professor Emeritus, Industrial Technology
B.S.M.E., University of California, Berkeley; Registered Electrical Engineer, Licensed General Building Contractor.

LOGAN, BARRY L. (1961-92)
Professor Emeritus, English
B.A., M.A., Syracuse University; Ph.D., Yale University.

LONGLEY, KARL E. (1982-2004)
Dean Emeritus, Lyles College of Engineering and Computer Science; Professor Emeritus, Civil and Geomatics Engineering and Construction
B.S., University of New Mexico, Albuquerque; M.S., Sc.D., Johns Hopkins University; Registered Professional Engineer. **LOPEZ, DAVID P. (1981-2008)**

Professor Emeritus, Curriculum and Instruction
B.S., University of New Mexico; M.A., New Mexico Highlands University; Ed.D., New Mexico State University.

LOPEZ-URRUTIA, M. MARGARITA (1973-98)
Professor Emerita, Foreign Languages and Literatures B.A., M.A., University of Texas at El Paso; Ph.D., University of Arizona.
LORING, JANET (1957-95)
Professor Emerita, Theatre Arts
B.A., Northwestern University; M.A., University of Missouri; Ph.D., University of Iowa.

LUND, EDWARD O. (1966-95)
Professor Emeritus, Art
B.S., University of Wisconsin, Milwaukee; M.F.A., Indiana University, Bloomington.

LYON, ROSE MARIE (1973-2001)
Professor Emerita, Kinesiology
B.A., Pasadena College; M.S., Ph.D., University of Southern California.

MACH, LELAND E. (1958-85)
Professor Emeritus, Advanced Studies
B.A., Colorado State College of Education; M.A., Northwestern University; Ed.D., College of the Pacific; Licensed Psychologist.

MACK, SEYMOUR (1957-92)
Professor Emeritus, Geology
B.S., College of the City of New York; M.S., Ph.D., Syracuse University.

MADDEN, HARRISON (1956-94)
Professor Emeritus, Psychology
B.S., M.A., Ph.D., University of Kansas; Licensed Psychologist.

MAHAJAN, PRAKASH T. (1982)
Professor Emeritus, Mechanical and Industrial Engineering
B.Tech.M.E., Indian Institute of Technology; M.S.I.E., University of Arkansas, Fayetteville; Ph.D., University of Texas at Arlington.

MAHANTY, SATYA DIWAKAR (1978-2007)
Professor Emeritus, Mechanical and Industrial Engineering
B.E., Andhra University (India); M.Tech., Indian Institute of Technology, Kharagpur (India); M.S., Ph.D., University of California, Santa Barbara.

MALLORY, THOMAS E. (1968-2002)
Professor Emeritus, Biology
B.S., University of Redlands; M.S., Ph.D., University of California, Davis.

MANSURI, MASUD (1989)
Professor Emeritus, Mechanical and Industrial Engineering
B.S., Arya-Mehr University of Technology (Tehran); M.S., Texas A & M University; Ph.D., North Carolina State University.

MARKHAM, CHARLES G. (1967-80)
Professor Emeritus, Geography
B.A., University of California, Los Angeles; M.A., Colorado State College; Ph.D., University of California, Berkeley.

MARGETTS, DAVID R. (1981-2001)
Professor Emeritus, Music
B.A., University of Utah; M.A., University of California, Los Angeles; M.A., California State College, Los Angeles; D.M.A., University of Southern California.

MARHENKE, RONALD LEE (1970-2006)
Professor Emeritus, Chemistry
B.S., Valparaiso University; Ph.D., Purdue University.

MARTIN, GERALD D. (1980-92)
Professor Emeritus, Finance
B.S., Clemson University; M.B.A., Ph.D., Arizona State University.

MARTIN, HOWARD J. (1965-92)
Professor Emeritus, Mechanized Agriculture
B.S.A.E., California State Polytechnic University, San Luis Obispo; M.A., California State University, Fresno.

MARTIN, ROBERT K. (1986-2008)
Professor Emeritus, Physical Therapy
B.S., M.S., Brigham Young University; Ph.D., University of Iowa.

MASON, HERBERT O. (1983-2008)
Professor Emeritus, Agricultural Economics
B.A., Stanford University; Ph.D., University of California, Davis.

MASON, R. ELAINE (1956-79)
Professor Emerita, Physical Education
B.A., California State University, Fresno; M.A., Stanford University.

MATHAI, MARIAMMA K. (1982-2012)
Professor Emerita, Nursing
B.S.N., Kerala University (India); M.Ed., Ed.D., Columbia University Teachers College.

MATHENY, JAMES (1973-90)
Professor Emeritus, Mechanical and Industrial Engineering
B.S., University of South Carolina; B.S.M.E., M.S.M.E., Ph.D., University of Texas.

MAUGHELLI, MARY L. (1962-98)
Professor Emerita, Art and Design
B.A., M.A., University of California, Berkeley.

MCCLINTIC, J. ROBERT (1954-91)
Professor Emeritus, Biology
B.A., San Diego State College; Ph.D., University of California, Berkeley.

MCDERMOTT, JOHN J. (1969-96)
Professor Emeritus, English
A.B., University of Notre Dame; M.A., Columbia University; Ph.D., University of California, Los Angeles.

MCDOUGALL, THOMAS (1966-2001)
Professor Emeritus, Art and Design
B.A., San Jose State College;
M.A., San Fernando Valley State College.

MCFERRIN, WILLIAM D. (1970-1998)
Professor Emeritus, Accountancy B.S., Northwestern State College; M.B.A., Louisiana State University; Ph.D., United States International University.

MCGOLDRICK, BERNARD F. (1954-83)
Professor Emeritus, Political Science
B.A., Ph.L., M.A.T., Fordham University;
B.D., Woodstock College; S.T.L., M.A., Ph.D., Georgetown University.

MCKNIGHT, H. RAY (1965-97)
Professor Emeritus, English
B.A., Harvard College; M.A., Ph.D., University of North Carolina.

MCLEOD, ALBERT I. (1968-2001)
Professor Emeritus, Sociology
B.A., Evangel College;
M.A., University of Omaha;
Ph.D., University of Nebraska.

MCMAIN, ROBERT K. (1981-96)
Professor Emeritus, Social Work B.A., M.S.W., Wayne State University; Ph.D., University of New Mexico.

MCMENAMIN, GERALD R. (1980-2004)
Professor Emeritus, Linguistics B.A., University of California, Irvine;
M.A., California State University, Fresno;
Ph.D., El Colegio De Mexico.

MERCHEN, WAYNE (1969-2000)
Professor Emeritus, Geography
B.A., California State University, Fresno;
M.WU.P., University of Washington.

MERRILL, ROBERT D. (1970-2004)
Professor Emeritus, Earth and Environmental Sciences
B.A., University of California, Riverside; M.S., University of Massachusetts; Ph.D., University of Texas at Austin.

MIKELL, ROBERT S. (1972-2002)
Professor Emeritus, Ethnic Studies Program
B.S., M.B.A., California State University, Fresno; Ed.D., University of Southern California.

MILLER, TERRY C. (1969-2011)
Professor Emeritus, Theatre Arts
A.B., University of California, Berkeley;
M.A., Northwestern University;
M.F.A., Ohio University.

MILLER, WILLIAM M. (1956-79)
Professor Emeritus, Chemistry
B.S., University of Illinois; M.S.,
Ph.D., State University of Iowa.

MILUTINOVICH, DIANE (1980-2007)
Associate Athletic Director Emerita, Athletics
B.A., California State University, Fresno.

MINICK, ROBERT A. (1962-95)
Professor Emeritus, Economics
B.S., M.S., North Texas State College, Denton;
Ph.D., University of Texas, Austin.

MITCHELL, C. DEAN (1975-2000)
Professor Emeritus, Chemistry
B.A., Monmouth College; Ph.D., University of Illinois.

MITCHELL, COLLEEN A. (1968-2002)
Librarian Emerita, Acquisitions Department
B.A., College of the Holy Names;
M.A., Washington University;
M.L.S., University of California, Berkeley.

MONKE, ROBERT H. (1969-2002)
Professor Emeritus, Counseling and Special Education;
Coordinator, Liberal Studies Program
B.S., M.S., Illinois State University;
Ph.D., Arizona State University;
N.B.C.C. Board Certified Counselor.

MORGAN, DONALD L. (1972-92)
Professor Emeritus, Geography
B.A., M.A., University of California, Los Angeles; M.S., Stanford University; Ph.D., University of California, Davis.

MORI, NOBUO (1967-91)
Professor Emeritus, Social Work Education
B.S., M.S.W., University of Utah.

MOSHIER, KENNETH D. (1973-2003)
Professor Emeritus, Industrial Technology
B.A., M.A., California State University, Fresno;
Ed.D., Utah State University.

MOTT, MARY L. (1969-93)
Professor Emerita, Physical Education and Human Performance
B.A., University of California, Santa Barbara;
M.A., Stanford University; Ed.D., Louisiana State University.

MOTZ, ARLENE A. (1986-2001)
Professor Emerita, Information Systems and Decision Sciences
B.S.Ed., M.Ed., Ohio University;
Ph.D., University of Colorado, Boulder.

MULLER, CARLOS J. (1978-2004)
Professor Emeritus, Viticulture and Enology
B.S., M.S., Ph.D., University of California, Davis.

MUNSHOWER, CAROL B. (1968-2005)
Director Emerita, International Student Services and Programs
B.A., M.A., California State University, Fresno.

MURPHY, JOSEPH B. (1949-71)
Professor Emeritus, Psychology
B.A., Utah State; P.h.D., Stanford University.

NADER, FAREED W. (1975-2005)
Professor Emeritus, Civil and Geomatics Engineering
B.S., University of Arizona;
M.S., Arizona State University;
Ph.D., Purdue University;
Licensed Land Surveyor.

NAGY, ELEMER J. (1962-83)
Professor Emeritus, Foreign Languages
M.A., Ph.D., P. Pazmany University (Budapest).

NATHARIUS, DAVID T. (1966-99)
Professor Emeritus, Communication
B.A., Los Angeles State College; B.A., Bradley University; Ph.D., University of Southern California.

NEAL, JUDITH C. (1988-2006)
Professor Emerita, Literacy and Early Education
B.A., La Verne College;
M.A., California State University, Fresno;
Ed.D., University of the Pacific.

NELSON, EDWARD E. (1973-2008)
Professor Emeritus, Sociology
B.A., M.A., Ph.D., University of California, Los Angeles.

NELSON, ELIZABETH N. (1973-2000)
Professor Emerita, Sociology
B.A., Washington State University; M.A., Ph.D., University of California, Los Angeles.

NEWELL, TERRY G. (1969-2000)
Professor Emeritus, Psychology
B.A., Ph.D., University of Minnesota.

NISHIO, KAREN T. (1959-FALL 1962; 1963-88)
Professor Emerita, Nursing
B.S., University of Dayton; M.S., University of California, Los Angeles; D.Ed., University of the Pacific; Registered Nurse.

NORDSTROM, RICHARD (1981-2001)
Professor Emeritus, Marketing and E-Business
B.S., University of Kansas; M.B.A., Wichita State University; Ph.D., University of Arkansas.

NORSWORTHY, STANLEY F. (1966-2001)
Professor Emeritus, Chair, Geography
B.A., Ph.D., University of California, Los Angeles; M.A., Miami University.

NUR, HUSSAIN SAYID (1967-2002)
Professor Emeritus, Mathematics B.S., University of Baghdad (Iraq);
M.A., Ph.D., University of California, Berkeley.

NURY, FRED S. (1969-94)
Professor Emeritus, Enology, Food Science, and Nutrition
B.S., University of California, Berkeley; M.S., American University; Ph.D., Utah State University.

NUTTALL, PATRICIA R. (1990-2003)
Professor Emerita, Interim Chair, Nursing
B.S., M.S., California State University, Fresno;
Ph.D., University of Utah.

O'NEIL, ROBERT M. (1957-92)
Professor Emeritus, English
B.A., M.A., Montana State University; Ph.D., University of Washington.

OGDEN, PAUL W. (1979-2008)
Professor Emeritus, Communicative Disorders and Deaf Studies
B.A., Antioch College; M.A., Ph.D., University of Illinois at Urbana-Champaign.

OLNEY, ARTHUR J. (1969-2004)
Professor Emeritus, Plant Science
B.S., University of Rhode Island; M.S., Ph.D., Michigan State University.

ONO, HOWARD K. (1972-2006)
Professor Emeritus, Chemistry
B.S., California Institute of Technology; Ph.D., University of California, Berkeley.

OPPER, S. MICHAEL (1965-88)
Professor Emeritus, Art
B.S., Southern Connecticut State College;
M.A., Columbia University; Ph.D., Institute of Asian Studies.

OROZCO, CECILIO (1975-2001)
Professor Emeritus, Literacy and Early Education
B.S., M.A., Northern Arizona University; Ph.D., University of New Mexico.

OSTERBERG, RICHARD F. (1971-2001)
Professor Emeritus, Literacy and Early Education
B.A., M.A., California State University, Fresno; Ed.D., University of Southern California.

OVERSTREET, LEILANI (1970-92)
Professor Emerita, Physical Education and Human Performance
B.A., M.A., San Fernando Valley State College.

OWENS, LAWRENCE DEAN (1985-2003)
Professor Emeritus, Electrical and Computer Engineering
B.S., California Polytechnic State University, San Luis Obispo; M.S., New York University; Ph.D., University of Pennsylvania.

OXLEY, GOZIL M. (1994-2006)
Professor Emerita, Nursing
B.S., Long Island University; M.A., New York University; Ph.D., University of California, San Francisco.

PAGLIERANI, GARY B. (1970-2001)
Professor Emeritus, Industrial Technology
B.A., M.A., San Jose State College.

PAN, SHENG-DER (1980-2005)
Professor Emeritus, Accountancy
B.A., National Taiwan University; M.A., National Chengchi University; M.A.S., Ph.D., University of Illinois.

PARKER, LILLIE S. (1951-88)
University Librarian Emerita
B.A., B.L.S., University of California, Berkeley.

PAUL, MARTIN T. (1967-2006)
Professor Emeritus, English
B.A., College of the Holy Cross; M.A., Ph.D., University of Wisconsin.

PAULL, ROBERT (1986-2007)
Emeritus Director, University Health and Psychological Services
B.A., M.D., University of Louisville;M.P.H., University of California, Berkeley.

PEÑA, MANUEL (1981-2004)
Professor Emeritus, Music
B.A., M.A., California State University, Fresno; Ph.D., University of Texas at Austin.

PENG, WILLIAM (1984-2007)
Professor Emeritus, Mechanical and Industrial Engineering
B.S.M.E., National Taiwan University; M.S., Ph.D., Stanford University.

PEREZ, ROBERT (1972-1980; 1989-2002)
Emeritus, Criminology
B.A., Chico State College; J.D., University of the Pacific.

PEREZ, THERESA R. (1973-98)
Professor Emerita, Curriculum and Instruction
B.A., M.A., California State University, Fresno; Ph.D., Stanford University.

PERRY, W. RONALD (1969-2002)
Counselor Emeritus
B.A., M.A., California State University, Fresno; Licensed Marriage, Family, and Child Counselor.

PETERSON, BETTY J. (1973-96)
Librarian Emerita
A.B.,University of California, Berkeley; M.L.S., University of the Pacific.

PETRUCCI, VINCENT E. (1948-93)
Professor Emeritus, Viticulture
B.S., M.S., University of California, Davis.

PHERSON, CARL L. (1972-2004)
Director Emeritus, Agricultural Operations; Professor Emeritus, Agricultural Economics
B.S., M.A., Ph.D., University of Minnesota.

PICKEL, DONNA RAE (1967-2000)
Professor Emerita, Kinesiology
B.S., Oklahoma Baptist University; M.S., Smith College; Ph.D., University of Oregon.

PICKERING, JEAN E. (1970-2004)
Professor Emerita, English
B.A., University College (London University); M.A., San Francisco State College; Ph.D., Stanford University.

PICKFORD, PATRICIA R. (1957-91)
Professor Emerita, Social Work Education
B.A., California State University, Fresno; M.S.W., University of California, Los Angeles.

PIERSOL, ROBERT J. (1968-81)
Professor Emeritus, Management
B.S.M.E., University of Illinois; M.B.A., Stanford University; D.B.A., Harvard University.

PINCU, LESTER P. (1970-2003)
Professor Emeritus, Criminology
B.S., Tufts University; M.A., D.Crim., University of California, Berkeley.

PINKERTON, RICHARD L. (1986-2000)
Professor Emeritus, Marketing and E-Business
B.A., University of Michigan, Ann Arbor; M.B.A., Case Western Reserve University; Ph.D., University of Wisconsin, Madison.

PISCIOTTOLI, LOUIS F. (1967-95)
Professor Emeritus, Economics
B.A., Boston College; Ph.D., Duke University.

PITT, JACK A. (1957-97)
Professor Emeritus, Philosophy
B.S., Sir George Williams College; B.A., M.A., McGill University; Ph.D., Yale University.

PLUNKETT, JOSEPH (1977-93)
Professor Emeritus, Electrical Engineering
B.S., Middle Tennessee State University; B.S.E.E., University of Tennessee; M.S.E.E., Georgia Institute of Technology; Ph.D., Texas A & M University; Registered Professional Engineer.

POSS, STANLEY H. (1956-95)
Professor Emeritus, English
B.A., University of Redlands; M.A., Claremont Graduate School; Ph.D., University of Washington.

POWELL, FRANK V. (1955-92)
Professor Emeritus, Psychology
B.A., University of Redlands; M.S., Ph.D., University of Wisconsin; Licensed Psychologist.

POYTHRESS, RANSOM H. (1962-82)
Associate Professor Emeritus, Foreign Languages
B.A., Stanford University; M.A., California State University, Fresno.

PRIEST, DONALD (1995-2011)
Professor Emeritus, Mass Communication and Journalism
B.A., California State University, Fresno; M.A., Washington State University.

PROVOST, DAVID H. (1958-2003)
Professor Emeritus, Political Science
B.A., Pomona College; Ph.D., University of Queensland (Australia).

QUADRO, DAVID F. (1970-2003)
Professor Emeritus, Communication
B.A., University of the Pacific; M.A., San Fernando Valley State College; Ph.D., University of California, Los Angeles.

QUINN, JOYCE A. (1985-2006)
Professor Emerita, Geography
B.A., M.A., University of Colorado; Ph.D., Arizona State University.

RABAGO, EMPERATRLZ N. (1971-88)
Professor Emerita, Nursing
R.N., P.G.H., School of Nursing, University of the Philippines; B.S.E., University of Saint Thomas (Philippines); M.A., Northwestern University; M.S., Ed.D., Indiana University.

RANDELL, CHARLES E. (1962 – 1991)
Professor Emeritus, Theatre Arts
B.A., Central Washington College of Education; M.F.A., Yale University, School of Drama.

RAYMOND, JEANNINE (1977-2006)
Director Emerita, Human Resources; Professor Emerita, Public Health
B.A., M.A., University of California, Riverside; Ph.D., University of Southern California.

REDD WILLIAMS, JANETTE (2005-2010)
Associate Vice President Emerita for Academic Personnel
B.A., University of California, Irvine; J.D., University of California, Davis.

REGIER, ROBERT D. (1981-2002)
Professor Emeritus, Electrical and Computer Engineering
B.S.,California State University, Fresno; M.S.E.E., Ph.D., University of California, Santa Barbara.

REHART, B. SCHYLER JR. (1963-97)
Professor Emeritus, Journalism
B.A., M.A., California State University, Fresno.

REICHERT, RAPHAEL X. (1971-2004)
Professor Emeritus, Art and Design
B.A., San Diego State College; M.A., Ph.D., University of California, Los Angeles.

REITZEL, J. DAVID (1981-2005)
Professor Emeritus, Finance and Business Law
B.S., M.S., Purdue University; J.D., Indiana University.

RENZI, DOROTHY (1968-84)
Professor Emerita, Music
A.B., Mills College.

RICE, WILLIAM C. (1970-92)
Professor Emeritus, Child, Family, and Consumer Sciences
M.S., Pennsylvania State University; B.S., Ph.D., Brigham Young University.

RICHTER, BERTINA (1967-2004)
Librarian Emerita, Catalogue Department
B.A., Sacramento State College; M.L.S., University of California, Berkeley; M.A., California State University, Fresno.

RIMAWI, WALID H. (1982-91)
Professor Emeritus, Civil and Surveying Engineering
B.S., University of Michigan; M.S., Ph.D., Northwestern University.

RITENOUR, GARY LEE (1969-99)
Professor Emeritus, Plant Science
B.S., Purdue University; M.S., Ph.D., University of California, Davis.

RITTERMAN, STUART (1997-2003)
Professor Emeritus, Communicative Disorders and Deaf Studies
B.A., Washington Square College; Ph.D., Case Western Reserve University.

RODEMEYER, STEPHEN A. (1967-2004)
Professor Emeritus, Chemistry
B.S., St. Thomas College;
Ph.D., University of California, Berkeley.

RODIEK, ANNE V. (1984-2013)
Professor Emerita, Animal Sciences and Agricultural Education
B.S., M.S., Ph.D., University of Illinois at Urbana-Champaign.

RODRIGUES, AROLDO S. (1993-2008)
Professor Emeritus, Psychology
B.A., Pontifical Catholic University of Rio de Janeiro; M.A., The University of Kansas; Ph.D., University of California, Los Angeles.

ROSENTHAL, JUDITH A. (1971-2007)
Professor Emerita, English
B.A., Harpur College;
M.A., Ph.D., University of Pittsburgh.

ROSS, DAVID A. (1968-2004)
Professor Emeritus, Modern and Classical Languages and Literatures
B.A., M.A., Ph.D., University of California, Los Angeles.

ROTH, LESTER J. (1956-92)
Professor Emeritus, Education
B.S., Kent State University; M.A., Case Western Reserve University; Ed.D., Stanford University.

ROTSTAN, JOHN A. (1967-91)
Professor Emeritus, Political Science
B.A., M.Ed., Whittier College; M.A., Ph.D., Claremont Graduate School.

ROWE, IVAN H. (1969-96)
Professor Emeritus, Education
B.A., M.A., University of Auckland, New Zealand; M.A., Fresno State College; Ed.D., University of Southern California.

ROWLAND, WALTER F. (1967-92)
Professor Emeritus, Civil Engineering
B.S., M.S., University of Illinois; Ph.D., Stanford University; Registered Civil Engineer.

RUHL, ERVING C. (1967-2000)
Professor Emeritus, Social Work Education
B.A., Monmouth College; M.A., University of Chicago; D.S.W., University of Southern California.

RUSSELL, KENNETH H. (1963-96)
Professor Emeritus, Chemistry
B.S., Portland State College; Ph.D., Washington State University.

RUSSLER, MICHAEL F. (1984-2012)
Professor Emeritus, Chair Emeritus, Nursing
B.S.N., M.S.N., California State University, Fresno; Ed.D., University of San Francisco.

SANTESTEBAN, IGNACIO B. (1971-2001)
Professor Emeritus, Foreign Languages and Literatures
B.A., Zaragoza Philosophy College; M.A., California State University, Fresno; Ph.D., University of California, Riverside.

SANTIGIAN, M. MARTY (1970-86)
Professor Emeritus, Teacher Education
B.A., Occidental College; M.A., California State University, Fresno; Ed.D., University of California, Los Angeles.

SATIN, JOSEPH (1973-90)
Dean Emeritus, Arts and Humanities
B.S., Temple University; M.A., Ph.D., Columbia University.

SAUER, KEITH (1971-98)
Professor Emeritus, Foreign Languages and Literatures
B.A., M.A., University of California, Berkeley; Ph.D., University of Washington.

SCHNEIDER, NORMA COCHRAN (1969-82)
Professor Emerita, Education
B.S., M.S., Ed.D., University of Nebraska.

SCHRAMM, DWAYNE G. (1967-90)
Professor Emeritus, Information Systems and Decision Sciences
B.A., University of Northern Iowa; M.A., University of Northern Colorado; Ph.D., University of California, Los Angeles.

SCHROLL, JOANNE W. (1963-2001)
Chair Emerita, Professor Emerita, Kinesiology
B.A., M.A., California State University, Fresno.

SCHULTZ, RONALD C. (1972-2001)
Professor Emeritus, Public Health
B.A., M.S., California State University, Fresno; Registered Sanitarian;
Ph.D., Oregon State University.

SERRANO, JUAN (1985-2001)
Professor Emeritus, Music
Honorary Doctor of Humane Letters, Fairfield University.

SHAFFER, LINDA J. (1984-2002)
Professor Emerita, Economics
B.A., University of Rochester; M.A., Ph.D., Northwestern University.

SHAW, ELDEN K. (1985-2000)
Dean Emeritus, Professor Emeritus, Electrical and Computer Engineering
B.S., Utah State University; M.S., Ph.D., Stanford University.

SHAW, JOHN A., JR. (1965-2002)
Professor Emeritus, Economics
B.A., San Diego State College; M.S., Ph.D., Purdue University.

SHERWOOD, CHARLES (1980-2004)
Chair Emeritus, Professor Emeritus, Marketing and E-Business
B.A., Dennison University; M.B.A., University of Michigan; Ph.D., University of Arkansas.

SHIELDS, JOHN R. (1978-2008)
Professor Emeritus, Agricultural Economics
B.A., San Francisco State University;
M.A., Ph.D., Michigan State University.

SHIPLEY, KENNETH G. (1980-2008)
Associate Provost Emeritus, Chair Emeritus and Professor Emeritus, Communicative Disorders
B.A., M.A., California State University, Los Angeles; Ph.D., Wichita State University.

SIA, MING BE (1964-78)
Professor Emerita, Nursing
B.A., Hwa Nan College (China); M.A., Teachers College, Columbia University.

SIMIS, PETER (1970-74, 1977-2004)
Professor Emeritus, Information Systems and Decision Sciences
B.S., M.B.A., California State University, Fresno; D.B.A., Arizona State University.

SLANICEANU, ADRIANA N. (1969-2000)
Professor Emerita, Foreign Languages and Literatures
B.A., University of Alberta; M.A., University of Washington; Ph.D., University of Michigan.

SLINGER, JAMES W. (1969-2003)
Professor Emeritus, Philosophy
B.S., Ph.D., University of Wisconsin.

SMALL, LILY B. (1972-2003)
Professor Emeritus, Ethnic Studies Program
B.A., M.A., California State University, Fresno; Ed.D., University of the Pacific.

SMALLEY, R. GAYLE (1963-98)
Professor Emerita, Art and Design
B.F.A., Rochester Institute of Technology; M.F.A., Indiana University.

SMITH, CHARLES R. (1980-92)
Professor Emeritus, Insurance and Finance
B.S., M.S., Kansas State University, Manhattan; Ph.D., Pennsylvania State University.

SMITH, DAVID K. (1984-2004)
Professor Emeritus, Agricultural Economics
B.S., California State Polytechnic University, Pomona; M.S., Ph.D., University of California, Davis.

SMITH, DORIS O. (1979-94)
Professor Emerita, Literacy and Early Education
B.S., Adelphi University; M.A., Pacific Oaks College; Ed.D., University of the Pacific.

SMITH, EPHRAIM K., JR. (1966-2005)
Professor Emeritus, History
B.A., Hillsdale College;
M.A., University of Nebraska;
Ph.D., Johns Hopkins University.

SMITH, JAMES MARVIN (1959-66; 1969-91)
Professor Emeritus, Philosophy
B.A., University of Southern California; M.A., Ph.D., Brown University.

SMITH, JAMES MITCHELL (1965-91)
Professor Emeritus, Psychology
B.A., Ph.D., University of California, Los Angeles.

SMITH, LAWRENCE E. (1967-96)
Professor Emeritus, Industrial Technology and Art and Design
B.S., M.S., Stout State University; Ed.D., University of Southern California.

SMITH, VINCENT J., JR. (1971-2004)
Librarian Emeritus, Catalogue Department
B.A., Sacramento State College; M.L.S., University of California, Berkeley.

SNIDER, JAMES G. (1976-92)
Professor Emeritus, Counseling
B.S., M.S., University of Idaho; Ph.D., Stanford University.

SOBOLIK, GAYLE A. (1969-2000)
Professor Emerita, Information Systems and Decision Sciences
B.A., Concordia College; M.A., Ph.D., University of North Dakota.

SOWBY, SHERMAN K. (1977-2008)
Professor and Chair Emeritus of Public Health
B.S., M.H.Ed., Brigham Young University; Ph.D., University of Utah.

SPRING, C. DENNIS (1987)
Professor Emeritus, Civil and Geomatics Engineering
B.S., M.B.A., Louisiana State University.

STITTICH, ELEANOR M. (1964-92)
Professor Emerita, Nursing
B.S.N.E., M.Litt., University of Pittsburgh; Registered Nurse.

STOCK-ROH, EDITH H. (1969-88)
Professor Emerita, Foreign Languages
A.B., Western Reserve University; M.A., University of Arizona; Ph.D., University of Kansas.

STOCK, WILLIAM P. (1971-2004)
Officer Emeritus, Student Affairs Research and Evaluation
B.S., University of California, Berkeley; M.Ed., University of California, Santa Barbara; Ph.D., University of Southern California.

STONE, BERNICE A. (1980-2002)
Professor Emerita, Curriculum and Instruction
B.A., University of California, Berkeley; M.A., California State University, Fresno; Ed.D., University of Southern California.

STORY, SYDNEY R. (1963-99)
Professor Emerita, Anthropology B.A., M.A., Ph.D., University of California, Los Angeles.

STUART, WALTER H. (1967-88)
Professor Emeritus, English
B.A., Harvard University; M.A., Ph.D., University of Wisconsin.

STUDE, EVERETT W. "BUD" (1971-2001)
Professor Emeritus, Counseling, Special Education, and Rehabilitation
B.A., Pasadena College; M.S., California State College, Los Angeles; Ed.D., University of Southern California.

STUTZMAN, CARL R. (1969-94)
Professor Emeritus, Education
A.B., M.A., Ed.D., University of the Pacific.

SUN, HUGO S. (1970-2003)
Professor Emeritus, Mathematics
B.A., University of California, Berkeley; M.A., University of Maryland; Ph.D., University of New Brunswick.

SUPERSAD, JANKIE N. (1970-92)
Professor Emeritus, Civil Engineering
B.Sc., Glasgow University (Scotland); M.S., Northwestern University; Ph.D., Arizona State University.

SUTHERLAND, LAWRENCE R. (1969-2001)
Professor Emeritus, Music
B.Mus.Ed., University of Tulsa; M.A., University of Missouri; D.M.A. (in Conducting), University of Arizona.

SWANSON, CHARLES E. (1968-80)
Professor Emeritus, Marketing
B.A., San Diego State College; M.A., Ph.D., State University of Iowa.

SWINEFORD, EDWIN J. (1964-76)
Professor Emeritus, Secondary Education
B.A., California State University, Fresno; M.A., University of California, Berkeley; Ed.D., University of Virginia.

SY, JOSE (1985-2007)
Professor Emeritus, Chemistry
B.S., Adamson University (Philippines); Ph.D., Duke University.

TATE, MICHAEL G. (1970-2006)
Professor Emeritus, English
A.B., University of California, Berkeley; M.A., Ph.D., Indiana University.

TELLIER, RICHARD D. (1973-2000)
Professor Emeritus, Management
B.S.E.E., Drexel University; M.B.A., D.B.A., Florida State University.

TERRY, EDWIN F. (1969-92)
Professor Emeritus, Economics
B.S., University of Oklahoma; M.A., University of Kansas; Ph.D., Iowa State University.

THOMPSON, SHIRLEY M. (1953-80)
Associate Professor Emerita, Physical Education
B.S., M.S., University of Wisconsin.

THOMSEN, C. TORBEN (1982-95)
Professor Emeritus, Accountancy
B.S., Andrews University; M.B.A., Ph.D., Michigan State University.

THOMSON, PATRICIA L. (1967-94)
Professor Emerita, Physical Education and Human Performance
B.A., University of Washington; M.S., University of California, Los Angeles; Ph.D., University of Southern California.

THORBURN, MARGARET C. (1971-92)
Professor Emerita, Nursing
B.S., University of California, San Francisco; M.S., California State University, Fresno; Registered Nurse.
B.S., M.B.A., Ph.D., University of Southern California; C.P.A.

TINKER, JOHN N. (1969-2001)
Professor Emeritus, Sociology
B.A., California State University, Fresno; M.A., Ph.D., University of California, Los Angeles.

TOCCHIO, OCTAVIO J. (1959-91)
Professor Emeritus, Criminology
B.A., Suffolk University; M.A., Ph.D., American University.

TOKMAKIAN, HAROLD H. (1968-92)
Professor Emeritus, City and Regional Planning
B.A., M.A., Stanford University; M.R.P., Cornell University.

TOMPKINS, GAIL E. (1989-2004)
Professor Emerita, Literacy and Early Education
B.S., University of Nebraska, Lincoln; M.A., Ed.D., Virginia Polytechnic Institute and State University.

TONEY, JOE D. (1969-2003)
Professor Emeritus, Chemistry
B.S., Agricultural, Mechanical and Normal College; M.S., Ph.D., University of Illinois.

TOWLE, JERRY (1971-2001)
Professor Emeritus, Geography
B.A., Valparaiso University; M.A., Southern Illinois University; Ph.D., University of Oregon.

TRIBBEY, BERT A. (1965-2001)
Professor Emeritus, Biology
B.A., University of California, Santa Barbara; Ph.D., University of Texas.

TROSTLE, LOIS M. (1970-91)
Professor Emerita, Theatre Arts
B.S., Manchester College; M.A., University of California, Los Angeles.

TUCKER, JAMES B. (1968-2002)
Professor Emeritus, Mass Communication and Journalism
B.A., M.A., University of Iowa.

TURNER, LOUISE P. (1970-81)
Professor Emerita, Home Economics
B.S., Ma., Ph.D., Texas Women's University.

ULLMANN, W. RICHARD (1968-2004)
Professor Emeritus, Communication
B.A., California State University, Fresno; M.A., Colorado State University; Ph.D., University of Southern California.

UNRUH, GARY L. (1984-98)
Professor Emeritus, Music
B.A., M.A., Occidental College; D.M.A. University of Illinois, Urbana-Champaign.

VAN DER ELST, DIRK H. (1969-91)
Professor Emeritus, Anthropology
B.A., M.A., University of Utah; M.A., Ph.D., Northwestern University.

VAN GALDER, ROBERT H. (1963-97)
Professor Emeritus, Physical Education
B.A., M.A., Fresno State College; Ed.D., University of Northern Colorado.

VANDER MEER, PAUL (1971-2005)
Professor Emeritus, Geography
B.A., Hope College; M.A., Ph.D., University of Michigan.

VARLEY, BARBARA K. (1965-92)
Professor Emerita, Social Work
B.S., M.S.W., University of Utah; D.S.W., Case Western Reserve University.

VAVOULIS, ALEXANDER (1963-94)
Professor Emeritus, Chemistry
B.A., M.A., Brooklyn College; Ed.D., University of the Pacific.

VIDOLI, VIVIAN A. (1970-2006)
Professor Emerita, Biology
B.S., Southern Connecticut State College; M.S., Ph.D., Arizona State University.

VOLPP, LOUIS D. (1976-92)
Professor Emeritus, Marketing and E-Business
B.S., Iowa State University; M.A., Ph.D., State University of Iowa.

WADSWORTH, STEVEN D. (1968-2001)
Professor Emeritus, Communicative Disorders and Deaf Studies
B.S., M.S., Utah State University; Ed.D., Brigham Young University.

WAGONER, RONALD L. (1969-2001)
Professor Emeritus, Mathematics
B.A., M.A., California State University, Fresno; Ph.D., University of Oregon.

WALKER, STEVEN (1989-92; 1998-2010)
Professor Emeritus, Criminology
B.A., Washburn University; M.Div., Central Baptist Theological Seminary; Ph.D., California School of Professional Psychology, Fresno.

WAMPLE, ROBERT (2000)
Professor Emeritus, Viticulture and Enology; Director Emeritus, the Viticulture and Enology Research Center
B.S., University of Idaho; Ph.D., University of Calgary, Calgary, Alberta, Canada.

WAMPLER, MARVIN B. (1969-91)
Professor Emeritus, Educational Research, Administration, and Foundations
B.A., College of Idaho; M.A., Ed.D., Stanford University.

WARE, ROBERT G. (1978-99)
Professor Emeritus, Theatre Arts
A.B., Amherst College; M.A., University Nevada, Reno; Ph.D., Stanford University.

WASHBURNE, CHANDLER (1968-1983)
Professor Emeritus, Sociology
B.A., M.A., Ph.D., Michigan State University.

WATERS, ALAN R. (1986-2006)
Professor Emeritus, Finance and Business Law
B.S., M.A., University of North Carolina at Chapel Hill; Ph.D., Rice University.

WAYNE, WILLIAM C. (1954-92)
Professor Emeritus, Accountancy
B.S., M.A., Ball State Teachers College; M.S., Indiana University; Ed.D., University of Southern California.

WEBER, RALPH (1980-2004)
Associate Professor Emeritus, Recreation Administration and Leisure Studies
B. S., M. S., California State University, Fresno; Ed.D., University of Utah.

WEI, GRACE C. N. (1976-2005)
Professor Emerita, Computer Science
B.A., M.A., University of Oregon; Ph.D., Kansas State University.

WEILER, JOHN H. (1962-89)
Professor Emeritus, Ornamental Horticulture
B.S., University of Nebraska; Ph.D., University of California, Berkeley.

WEINSTOCK, IRWIN (1971-89)
Professor Emeritus, Management and Marketing
B.A., University of Washington; M.B.A., Ph.D., Louisiana State University.

WEITZMAN, RAYMOND S. (1968-2001)
Professor Emeritus, Linguistics
B.A., University of California, Los Angeles; M.A., Ph.D., University of Southern California.

WEST, MERRY (1972-92)
Professor Emerita, Psychology
B.A., University of Iowa; M.S., Ph.D., Iowa State University.

WHALEY, JULIAN W. (1970-92)
Professor Emeritus, Plant Pathology
B.S., West Liberty State College; M.S., West Virginia University; Ph.D., University of Arizona.

WHEELER, CHARLES (1959-91)
Counselor Emeritus
B.A., Pasadena College; B.D., Nazarene Theological Seminary; M.A., California State University, Fresno; Ed.D., University of Southern California; Licensed Marriage Counselor.

WILCOX, R. JACK (1968-93)
Professor Emeritus, Physical Education
B.A., M.A., California State University, Fresno; Ph.D., University of Utah.

WILKERSON, ELIZABETH H. (1986-2005)
Professor Emerita, Nursing
B.S.N., California State University, Fresno; Ph.D., University of Alabama in Birmingham.

WILLIAMS, DOUGLAS R. (1981-98)
Professor Emeritus, Agricultural Economics
B.S., Utah State University; M.S., New Mexico State University; Ph.D., Louisiana State University, Baton Rouge.

WILLIAMSON, HUGH A. (1967-98)
Professor Emeritus, Physics
B.S., North Texas State University; Ph.D., University of Texas.

WILSON, JAMES (1981-2005)
Professor Emeritus, Mass Communication and Journalism
B.A., M.A., California State University, Fresno.

WINEGAR, GARY (1969-2001)
Professor Emeritus, Industrial Technology
B.S., Brigham Young University; M.Ed., D.Ed., Texas A & M University.

WONG, KIN-PING (1983-2007)
Dean Emeritus, College of Science and Mathematics; Professor Emeritus, Chemistry
B.S., University of California, Berkeley; Ph.D., Purdue University.

WOO, NORMAN T. (1968-2002)
Professor Emeritus, Mathematics
B.A., Wabash College; M.S., Southern Methodist University; Ph.D., Washington State University.

WOODWICK, KEITH H. (1955-94)
Professor Emeritus, Biology
B.S., Jamestown College; M.S., University of Washington; Ph.D., University of Southern California.

WRIGHT, FREEMAN J. (1969-2005)
Professor Emeritus, Political Science
B.S., M.S., Montana State University; Ph.D., Johns Hopkins University.

WRIGHT, MARJORIE (1985-2012)
Head Softball Coach Emerita, Athletics
B.S., Illinois State University.

YAMAGUCHI, JANE (1998-2013)
Associate Professor Emerita, Social Work Education
B.A., Yale University; M.S.W., Smith College; Ph.D., University of Chicago.

YARBROUGH, J. STEVE (1988-2009)
Professor Emeritus English; Endowed Chair Emeritus, the James and Coke Hallowell Professor of Creative Writing
B.A., M.A., University of Mississippi; M.F.A., University of Arkansas.

YEARY, PATRICIA C. (1980-87)
Professor Emerita, Family Studies and Home Economics
B.S., University of California, Los Angeles; M.S., California State University, Fresno.

YEUNG, HENDERSON C. (1971-2005)
Professor Emeritus and Chair Emeritus, Computer Science
B.S., University of Illinois; Ph.D., Kansas State University.

YOUSEF, LENORE W. (1983-2005)
Professor Emerita, Biology
B.A., Mt. Holyoke College; Ph.D., University of California, Berkeley.

YOUSEF, MOHAMAD A. (1978-2005)
Professor Emeritus, Civil and Geomatics Engineering
B.S.C.E., Ein-Shams University (Egypt); M.S.C.E., Ph.D., University of California, Berkeley; Registered Civil Engineer.

ZANE, BURKE (1962-98)
Professor Emeritus, Mathematics
B.A., M.A., California State University, Fresno; Ph.D., University of Oregon.

ZARAGOZA, COSME (1984-2011)
Professor Emeritus, Modern and Classical Languages and Literatures
B.A., Universidad De Guanajuato (Mexico); M.A., Ph.D., University of Arizona.

ZELDIS, JACK B. (1969-2001)
Professor Emeritus, Linguistics
B.A., Ph.D., University of Pennsylvania.

ZELLMER, DAVID L. (1969-2005)
Professor Emeritus, Chemistry
B.S., University of Michigan; M.S., Ph.D., University of Illinois.

ZENDER, MICHAEL J. (1966-2003)
Professor Emeritus, Physics
B.A., St. John's University; Ph.D., Vanderbilt University.

ZIEGLER, STANLEY M. (1968-2001)
Professor Emeritus, Chemistry
B.A., University of California, Riverside; Ph.D., University of California, Los Angeles.

ZITTERKOPF, MARILYN R. (1969-2008)
Librarian Emerita, Library Services
B.A., Eastern Washington State College; M.L.S., University of Hawaii.

ZUMWALT, EUGENE E. (1959-99)
Professor Emeritus, English
B.A., M.A., University of Oregon; Ph.D., University of California, Berkeley.

Directory

Admissions, Graduate
Joyal Administration, Room 121
278.4073

Admissions, Undergraduate
Joyal Administration, north lobby
278.2261

Advising Services
Joyal Administration, Room 224
278.1787

Alumni Association
Smittcamp Alumni House
278.2586

Associated Students, Inc.
University Student Union, Room 316
278.2656

Athletics Communications
Lab School, Room 104K
244.5615

Bookstore, *General Catalog**
Kennel Bookstore
278.4062

Career Services
Frank W. Thomas Building, Room 103
278.2381

Cashiering Services and Student Financial Services
Joyal Administration - South Lobby
559.278-2641

Educational Opportunity Program
Joyal Administration, Room 224
278.1787

Evaluations
Joyal Administration, Room 115
278.4076

Continuing and Global Education
Education Building, Room 130
278.0333

Financial Aid
Joyal Administration, Room 296
278.2182

Graduate Studies
Haak Center, Library 4140, West Wing
278.2448

Health and Psychological Services
Student Health Center
278.2734

Information Technology Services
McKee Fisk, Room 137
278.3923

International Student Services and Programs
Joyal Administration, Room 256
278.2782

Learning Center
Henry Madden Library, Downstairs, Collection Level
278.3052

Library Information
Henry Madden Library
278.2174

New Student Orientation
Joyal Administration, Room 224
278.4885

Parking Permits
Joyal Administration,
south lobby, cashier's window
278.2641

Police, Campus
Public Safety Building
Barstow and Jackson Avenues
278.8400

Registrar/Director of Admissions
Joyal Administration, Room 106
278.2191

Services for Students with Disabilities
Henry Madden Library, Room 1202
278.2811

Student Activities
University Student Union, Room 306
278.2741

Summer Session
Haak Center, Library 4th Floor
278.2636

Testing Services
Family and Food Sciences, Room 110
278.2457

Tours, Campus
(University Outreach Services)
University Center, Room 100
278.8236

University Courtyard (Housing)
Residence Atrium
278.2345 or 800.555.0482

University Communications
Haak Center, Library Fourth Floor
278.2795

University Student Union
University Student Union, Room 306
website: *www.auxiliary.com/usu*
278.2741

Veterans Certification
Joyal Administration, Room 106
278.7030

Copies of the *General Catalog* may be purchased at the Kennel Bookstore or ordered by mail. The price per copy is $20 (plus tax). On mail orders directed to the bookstore, add $5 to the check or money order to cover tax and the cost of handling and mailing. For ordering information, call the **Kennel Bookstore** at **559.278.4062**. For assistance with other *General Catalog* inquiries, please contact the catalog production office at 559.**278.**4777.

California State University, Fresno

5241 N. Maple Avenue
Fresno, California 93740

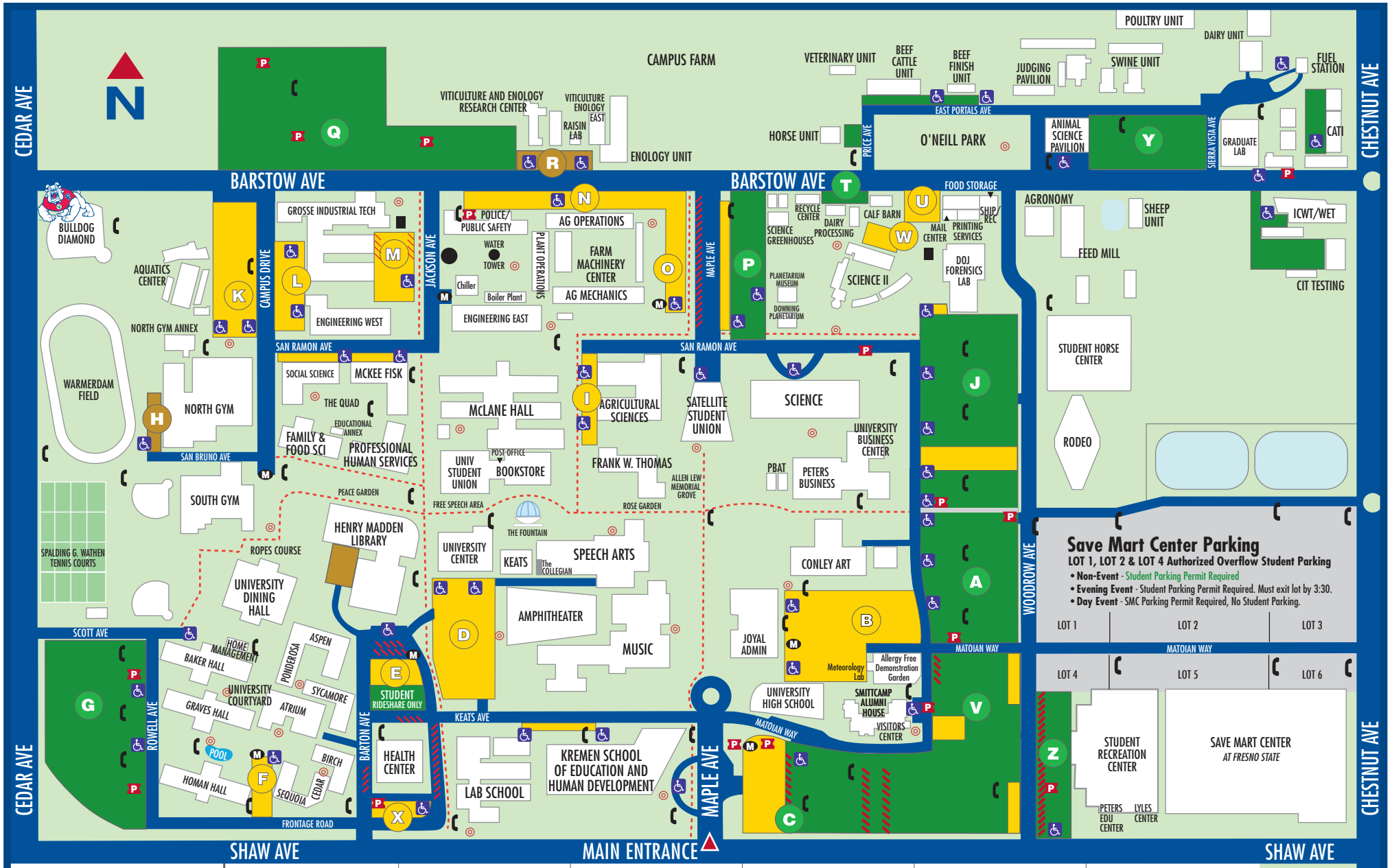
General Information for all other campus numbers:
559.278.4240

Changes in Rules and Policies

Although every effort has been made to ensure 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, college/school, or administrative office.

Nothing in this catalog shall be construed as, operate as or have the effect of an abridgment or a limitation of any rights, powers, or privileges of the Board of Trustees of the California State University, the Chancellor of the California State University, or the President of the campus. The Trustees, the Chancellor, and the President are authorized by law to adopt, amend, or repeal rules and policies that apply to students. This catalog does not constitute a contract or the terms and conditions of a contract between the student and the campus or the California State University. The relationship of students to the campus and the California State University is one governed by statute, rules, and policy adopted by the Legislature, the Trustees, the Chancellor, the Presidents and their duly authorized designees.



FRESNO STATE

Discovery. Diversity. Distinction.

CALIFORNIA STATE UNIVERSITY, FRESNO

5241 North Maple Avenue Fresno, CA 93740 • 559.278.4240

8/12