For additional information

consult
Director of Admissions and Records
Director of Athletics, PE-107
Director of Counseling, 5630 Hardy
Director of Career Planning, 5658 Hardy
College of Extended Studies, 5814 Hardy
Director of Financial Aid, CL-122
Director of Housing, 5860 Hardy
Admissions and Records
Dean of the Graduate Division, AD-220
Director of Health Services
Director of Housing, 5860 Hardy
Dean, 720 Heber Ave., Calexico
Director of Library Services
College of Extended Studies, 5707 Hardy
Chief of University Police, 5882 Hardy
Admissions and Records
Chair, Aerospace Studies, BA-320
Scholarship Office, CL-4J
Student Resource Center, CL-107
College of Extended Studies, 5707 Hardy
Dean, College of Education, CL-106
Admissions and Records
Veterans Adviser, 5525 Hardy

On August 20, 1979, the prefix for all SDSU telephone numbers will be changed from "286" to "265."

San Diego State University
5300 Campanile Drive
San Diego, California
92182
# Table of Contents

**Annual Calendar** .......................................................... 5  
**Academic Calendar** ...................................................... 6  
**Schedule of Fees** .......................................................... 8  
**Student Activity Fee** ..................................................... 10  
**Debits Owed to the Institution** ........................................... 10  

**Organization and Administration**  
The California State University and Colleges ........................................ 11  
**Costs and Sources of Funds** .................................................. 12  
**Trustees** ............................................................................. 14  
**Campus Locations** ............................................................ 15  
**Office of the Chancellor** ..................................................... 16  
**Colleges, Schools, Departments, Programs** ................................ 18  

**General Information**  
**General Information** ............................................................. 26  
**San Diego State University** ................................................... 22  
**Institutional and Financial Assistance** ....................................... 23  
**University Library** ................................................................ 24  
**National Honor Societies** ...................................................... 24  
**Accreditation** ....................................................................... 24  
**Faculty Office Hours** ............................................................ 25  
**Campus Locations** ............................................................... 25  
**Special Programs and Services** ................................................ 26  
**Research Bureaus and Centers** ................................................ 29  
**Computer Center** .................................................................. 29  
**San Diego State University Foundation** ........................................ 33  
**Learning Resource Center** ...................................................... 33  

**Financial Aid**  
**Cost of Living** ................................................................. 34  
**Financial Aid** ....................................................................... 34  
**Applying for Aid** .................................................................. 34  
**Scholarships and Fellowships** .................................................. 34  

**Student Services**  
**Center for Counseling Services and Placement** ........................... 39  
**Health Services** ..................................................................... 39  
**Study Skills Center** ............................................................... 39  
**Audiology Diagnostic Center** .................................................... 40  
**Speech and Hearing Clinic** ...................................................... 40  
**Clinical Training Center** ......................................................... 40  
**Student Resource Center** ....................................................... 40  
**Aztec Center** ......................................................................... 41  

**Child Care Center Program** .................................................... 41  
**Aztec Shops** .......................................................................... 41  
**Alumni and Associates** ............................................................ 42  
**Housing and Residential Life** ................................................... 42  
**Residence Halls** ..................................................................... 42  
**Off-Campus Housing** ............................................................. 43  
**Greek Letter Organizations** ...................................................... 43  
**Transportation and Parking** ..................................................... 43  
**Marine Corps Programs** .......................................................... 43  
**Navy Officer Programs** ........................................................... 44  
**Educational Opportunities Program** .......................................... 44  
**Veterans Services** ................................................................. 44  
**Disabled Students** .................................................................. 44  

**Regulations**  
**Admissions and Registration** ................................................... 46  
**Admissions Procedures and Policies** ............................................ 46  
**Career Placement Information** ................................................ 46  
**Social Security Numbers** ....................................................... 46  
**Undergraduate Application Procedures** ................................ ...... 46  
**Impact Programs** ................................................................... 46  
**Postbaccalaureate Application Procedures** .................................. 47  
**Application Filing Periods** ...................................................... 47  
**Space Reservation Notices** ...................................................... 47  
**Hardship Petitions** ................................................................. 48  
**Filing of Records** .................................................................... 48  
**Completion of Required Tests** ................................................... 48  
**Undergraduate Admission Requirements** .................................... 49  
**Undergraduate Transfer Applicants** .......................................... 51  
**Other Applicants** .................................................................... 51  
**Admission of Postbaccalaureate and Graduate Students** ............... 51  
**Postbaccalaureate Standing (unclassified)** .................................. 51  
**Postbaccalaureate Standing (classified)** ...................................... 51  
**Graduate Standing (conditionally classified)** ................................ 51  
**Graduate Standing (classified)** ................................................ 52  
**International Student Admissions** ............................................ 52  
**Limitation of Enrollment** ....................................................... 52  
**Registration** .......................................................................... 52  
**Determination of Residence** .................................................... 53  
**Academic Advising** ............................................................... 54  

**General Regulations**  
**Responsibility for Catalog Information** ........................................ 57  
**Changes in Rules and Policies** .................................................. 57  
**Privacy Rights of Students** ..................................................... 57  
**Nondiscrimination on Basis of Sex** .......................................... 58  
**Nondiscrimination on Basis of Handicap** ..................................... 58  
**Grades** .................................................................................. 58  
**Courses** .................................................................................. 60  
**Final Examinations** ............................................................... 61  

**Credit Through Course Work** .................................................. 61  
**Credit Through Examination** ................................................... 62  
**Academic Credit for Military Service** ........................................ 63  
**Student Classification** ............................................................. 63  
**Student Program and Records** ................................................ 64  
**Withdrawals, Leave of Absence, Readmission, and Evaluation** ....... 65  
**Credit and Study List Limits** .................................................... 66  
**Dean's List** ............................................................................ 66  
**Scholastic Probation and Disqualification** ...................................... 66  
**Student Discipline and Grievances** .......................................... 67  

**Graduation Requirements**  
**General Education Requirements** .............................................. 69  
**Major and Minor** ................................................................... 82  
**American Institutions** ............................................................. 83  
**Foreign Language Requirement** .............................................. 83  
**Physical Activities Requirement** ............................................. 84  
**Competency Requirements** ..................................................... 84  
**Unit Requirements** .................................................................. 85  
**Residence Requirement** .......................................................... 86  
**Grade Point Average Requirements** ......................................... 87  
**Graduation with Honors and Distinction** ..................................... 87  
**Second Bachelor's Degree** ..................................................... 87  

**Curricula**  
**Undergraduate Division** .......................................................... 94  
**Objectives and Functions** ....................................................... 94  
**Honors Programs** ................................................................. 94  
**New Hampshire Exchange Program** .......................................... 94  
**Test Office** ............................................................................. 95  
**Preprofessional Health Advising** ............................................... 95  

**Graduate Division**  
**Organization and Administration** ............................................. 98  
**Association Membership** ....................................................... 98  
**Degrees Offered** ................................................................. 98  
**Non-Degree Postbaccalaureate Study** ....................................... 99  
**Admission Procedures** ........................................................... 99  
**Graduate Bulletin** ................................................................. 101  

**Nondegree Curricula** ............................................................. 104  

**College of Extended Studies**  
**Continuing Education** ........................................................... 108  
**Function** ............................................................................... 108  
**Summer and Conferences** ...................................................... 108  
**Military and External Degree Programs** .................................... 108  

**International Programs** .......................................................... 109  
**International Faculty Exchanges** .............................................. 110  
**Retired Adult Program** .......................................................... 110  
**Foreign Travel Study Programs** ............................................... 110  
**Extension and Professional Programs** ....................................... 110  
**Extension** .............................................................................. 110  
**Certificate Programs** ............................................................. 111  
**Concurrent Enrollment** .......................................................... 111  
**Winter Session** ....................................................................... 111  

**External Degree Programs**  
**Purpose** ................................................................................. 112  
**Admission Requirements** ........................................................ 112  
**Admission and Enrollment Procedures** ....................................... 112  
**Instruction and Scheduling** ..................................................... 112  
**Curriculum** ........................................................................... 112  
**Provisions for Military** ........................................................... 112  
**Fees** ....................................................................................... 113  
**Degrees Offered** ................................................................. 113  

**Announcement of Courses**  
**Courses and Curricula** ............................................................ 116  
**Aerospace Studies** ................................................................. 120  
**Afro-American Studies** .......................................................... 122  
**American Indian Studies** ....................................................... 126  
**American Studies** ................................................................. 129  
**Anthropology** ........................................................................ 131  
**Art** ......................................................................................... 139  
**Asian Studies** ....................................................................... 152  
**Astronomy** ............................................................................ 154  
**Athletics** ............................................................................... 157  
**Biology** ................................................................................. 159  
**Botany** .................................................................................. 166  
**Business Administration** ....................................................... 170  
**Chemistry** ............................................................................. 184  
**Chinese** ............................................................................... 192  
**Classical and Oriental Languages and Literature** ....................... 193  
**Classics** ................................................................................. 193  
**Comparative Literature** ......................................................... 198  
**Criminal Justice Administration** ............................................. 201  
**Drama** ................................................................................... 204  
**Economics** .......................................................................... 210  
**Education** ............................................................................. 217  
**Engineering** .......................................................................... 240  
**English** .................................................................................. 259  
**European Studies** ................................................................. 266  
**Family Studies and Consumer Sciences** .................................... 269  
**French** .................................................................................... 278  
**Geography** ............................................................................ 282  
**Geological Sciences** ............................................................... 290  
**German** ................................................................................ 296  
**Health Science and Safety** ..................................................... 300  
**Hebrew** .................................................................................. 305  
**History** .................................................................................. 306  
**Humanities** .......................................................................... 314  
**Industrial Arts** ...................................................................... 315
### Annual Calendar

#### CALENDAR 1979

<table>
<thead>
<tr>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
</tbody>
</table>

#### CALENDAR 1980

<table>
<thead>
<tr>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
</tbody>
</table>
1979-1980

Academic Calendar

Summer Sessions, 1979
May 29-June 15
June 18-July 27
July 4
July 30-August 17

Fall Semester, 1979
August 1

May 7, 15, 18, June 19, 27; Aug. 10, 13, 16, 20, 21, 23, 24, 27, 29, 31
August 27-31
August 27
September 3
September 3
September 4
Sept. 11, 19, 27; Oct 9, 10, 11, 23; Nov. 12, 15, 19; Dec. 4, 6, 10
September 18
September 21
October 1
October 8
October 8-26
November 1
November 22-25
December 1
December 14
December 14
December 15-21
December 22
December 24-25
December 26
December 31-January 1

Spring Semester, 1980
August 1

January 28
January 29
February 12
February 18
February 18-March 7
February 25
March 28
March 31-April 6
April 7
May 15
May 16
May 17-23
May 25
May 26
May 28
June 27

Summer Sessions, 1980
May 26
June 2-20
June 23-August 1
July 4
August 4-22

First day of classes.
Check with Department of Elementary Education for application dates and deadlines for Multiple Subjects Credential Program.
Last day to apply for refunds.
Reading Comprehension Test for admission to elementary or secondary education.
Application meeting - Secondary Education 400, 1:00 p.m., ED-60.
Holiday - Washington's Birthday.
File application for admission to Secondary Education 400 for fall semester in room ED-100E.
Last day to withdraw from class or change program.
Last day of classes before spring recess.
Spring recess.
Classes resume.
Last day of classes before final examinations.
Study and consultation day.
Final examinations.
Commencement.
Holiday - Memorial Day.
Grades due.
Last day of spring semester.
Last day to apply for a leave of absence for fall semester.

Holiday - Memorial Day.
Term I summer session (3 weeks).
Term II summer session (6 weeks).
Last day to apply for a leave of absence for fall semester.

Holiday - Independence Day.
Term I summer session (3 weeks).
Term II summer session (6 weeks).
Last day to apply for a leave of absence for fall semester.

Holiday - Independence Day.
Term I summer session (3 weeks).
Term II summer session (6 weeks).
Last day to apply for a leave of absence for fall semester.

Application for admission or readmission to San Diego State University for the spring semester 1980 accepted. Applications are accepted after August 31 only until enrollment quotas are met.
Mathematics placement examinations for students planning to enroll in Mathematics 104, 119, 120, 121, 140, 150, or Economics 201.
Schedule adjustment days/walk-through Registration.
Opening date of the academic year.
Holiday - Labor Day.
Check with Department of Elementary Education for application dates and deadlines for Multiple Subjects Credential Program.
First day of classes.
Reading Comprehension Test for admission to elementary or secondary education.
Last day to apply for refunds.
Last day to file application for bachelor's degree for mid-year graduation.
Last day to withdraw from class or change program.
Application Meeting - Secondary Education 400, 1:00 p.m., ED-60.
File application for admission to Secondary Education 400 for spring semester in room ED-100E.
Application for admission or readmission to San Diego State University for the fall semester 1980 accepted. Applications are accepted after November 30 only until enrollment quotas are met.
Thanksgiving recess.
Last day to file application for the bachelor's degree for May or summer graduation.
Last day of classes before final examinations.
Last day to apply for a leave of absence for spring semester.
Final examinations.
Winter recess begins.
Campus Closed and Holiday.
Grades due.
Last day of fall semester.
Campus Closed and Holiday.
Applications for admission or readmission to San Diego State University for the spring semester 1980 accepted. Applications are accepted after August 31 only until enrollment quotas are met.
Mathematics placement examinations for students planning to enroll in Mathematics 104, 119, 120, 121, 140, 150, or Economics 201.
Schedule adjustment days/walk-through Registration.
First day, second semester.
EXEMPTIONS
Students under Public Law 894, 87-815, California state veterans' dependents, or state rehabilitation programs will have fees paid for tuition and materials and service under provisions of these respective programs.

ALAN PATTEE SCHOLARSHIPS
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 fees or tuition of any kind at any California State University or College, according to the Alan Pattee Scholarship Act, Education Code Section 88121. Students qualifying for these benefits are known as Alan Pattee scholars. For further information, contact the Admissions/Registrar's Office, which determines eligibility.

STUDENT SERVICES FEE
A Student Services Fee was established by the Board of Trustees of The California State University and Colleges in January 1975. Previously, this fee was known as the Materials and Service Fee.

The student services fee provides financing for the following student services programs not covered by state funding:

1. Social and Cultural Development Activities: provides for the coordination of various student activities, student organizations, student government and cultural programs.
2. Counseling: includes the cost of counselors' salaries and clerical support plus operating expenses and equipment.
3. Testing: covers the cost of test officers, psychometricists, clerical support, operating expenses and equipment.
4. Placement: provides career information to students and faculty for academic program planning and employment information to graduates and students.
5. Financial Aid Administration: includes the cost of the counseling and business services provided in connection with the financial aid programs.
6. Health Services: provides health services to students and covers the cost of salaries of medical officers and nurses plus related clerical and technical personnel as well as operating expenses and equipment.
7. Housing: includes the cost of personnel providing housing information and monitoring housing services provided to students.
8. Student Services Administration: covers 50 percent of the cost of the Dean of Students Office which has responsibility for the overall administration of student services.

Procedure for the Establishment of a Student Activity Fee
The law governing The California State University and Colleges provides that a student activity fee, not to exceed $20 per academic year may be established by student referendum with the approval of two-thirds of those students voting. The Student Activity Fee was established at San Diego State University by student referendum in 1955. 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 20 percent of the regularly enrolled students. (Education Code, Section 89300.) The level of the fee is set by the Chancellor upon recommendation by the campus. Student activity fees support a variety of cultural and recreational programs, childcare centers, and special student support programs.

Debts Owe to the Institution
Should a student or former student fail to pay 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 Administrative Code, Sections 42380 and 42381). For example, the institution may withhold such a service as furnishing copies of a student's transcript. If a student believes that he or she does not owe all or part of an unpaid obligation, the student should contact the campus cashier's office. The cashier's office, or another office on campus to which the student may be referred by the cashier's office, will review the pertinent information, including information the student may wish to present, and will advise the student of its conclusions with respect to the debt.
The California State University and Colleges

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. Today, 16 of the 19 campuses have the title "University." The oldest campus—San Jose State University—was founded in 1857 and became the first institution of public higher education in California. The newest campus—California State College, Bakersfield—began instruction in 1970.

Responsibility for The California State University and Colleges 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 on the respective campuses.

The Trustees, the Chancellor and the Presidents develop systemwide policy, with actual implementation at the campus level taking place through broadly based consultative procedures. The Academic Senate of The California State University and Colleges, 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 California State University and Colleges 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 of the campuses require for graduation a basic program of "General Education—Breadth Requirements" regardless of the type of bachelor's degree or major field selected by the student. A limited number of doctoral degrees are offered jointly with the University of California and with private universities in California.

Presently, under the system's "New Approaches to Higher Education," the campuses are implementing a wide variety of innovative programs to meet the changing needs of students and society. Among pilot programs under way are instructional television projects, self-paced learning plans, minicourses, and credit-by-examination alternatives. The Consortium of The California State University and Colleges fosters and sponsors local, regional and statewide external degree and certificate programs to meet the needs of individuals who find it difficult or impossible to attend classes on a campus.

Enrollments in fall 1978 totaled approximately 300,000 students, who were taught by a faculty of 17,500. Last year the system awarded over 53 percent of the bachelor's degrees and 33 percent of the master's degrees granted in California. Almost 700,000 persons have been graduated from the nineteen campuses since 1960.
Average Annual Costs and Sources of Funds per Full-time Equivalent* Student in The California State University and Colleges

The 19 campuses and the Chancellor's Office of The California State University and Colleges are financed primarily through funding provided by the taxpayers of California. Including capital outlay, the CSUC 1978/79 budget totals $840 million. Approximately $815 million of the $840 million total has been budgeted to provide support for a projected 237,080 full-time equivalent (FTE*) students. Excluding capital outlay, the average cost per FTE student is $3,441 per year. Of this amount, the average student pays $312. Included in this average student payment calculation is the amount paid by nonresident students. The remaining $3,129 in costs is funded by state and federal taxes.

Averages do not fit all students alike or even any specific student. To arrive at an average figure that is meaningful, the costs outlined above exclude "user fees" for living expenses, housing, and parking, as well as costs for extension and summer session work. Computations are based on full-time equivalent students, not individuals, and costs are prorated by system totals, not by campus. The average costs for a full-time equivalent student in the system are depicted in the following chart:

**Total 1978/79 CSUC Budget**
(Projected Enrollment: 237,080 FTE)

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Amount</th>
<th>Average Cost Per Student (FTE)*</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Appropriation (Support)</td>
<td>$695,340,533</td>
<td>$2,933</td>
<td>85.2%</td>
</tr>
<tr>
<td>Student Charges</td>
<td>73,970,331</td>
<td>312**</td>
<td>9.1%</td>
</tr>
<tr>
<td>Federal (Financial Aids)</td>
<td>46,458,850</td>
<td>196</td>
<td>5.7%</td>
</tr>
<tr>
<td>State Funding (Capital Outlay)</td>
<td>23,873,000</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Total</td>
<td>$829,642,714</td>
<td>$3,441</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

(a) This amount will be reduced by the CSUC share of the statewide budget reductions required by Budget Act Section 27.1 ($14,000,000 in personal services pursuant to the living freeze).

For budgetary purposes, full-time equivalent (FTE) translates total head count into total academic student load. The term assumes that a full-time student in The California State University and Colleges is enrolled for 15 units of academic credit. Some students enroll for more than 15 units; some students enroll for fewer than 15 units.

**The average costs paid by a student include the student services fee, health facilities fee, college union fee, student body fee, and the nonresident tuition. This amount is derived by taking the total of all student fees and dividing by the total full-time equivalent student enrollment. Individual students may pay more or less than $312 depending on whether they are part-time, full-time resident or nonresident students.**

Trustees of The California State University and Colleges

**Ex Officio Trustees**

The Hon. Edmund G. Brown, Jr. ........................................... State Capitol
Governor of California ..................................................... Sacramento 95814
The Hon. Mike Curb ............................................................ State Capitol
Lieutenant Governor of California ....................................... Sacramento 95814
The Hon. Leo McCarthy ...................................................... State Capitol
Speaker of the Assembly .................................................... 721 Capitol Mall
The Hon. Wilson C. Riles .................................................. Sacramento 95814
State Superintendent of Public Instruction .......................... 400 Golden Shore
Dr. Glenn S. Dumke ........................................................... Long Beach 90802
Chancellor of The California State University and Colleges

**Appointed Trustees**

Appointments are for a term of eight years, except for a student Trustee and alumni Trustee whose terms are for two years, expiring in March of the years in parentheses. Names are listed in order of appointment to the Board.

Mr. Charles Luckman (1982) 9220 Sunset Blvd., Los Angeles 90069
Mr. Wendell W. Witter (1979) 45 Montgomery St., San Francisco 94106
Mr. Roy T. Brophy (1980) 2160 Royale Rd., Suite 20, Sacramento 95815
Mrs. C. Stewart Ritchie (1980) 1064 Creek Dr., Menlo Park 94025
Mr. Frank P. Adams (1981) 235 Montgomery St., Suite 1922, San Francisco 94104
Mr. Richard A. Garcia (1979) 31851 E. Nine Dr., Laguna Niguel 92677
Mr. Dean S. Lesher (1981) P.O. Box 5166, Walnut Creek 94598
Dr. Claudia H. Hampton (1982) 450 N. Grand, Rm. G353, Los Angeles 90012
Dr. Mary Jean Pew (1983) 2021 N. Western Ave., Los Angeles 90027
Mr. Willie J. Stennis (1983) 3947 Landmark, Culver City 90230

**Officers of the Trustees**

Governor Edmund G. Brown, Jr. President .................................. San Fernando 92407
Mr. Roy T. Brophy Chair .................................................... San Bernardino 92407
The California State University and Colleges

California State College, Bakersfield
9001 Stockdale Highway
Bakersfield, California 93309
Dr. Jacob P. Frankel, President
(805) 833-2011

California State University, Chico
1st & Normal Streets
Chico, California 95929
Dr. Stanford Cazier, President
(916) 895-5011

California State University, Dominguez Hills
Carson, California 90747
Dr. Donald R. Gerth, President
(213) 515-3300

California State University, Fresno
Shaw and Cedar Avenues
Fresno, California 93740
Dr. Norman A. Baxter, President
(209) 487-9011

California State University, Hayward
Hayward, California 94544
Dr. Ellis E. McCune, President
(510) 884-9000

Humboldt State University
Arcata, California 95521
Dr. Alistair W. Cronce, President
(707) 826-3011

California State University, Long Beach
1250 Bellflower Boulevard
Long Beach, California 90840
Dr. Stephen Horn, President
(213) 498-4111

California State University, Los Angeles
5151 State University Drive
Los Angeles, California 90032
Dr. John A. Greenlee, President
(213) 224-0111

California State University, Northridge
18111 Northridge Boulevard
Northridge, California 91300
Dr. James W. Cleary, President
(818) 885-1200

California State Polytechnic University, Pomona
3801 West Temple Avenue
Pomona, California 91768
Dr. Hugh O. LaBounty, Jr., President
(714) 598-4592

California State University, Sacramento
6000 J Street
Sacramento, California 95819
Dr. W. Lloyd Johns, President
(916) 454-6100

California State College, San Bernardino
5500 State College Parkway
San Bernardino, California 92407
Dr. John M. Plau, President
(714) 887-7301

San Diego State University
5300 Campanile Drive
San Diego, California 92182
Dr. Thomas B. Day, President
(714) 286-5000

San Francisco State University
1600 Holloway Avenue
San Francisco, California 94132
Dr. Paul F. Romberg, President
(415) 469-2141

San Jose State University
125 South Seventh Street
San Jose, California 95192
Dr. Gail Fullerton, President
(408) 277-2000

California Polytechnic State University, San Luis Obispo
San Luis Obispo, California 93407
Dr. Dale W. Andrews, Acting President
(805) 646-0111

Sonoma State College
1801 East Cotati Avenue
Rohnert Park, California 94928
Dr. Peter Diamandopoulos, President
(707) 664-2880

California State College, Stanislaus
800 Monte Vista Avenue
Turlock, California 95380
Dr. A. Walter Olson, President
(209) 833-2122

Office of the Chancellor
The California State University and Colleges
400 Golden Shore
Long Beach, California 90802
Telephone: (213) 590-5506

Dr. Glenn S. Dumke .................................. Chancellor
Mr. Harry Harmon .................................. Executive Vice Chancellor
Mr. D. Dale Hanner .................................. Vice Chancellor, Business Affairs
Dr. Alex C. Sherriffs .................................. Vice Chancellor, Academic Affairs
Dr. Marjorie Downing Wagner ......................... Vice Chancellor, Faculty and Staff Affairs
Mr. Mayer Chapman .................................. General Counsel

San Diego State University Advisory Board

Clayton H. Brace, Chairman
Robert K. Cleator, Vice Chairman
Manuel Barbo, M.D.
Howard L. Chernoff
George H. Foster

Kenneth N. Golden
Leroy A. Grissom
Yvonne W. Larsen
Leon W. Parma

Associate Members

Mrs. Ann Hunsaker .................................. President, Ninth District, California Congress of Parents and Teachers, Inc.
Mrs. Florence E. Young .............................. President, San Diego Branch, American Association of University Women
Mrs. Nicole Clay .................................. President, San Diego State University Alumni and Associates
James B. Kuhn .................................. President, San Diego State University Aztec Athletic Foundation
Principal Officers of Administration

President of the University: Thomas B. Day
Vice President for Academic Affairs: Albert W. Johnson
Dean of Student Affairs: William L. Erickson
Director of University Affairs (Acting): Daniel S. Nowak

Administration

Office of the President
Executive Assistant to the President: Wanda Alma Marosz
Administrative Assistant: Barbara E. Gunning

Office of the Vice President for Academic Affairs
Office of the Academic Dean: Associate Vice President for Academic Affairs: Augustine Chavez
Director, Campus Information Systems: N. V. Joy
Dean of Academic Budgeting and Planning: George C. Gross
Dean of the College of Extended Studies: Jane K. Smith
Director of Learning Resource Center: William P. Locke
University Librarian: Louis A. Kenney

Chair of the Senate
Office of the Vice President for Business and Financial Affairs
Assistant to the Vice President: Frank D. Aronoff
Director of Business Management: Carolyn E. Kessler
Director of Financial Management: Lois W. Sisson
Director of Facilities Planning and Management: Charles H. Johnson
Director of Public Safety: John J. Carpenter
Director of Environmental Health and Research Safety: Ralph E. Lundberg
Assistant to the Dean: Stephen F. Barnes
Ombudsman: Barbara E. Gunning
Judicial Coordinator: Carol M. Goerke
Associate Dean: Elizabeth A. Bacon
Director of Disabled Student Services: W. Edward Morton
Director of Student Research Information Center: E. June Warren
Assistant Dean: Frank A. Medeiros
Director of Admissions and Records: Earl F. Paisner
Director of Relations with Schools and Colleges: Augustine S. Chavez
Director of Educational Opportunity & Minority Programs: Thomas R. Pearson
Director of Student Financial Aid: Edward R. Mendez
Director of Veterans Affairs: Marvylene H. Styles
Director of Center for Counseling Services & Placement: Winfred Wong Chao
General Counselor of International Students: David L. Bearman, M.D.
Director of Health Services: Michael B. Heston
Director of Housing and Residential Life: Leslie F. Yergey
Assistant to the Director: Thomas P. D'Augusto
Director of Athletics: Clifton J. Baxter

Auxiliary Organizations

San Diego State University Foundation
President: Thomas B. Day
Vice President: James W. Cobble
Manager: Harry R. Albers

The Associated Students of San Diego State University
President: Harvey J. Goodfriend
Vice President: Steve Glazer
Manager: Harvey J. Goodfriend

Colleges, Schools, Departments and Programs

COLLEGE OF ARTS AND LETTERS
Chair: Frank Matini, Dean
Associate Dean: Robert Detweiler
Asst. Dean for Student Affairs & Special Instructional Programs: Donald D. Basile
American Indian Studies: John Rouillard
Anthropology: E. N. Genovese
African Studies: Dean O. Popp
Classical and Medieval Languages and Literatures: Elizabeth Jackson
Classical Studies: Ernst Griffin
Geography: Ludek Kozlik
Germanic and Slavic Languages and Literatures: Philip Fleming
History: Glendon Drake
Linguistics: Rosemary Lauer
Philosophy: Betty Nesvold
Religious Studies: Christine Downing
Sociology: John Weeks
Spanish and Portuguese Languages and Literatures: Ben Christensen
Study Skills Center: Donald Basile
Women's Studies: Marilyn Boxer

COLLEGE OF BUSINESS ADMINISTRATION
Chair: Maurice L. Crawford
Associate Dean: William F. Barber
Asst. Dean for Graduate Studies: Penny L. Wright
Assistant Dean for Student Affairs: Allan Bailey
School of Accountancy: Pieter A. Vandenberg
Management: William R. Sherrard
Marketing: Robert Haas

COLLEGE OF EDUCATION
Chair: Tomas A. Arciniega, Dean
Associate Dean: Robert R. Nardelli
Asst. Dean for Student Affairs: Jo Ann Pujol
Coordinator, Clinical Training Center: John D. Chamley
Coordinator, Counselor Education: Raymond Latta
Coordinator, Educational Administration: Patrick J. Harrison
Coordinator, Educational Technology and Librarians: James M. Kaatz
Coordinator, Elementary Education: John A. Kurfmann
Coordinator, Multicultural Education: Donald Dooyong
Coordinator, Higher Education Programs & Health Services: Doris Meek
Coordinator, Secondary Education: John G. McLevy
Coordinator, Special Education: Donald Dooling
Graduate Program: Glen L. Martin, Dean

COLLEGE OF ENGINEERING
Chair: Basil Oehnys
Assistant Dean for Student Affairs: J. F. Conly
Aerospace Engineering and Engineering Mechanics: Howard H. Chang
Civil Engineering: Maoshun Lin
Electrical and Computer Engineering: George T. Craig
Mechanical Engineering: Harry E. Kupper

COLLEGE OF HUMAN SERVICES
Chair: John R. Knudson
Associate Dean: John R. Knudson
Assistant Dean for Student Affairs: E. Frederick Anderson
Communicative Disorders: Harriet G. Kopp
Graduate School of Public Health: John Hantik (Advisor)
General Information

General Information

Imperial Valley Campus
Special Programs and Services
Financial Aid
Student Services
General Information

San Diego State University

San Diego State University was founded on March 13, 1897 for the training of elementary school teachers. The seven faculty and ninety-one students of the then Normal School's first class met on November 1, 1898 in temporary quarters downtown while the first unit of the main building of the campus was under construction at Park Boulevard where El Cajon Boulevard begins.

The curriculum was limited at first to English, history and mathematics, but it broadened rapidly under the leadership of Samuel T. Black, who left the position of State Superintendent of Public Instruction to become the first President (1898-1910).

Under the vigorous administration of the second president, Edward L. Hardy (1910-1935), the School was reorganized as a four-year State Teachers' College in 1921, and control was transferred from a local board of trustees to the State Board of Education. In the same year, the two-year San Diego Junior College, the antecedent institution to the present Community Colleges, was incorporated as a branch of San Diego State, where it remained through 1964.

It became clear early that the only collegiate institution in San Diego would soon outgrow its 17-acre site, and a campaign was begun in the 1920s to build a new campus. The Legislature agreed, provided the city furnish a new site and buy the old one. In 1926 the present campus, on what was then the far eastern border of the city, was approved by the electorate.

In February 1931, the college moved to the seven mission-style buildings of the present campus, surrounding what is still called the Main Quad. In 1935, the Legislature removed the word "Teachers" from the name of the institution and authorized the expansion of degree programs into areas other than teacher preparation. In the same year, Walter R. Hepner (1935-1952) was appointed president, and the institution entered a period of slow growth.

By the end of World War II, enrollment had fallen to 1918, only to recover. At the end of World War II, enrollment had fallen to 1918.

In the next quarter century, under Dr. Hepner and subsequently under Malcolm A. Love (1952-1971), enrollments increased phenomenally, until with some 30,000 students San Diego State is today one of the largest institutions in the State. In 1960, the College became a part of the newly created California State College system, under a statewide Board of Trustees and a Chancellor. In 1971, recognizing that the institution had in fact achieved the status of a university, the Legislature renamed the system the California State University and Colleges, and shortly afterward renamed this institution San Diego State University.

Acting President Donald E. Walker (1971-1972), President Briage Golding (1972-1977), and Acting President Trevor Colbourn (1977-1978) were followed by the sixth president, Thomas B. Day (1978-1984), who faces problems and opportunities of a magnitude undreamed of 80 years ago.

New buildings added in recent years include the Aztec Center, the first student union building in the CSUC system; Dramatic Arts, with the finest theater in the country; Music, with areas and ideally arranged collections and services. The new Health Services and Art and facilities.

The University now offers bachelor's degrees in 70 areas, the master's in 52, and the doctorate in four. A remarkable 88 percent of the teaching faculty possess the doctorate in their disciplines, where it is the standard terminal degree.

A chapter of Phi Kappa Phi and many other national honorary societies on campus.

Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from Thomas R. Pearson, Financial Aids, CL-122, 286-6326.

1. Student financial assistance programs available to students who enroll at San Diego State University;
2. The method by which such assistance is distributed among student recipients who enroll at San Diego State University;
3. The means, including forms, by which application for student financial assistance is made; the requirement for accurately preparing such applications; and the review standards employed to make awards for student financial assistance; and
4. The rights and responsibilities of students receiving financial assistance.

The following information concerning the cost of attending San Diego State University is available from Thomas R. Pearson, Financial Aids, CL-122, 286-6326.

Information concerning the refund policy of San Diego State University for the return of unearned tuition and fees or other refundable portions of costs is available from Grant L. Nielsen, Controller, Business Affairs, AD-320D, 286-6301.

Information concerning the academic programs of San Diego State University may be obtained from the Office of the Vice President for Academic Affairs, AD-206, 286-6881.

University Library

Librarians

Emeritus: Adams, Haynes, Kinsey, McAmis, Murdock, Schalles
University Librarian: Kenney
Associate University Librarian: Dickinson, F.
Librarians: Beech, Pease, Szabo
Associate Librarians: Barclay, Chan, Dirinne, Gwinup, Harrington, Hoover, Samples
Senior Assistant Librarians: Coleman, Colston, Crisley, Dickinson, P., Goodwin, Goyne, Granrud, Greene, Harkanyi, Johns, Martinez, Moore, Neyendorf, Palsson, Phillips, Posner, Sandelin, Shira, West
Assistant Librarians: Cargile, Fikas, Lamb

The centrally located Malcolm A. Love Library, with its open stacks, adjoining study areas, and many individual carrels, has been designed to facilitate study, research and reading. It has some three thousand reader stations and will ultimately accommodate over a million volumes.

The collection comprises some 691,000 volumes including books and bound periodicals, and 8,385 linear feet of government documents. Additional resources include 1.3 million microfiche and microopaque cards, 38,000 reels of microfilm, 7,800 college catalogs, 29,000 scientific reports, 3,500 monograph records, 1,500 linear feet of curriculum materials and 1,250 linear feet of archival papers. The library receives 11,000 periodical and serial titles, excluding government documents. It is a depository for United States and California government publications. It receives all United Nations and Organization of American States publications, as well as many publications of other national and international bodies.
Significant research collections in the social sciences and humanities include: Asian studies; business; American, Civil War, California, Latin American, Mexican history; British, European, Asian, African, American, English (sixteenth and eighteenth centuries) and German literatures, music, with special strength in the Middle Ages and the nineteenth century; philosophy, especially medieval and American; and public administration. Research collections held in the physical sciences include: chemistry, biochemistry, ecology, biology, paleontology, geology, the geological history of Pacific Ocean invertebrate fauna, the geology of San Diego County and Baja California. The San Diego History Research Center's extensive archival collections from the San Diego area support original research.

The library provides general reference service and specialized service in business and the social sciences as well as separate reference service for sciences and engineering, government publications, and media and curriculum resources. Reference librarians assist students and faculty in their research and study, and librarians with advanced degrees in various subject areas are available for reference consultation. Computerized information retrieval service is also available.

Among conveniences provided library patrons are: a locational information desk in the main lobby; current periodicals reading room, and microforms and newspaper center; inexpensive photocopying machines, including several for microfiche and microfilm; ditto machine; typing room with coin-operated electric and manual typewriters; coin-operated electronic calculators; listening equipment for cassettes, discs and open-reel tape; and a special facility for the visually handicapped.

Faculty Office Hours

All faculty members hold regularly scheduled office hours during the week to allow for student consultation. A schedule of those hours is posted outside each faculty member's office door.

National Honor Societies

Phi Beta Kappa and Phi Kappa Phi are two of the national honor societies recognizing academic excellence for undergraduate students. Election to membership in the Nu chapter of Phi Beta Kappa is based on high scholarship and professional integrity. To be considered for election, students must ordinarily be enrolled in the College of Arts and Letters or the College of Sciences, and be eligible for the Liberal Arts and Sciences baccalaureate degree. They must have completed work in university-level mathematics and foreign languages. Weight is given to breadth and depth of program as well as to grades earned. No right of election shall adhere to any student solely by reason of fulfillment of grade point requirements. For further information, consult the Secretary of the chapter.

There are over fifteen national honor societies, in addition, which accord recognition to students who demonstrate superior scholarship and leadership in specific academic fields.

Accreditation

San Diego State University's accreditation is validated through membership in the following associations:

- American Chemical Society
- American Speech and Hearing Association Educational Training Board
- California Commission for Teacher Preparation and Licensing
- Council on Education of the Deaf
- Council on Rehabilitation Education
- Council on Social Work Education
- Engineers' Council for Professional Development
- National Association of Schools of Art
- National Association of Schools of Music
- National Association of Schools of Theatre
- National Council for Accreditation of Teacher Education

San Diego State University is accredited by the Accrediting Commission for Senior approved to train veterans under the G.I. Bill.

The College of Business Administration is accredited by the American Assembly of Collegiate Schools of Business. The clinical services area of speech pathology and audiology is accredited by the American Speech and Hearing Association Professional Services Board.

The School of Nursing is accredited by the California Board of Nursing and National League for Nursing.

In addition, high quality preparation for many other professions is provided. It is suggested that the student refer to the various courses of study listed in the catalog. The bachelor's degree is offered in 70 areas, the master's degree in 52 areas, and the Ph.D. in four areas.

Degrees and Certificates

San Diego State University offers the following degrees and certificates:

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Vocational Education
- Bachelor of Music
- Doctor of Philosophy in Chemistry
- Doctor of Philosophy in Education
- Doctor of Philosophy in Genetics
- Master of Arts
- Master of Science
- Master of Business Administration
- Master of City Planning
- Master of Fine Arts (Drama)
- Master of Public Administration
- Master of Social Work

Nondegree programs leading to the Certificate in Business Administration (IVC campus only), Applied Linguistics, Community College Administration, Criminal Justice Administration, Human Services, and Public Administration are offered.

Types of Curricula Offered

San Diego State University offers the following types of curricula:

- **Undergraduate Curricula**: Undergraduate curricula provide the following opportunities for study:
  1. **Liberal arts and sciences**: Curricula in academic major fields, leading to the Bachelor of Arts degree in liberal arts and sciences.
  2. **Applied arts and sciences**: Curricula in major fields leading to the Bachelor of Science degree in applied arts and sciences.
  3. **Professional curricula**: The College of Business Administration offers the Bachelor of Science degree in business administration with majors in seven fields; the College of Engineering offers the Bachelor of Science degree in engineering with majors in four fields; and the College of Education offers curricula in teacher education leading to graduate credentials at all levels of public school teaching.
  4. **Preprofessional and nondegree curricula**: Programs are offered in premedical, prelaw and premedical, leading to transfer to professional schools. Nondegree programs are offered in public service, leading to the Certificate in Criminal Justice Administration or the Certificate in Public Administration. The Air Force offers an ROTC program, leading to a commission in the Air Force Reserve.

- **Graduate Curricula**: The Graduate Division offers curricula leading to the Master of Arts or Master of Science degree in a wide variety of fields, the Master of Business Administration, the Master of City Planning, the Master of Public Administration, the Master of Social Work, and the Doctor of Philosophy in chemistry, ecology, education and genetics.
Faculty
Emeritus: Rodney, Spencer
Dean: McAllister
Associate Dean: Glass
Assistant Dean for Student Affairs: Ayala, R.
Professors: Baldwin, Glass (Assoc. Dean), McAllister (Dean), Smith
Associate Professors: Ayala, R. (Assistant Dean for Student Affairs), Erzen (Visiting), Franklin, Harmon, Polich, Wilson
Assistant Professors: Baral, Hill, King, Meister, Polkinhorn (Visiting), Rice, Stiegler, Varela-Ibarra, Williams (Visiting)
Lecturers: Ayala, M. (Librarian), Bowen, Buchanan, Dolena, Gay, Mendis, Paul

Offered by the Imperial Valley Campus

Degrees
Major in criminal justice administration with the B.S. degree in applied arts and sciences.
Major in English with the A.B. degree in liberal arts and sciences.
Major in history with the A.B. degree in liberal arts and sciences.
Major in liberal studies with the A.B. degree in applied or liberal arts and sciences.
Major in psychology with the A.B. degree in liberal arts and sciences.
Major in social science with the A.B. degree in liberal arts and sciences.
Major in Spanish with the A.B. degree in liberal arts and sciences.

Teaching Credentials
Basic
Multiple subject (elementary)
Single subject (secondary)
Specialist

Special education—in conjunction with the College of Education
Bilingual/cross-cultural—in conjunction with the College of Education

Special certificate and master's programs are offered in conjunction with the College of Extended Studies or with other appropriate colleges of San Diego State University. For further information see the Academic Handbook of the Imperial Valley Campus.

General Information
The Imperial Valley Campus is a two-year upper division campus of San Diego State University serving the desert area of southeastern California. It is accredited as an integral division of SDSU and operates under the same academic calendar. Established in 1959 by an act of the State legislature, the campus is located on the Mexican border in Calexico in the Imperial Valley. Offering only the last two years of undergraduate education as well as a fifth year credential program for teacher preparation, the campus accepts transfer students from either community colleges or other colleges who have at least 56 units. As a small campus with a low faculty/student ratio, Imperial Valley Campus offers students the advantages of small classes and individual contact with the faculty. The campus schedules its classes to meet once a week in three-hour blocks so that students who work full time can earn 9-12 units a semester by attending classes one or two times a week. Classes are also offered on the weekends. The location on the Mexican border provides the opportunity for involvement in a bicultural setting. There are many opportunities to participate in the cultural life of Mexicali, just across the border, a city of more than 400,000 people. There are also many opportunities on the U.S. side of the border to be involved in a bilingual/cross-cultural setting. There is an exchange program for students between the Imperial Valley Campus and the two universities in Mexicali (Universidad Autónoma de Baja California and Centro de Enseñanza Tecnico y Superior) which allows students to take classes at either of the participating universities and receive credit at their home institution. Among the faculty are professors with Latin American emphases in history, geography, sociology, Spanish, art and anthropology. The faculty is also augmented with other Latin American specialists from Mexico and from the San Diego campus.

The Imperial Valley is one of the richest agricultural centers in the country. It has a desert climate with mild winters and little rainfall. Because of this, the area has a great potential for the development of alternative energy sources. Geothermal energy is already being developed in the area and solar and wind energy are both potentially important sources for future development. The desert also offers the opportunity to study a fragile ecological environment. Highly significant archaeological discoveries have been made in the area and there is continuing archaeological fieldwork.

Facilities
The campus is housed in buildings of early Spanish style architecture on an eight-acre campus. The buildings are those built and used as the Calexico High School from 1927 to 1953 and are historically significant, since they are among the oldest buildings in Calexico. The library supports the curriculum of the campus, but, with its 28,000 volumes, provides also a good basic collection for general use. It subscribes to over 200 periodicals and maintains a microfilm collection of other periodicals. The library is part of a CSUC system-wide Intrasytem Lending and Borrowing Service which provides quick interlibrary loan services and makes the library resources of all campuses in the system available to our students.

The media center provides professional assistance to the faculty in the application of educational technology to instructional situations. The center has a wide range of equipment for use in the classroom as well as a photo lab and TV studio capabilities. The media center (1) provides consultation on selection, acquisition, preparation, utilization, and evaluation of instructional media and equipment; (2) organizes, equips, and maintains instructional media facilities and resources; (3) provides and maintains instructional media equipment for instruction; and (4) prepares materials required for instruction.

Admission, Registration, and Commencement
To apply for admission to the Imperial Valley Campus, students must file a complete application and transcripts as outlined elsewhere in this catalog. Both completed application forms and transcripts should be sent to the Admissions Office, San Diego State University, Imperial Valley Campus, 720 Heber Avenue, Calexico, California 92231. Applications for admission to the campus are accepted through the week before registration for both the fall and spring semesters. Because of the size of the campus, the registration process is easily accomplished in a short period of time with little chance of classes closing.

The Imperial Valley Campus holds its own commencement exercises each spring, the day before commencement exercises on the San Diego campus.
Special Programs and Services

Research Bureaus and Centers

University Center on Aging

The University Center on Aging is a program designed to (1) provide a multidisciplinary educational program and curriculum; (2) undertake research and evaluation activities in the aging arena; (3) provide technical assistance and agency consultation for the community; and (4) provide settings for field learning experience and community involvement for students.

The courses offered through the University Center on Aging do not lead to a degree in gerontology but give students an opportunity to take a variety of gerontology related courses across a number of schools or departments. Identified schools or departments which offer such courses are Psychology, Health Sciences and Safety, Biology, Sociology, Family Studies and Consumer Sciences, Social Work, Nursing, Physical Education, Education, and Recreation.

Students who are organizing these series of courses to meet their needs in the area of gerontology are encouraged to contact the chairs or deans of the noted schools and departments for more specific information on course offerings.

The Edwin C. Allison Center for the Study of Paleontological and Geological Sciences

Richard H. Miller, Director

The Allison Center seeks to encourage research in paleontology, geology, and related sciences, especially as they relate to the history of the earth around the Pacific Ocean. The Center provides a library which excels in reprint collections, and a working and storage collection of invertebrate fossils and modern molluscs. The Center provides office space for visiting scholars and a research working space for graduate and undergraduate students.

Asian Studies

Alvin D. Cox, Director

The Center for Asian Studies is an interdisciplinary organization in the College of Arts and Letters. Drawing upon faculty members from many fields, campus-wide, it performs such services as (1) securing and administering grants and other support for research and development in Asian studies; (2) coordinating and publicizing the activities of faculty engaged in Asian-centered studies; (3) developing and administering the Asian studies program and relevant curricula at the undergraduate and graduate levels; (4) responding to campus and community requests for information and services; (5) fostering campus and community interest in Asian studies. The center’s reading room and study facility, located in LE-471, contains Asian periodicals, books, pamphlets, dictionaries and maps.

Business and Economic Research

The Bureau of Business and Economic Research is an organized research facility located in the College of Business Administration. The bureau facilitates research activities of the faculty of the College of Business Administration and coordinates other campus resources for multidisciplinary projects. The bureau is a full service member of the National Association of University Bureaus of Business and Economic Research and maintains a national survey research network.

The principal objectives of the bureau are to (1) secure and administer grants and other support for conducting research in the areas of economics and business; (2) facilitate research in these areas by the faculty and students; (3) seek cooperative arrangements with outside individuals and organizations for conducting specific research projects; (4) respond to campus and community requests for information and services; (5) publish the results of its investigations and aid faculty in publication of their research.

Graduate students and faculty are encouraged to make use of bureau facilities.
Counselor Education
Raymond Howard, Director

The Center for the Study of Counselor Education is an interdisciplinary task force under the administrative jurisdiction of the Dean of the College of Education; fiscal matters are coordinated through the San Diego State University Foundation. The center is designed to draw together faculty members from relevant disciplines such as anthropology, economics, education, psychology, social welfare, social work, sociology, and the University Counseling Center for such purposes as (1) securing and administering grants and other support for research and development in counselor education and guidance and (2) conducting programs or rendering services related to counselor education and guidance through contractual agreements with public or private agencies or organizations.

Economics Research Center
Walter Vogt, Director

The Economics Research Center collects research materials, publishes occasional monographs, and encourages research of special interest to faculty and students in economics and related areas. The center’s facilities are located in the Social Science Research Laboratory and are currently utilized by the Economics Department, the Center for Research in Economic Development, the Institute of Labor Economics, and the local chapter of Omicron Delta Epsilon.

Bureau of Educational Research and Evaluation
Peggy Hawley, Director

The Bureau of Educational Research and Evaluation operates within the College of Education. The objectives of the bureau is to improve the quality of education through research by (1) assisting departments within the College of Education in the evaluation of courses and student performance, (2) serving faculty and graduate advisers and their students as a resource in research design and statistical techniques, (3) assisting the research activities of individual faculty members who wish to make use of its services, (4) assisting those directing comparative studies established between the College of Education and other educational communities, and (5) keeping faculty informed about current and potential bureau research activities and services.

European Studies Center
Leon Rosenstein, Director

The European Studies Center coordinates and supports teaching and research related to the European area. It supervises the major in European studies for the A.B. degree. It sponsors the annual San Diego State University Summer Seminar and Travel Study Tour to Europe. It administers the European Studies Center Laboratory in LE-470 which contains European art and geography. The laboratory is open several hours each day for study and research by students and instructors in courses dealing with any aspect of European studies. The center also assists in the development of the university library’s holdings in the European area and has created a special collection of library materials on European integration and unification which is being steadily and systematically expanded.

San Diego History Research Center
Stephen A. Colston, Director

The San Diego History Research Center is a professional archives and research institute that has as its principal objectives the acquisition, conservation, and processing for use of twentieth century. The Center's archives contains personal papers and records of public, and pictorial materials. While providing resources for the study of regional history, the political, social and urban topics. The Center serves as a teaching laboratory for students in the research, writing and teaching of local history. The Center is administratively a part of the University Library and is located in LL-383.

Institute of Labor Economics
Adam Gifford, Director

The Institute of Labor Economics is a faculty of the Department of Economics to encourage research by students and faculty in all phases of labor problems, collective bargaining, labor legislation and social security. The center is designed to complement the curricular and degree programs in the Department of Economics and to be of service to related disciplines. Publications are exchanged with 75 similar institutes at other universities. Research materials and facilities to assist research and publications in the area of labor economics are maintained in the Social Science Research Laboratory, located on the lower level of the West Commons. A technical assistant is available to help you from 8:30 a.m. — 4:30 p.m., Monday through Friday.

Latin American Studies
Philip F. Fiemion and Ernst C. Griffin, Co-Directors

The Center for Latin American Studies seeks to encourage teaching and research related to Latin America. It has primary responsibility for the administration of the Latin American undergraduate and graduate degrees. In 1976, the U.S. Office of Education designated the center as one of the nation's ten Latin American language and area centers. In conjunction with this award, the center administers programs that focus on: (1) initiation of a problem-oriented approach to Latin American studies through the creation of courses dealing with urbanization and modernization of the area; (2) development of innovative methods of instruction in Spanish and Portuguese; (3) provision of services for the general public through the sponsorship of conferences, workshops, lectures and films. The center also assists in the development of the University library's Latin American holdings and has created a special collection of Latin American materials which is available in the center's reading room, SS-146.

Center for Marine Studies
Richard F. Ford, Director

The primary functions of the Center for Marine Studies are to coordinate and represent the multidisciplinary Marine Studies Program offered by departments within the University, to aid in the development of instructional, research, and public services aspects of the program, and to provide special supporting services to those involved. The center is operated as a special unit of the College of Sciences. Supporting services sponsored by the center include advising students concerning marine studies, assistance to faculty and students in research and publication, operation of the University's marine laboratory at Mission Bay, a boat operations program, and the University Diving Safety Program. The center is administered by a director, associate directors, and an executive committee consisting of faculty members elected from participating departments in the College of Arts and Letters, the College of Business Administration, the College of Engineering, the College of Professional Studies and the College of Sciences. Additional information about the Marine Studies Program and student advising is available from the Center for Marine Studies office.

Paleobiology Council
Richard D. Estes, Director

The Paleobiology Council is an interdisciplinary research and teaching group concerned with exploration of the fossil record. It is composed of faculty members from the departments of Anthropology, Geology, Natural Science and Zoology and professional paleontologists in other research and educational institutions in the greater San Diego area. Students interested in pursuing an interdisciplinary Special Major leading to an M.A. in Paleobiology may do so under the direction of the committee.

Public and Urban Affairs
W. Richard Bigger, Director

The Institute of Public and Urban Affairs is a part of the School of Public Administration and Urban Studies, San Diego State University, organized to conduct research into community and governmental problems. It also sponsors institutes and conferences related to community and governmental activities. It is staffed by members of the faculty of San
Diego State University. Closely associated with the institute is the Public Administration Center with a specialized and growing collection of research materials. The institute engages in cooperative or joint research efforts with the various departments of instruction, institutes, and research centers of the university.

Public Economics
George Bablott, Director

The Center for Public Economics is a faculty of the Department of Economics to encourage research by students and faculty in all phases of nonmarket economic decision making. Emphasis is on the following areas: (1) the functioning of federal, state and local fiscal systems, including the provision for and financing of public goods at each level; (2) the economic factors involved in environmental changes, in particular, their bearing on urban and local economic problems; (3) the economic dimensions of social decision making. The center is designed to complement the curricular and degree programs in the Department of Economics and to be of service to related disciplines. It maintains research materials and facilities to assist research and publications in the area of public economics. Fiscal matters are coordinated through the San Diego State University Foundation. Financial support in the form of student assistance is available for faculty research projects on subjects in public economics. The center funds a number of student scholarships which are administered through the Scholarship Office. The Center for Public Economics is located in OL-307.

Regional Environmental Studies

The Center for Regional Environmental Studies coordinates and encourages interdisciplinary research, educational and public service programs related to environmental institutional aspects of environmental problems and programs are emphasized. The center endeavors to concern with environmental quality. Although the San Diego region receives primary attention, the center's activities include statewide, national and international environmental programs.

Research in Economic Development
M. C. Madhavan, Director

The Center for Research in Economic Development (CRED) is part of the Economics Department's effort to assist and encourage research related to the problems and processes of economic development. CRED provides information and limited assistance to students and faculty and is now located in the Social Science Research Laboratory, WC-110.

Social Science Research Laboratory
Richard Hofstetter, Director

The Social Science Research Laboratory (SSRL) supports and facilitates research and instruction in the social sciences. Organized in four functional sections—computer capabilities and instructional services in the areas of statistical design and computing access to a wealth of machine readable and published data sets, and cartographic products, faculty and students, as well as offering bundled and unbundled contract services in each of its sections.

Survey Research
Oscar Kaplan, Director

The Center for Survey Research was established to encourage nonprofit research in the social science field. The center is prepared to undertake surveys requested by government agencies, academic faculty members who wish to submit applications for off-campus support in survey research committee. The center is administered by a director.

Computer Center
Harold K. Brown, Director

The Computer Center houses computing equipment and personnel which support the instructional, research and administrative activities of the University. The equipment consists of a DEC PDP 11/45 computer, used primarily for instructional timesharing activities; an IBM 1130 computer, which supports the APL and FORTRAN languages and operates a CALCUMP 1039 plotter; and an IBM 360 model 50 computer with a large array of peripherals. The 360/50 handles batch processing at the main site as well as three remote job-entry sites strategically located on campus where jobs can be submitted for processing. A dual CDC 3300 computer located at the Chancellor's Office for statewide usage is also available to campus batch users via a high speed data link. Over 70 timesharing terminals are located throughout the campus and are available via dial-up telephone lines to either the 11/45 on campus or the CDC CYBER 174 at the Chancellor's Office for statewide timesharing. Both the 3300 and the 174 offer large statistical programming packages to their users. Courses related to some specialized applications of computers, in addition to programming and data processing courses, are offered by several departments within the University. Many of these courses have special purpose minicomputers devoted to their area.

San Diego State University Foundation

The Foundation was organized as a separate auxiliary in 1943 to assist the University in obtaining support for research and educational programs from outside funding agencies. Since then, more than 3,000 separate contracts and grants have been administered by the Foundation, and faculty and students are presently engaged in about 200 projects sponsored by some 30 outside agencies involving over $10,000,000. Such projects serve to enrich the teaching and research programs of the University, provide learning experiences for students, develop further expertise of the faculty, contribute new knowledge and provide even greater public service than would otherwise be possible. The Foundation is governed by a Board of Directors consisting of faculty, students, administration, and member of the community, and is administered under general policies developed by the University and the Trustees.

Learning Resource Center

The Learning Resource Center coordinates the activities of Audio-Visual Services, Instructional Television and Instructional Development. The director provides leadership to the University in identifying new approaches to the teaching-learning process. Audio-Visual Services provides support to faculty and staff in the selection, design, production and use of instructional materials and audio-visual equipment. Specific services include photography, graphics, location and studio video-taping of special events; selection, maintenance, and distribution of films and audio-visual equipment; and consultation on the design and use of instructional technology.

Instructional Development Program is a campus resource program offering professional assistance in instructional design, course design, teaching techniques, and evaluation. The major emphasis of the program is to encourage SDSU faculty to apply a systematic approach in planning instruction. Specific services include: (1) providing assistance in instructional materials development; (2) providing diagnostic services for assessing and selecting instructional materials; (3) facilitating course design by supporting departmental committees; (4) providing faculty with opportunities to analyze their instruction; and (5) conducting workshops on skills and techniques of teaching and testing.

Instructional Television provides three services to assist faculty members in meeting their instructional needs: (1) the distribution of video-tape materials in classrooms via a 10-channel closed circuit system; (2) assistance in the acquisition of video-tape materials related to course content; and the maintenance of an extensive library of such videotapes; and (3) assisting faculty members in the development and production of original video-tape materials required for specific instructional purposes.
Financial Aid

Cost of Living

Each student should plan his budget based on individual needs. The wide range of financial resources of students in a university as large as ours makes it difficult to give specific information on costs. At San Diego State University, it is possible to live simply and participate moderately in campus life on a modest budget. The following table is based on systemwide figures provided for the purpose of determining maximum financial aid.

<table>
<thead>
<tr>
<th>Materials, service, student activity, student union fee, facilities fee</th>
<th>Living off Campus</th>
<th>Living on Campus</th>
<th>Commuting from Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books and supplies</td>
<td>$205</td>
<td>$205</td>
<td>$205</td>
</tr>
<tr>
<td>Personnel</td>
<td>225</td>
<td>225</td>
<td>225</td>
</tr>
<tr>
<td>Room, board, health</td>
<td>510</td>
<td>510</td>
<td>510</td>
</tr>
<tr>
<td>Room, board, health</td>
<td>2520</td>
<td>1850</td>
<td>900</td>
</tr>
<tr>
<td>Transportation</td>
<td>400</td>
<td>250</td>
<td>510</td>
</tr>
<tr>
<td>Total</td>
<td>$3960</td>
<td>$3040</td>
<td>$2350</td>
</tr>
</tbody>
</table>

In addition, full-time (15 units per semester) foreign students and out-of-state students pay an annual tuition of $1710. Typical expenses for married students without children average $6260 for a nine-month period.

Financial Aid

San Diego State University makes every effort to see that students who wish to attend are not prevented from doing so due to inadequate resources. Available funds, however, are limited. Financial aid in the form of loans, grants, and part-time employment on or off campus is made available to qualified applicants. In the majority of cases, a student will be offered a package financial aid plan which may include one or more of the types of aid.

Some loan programs—those for prospective teachers, nurses, and law enforcement are employed full time in the designated area. Some interest-free loans of modest size are available for emergencies. Some grants can be made to students from low-income families. Some grants are also available to full-time employees of certain law enforcement agencies. Financial aid funds are available only to U.S. citizens or permanent residents.

Applying for Aid

All these financial aid programs, as well as others not described here, are administered by the Financial Aid Office, Room 122, Campus Laboratory School building. Interested persons should ask for the Financial Aid brochure. Counselors are available for guidance as to the availability and terms of aid.

All financial aid applicants must submit the Student Aid Application for California Grant (BEOG). The CAAC can be used to determine BEOG eligibility. These forms may be obtained from high school or college counselors.

California State Scholarships

Administered by the California Student Aid Commission, 1410 Fifth Street, Sacramento, California 95814, Calvornia State scholarhship application forms are available in the year opens in December and ends February 1, 1979. Financial need must be shown for State to re-enroll in school.
students should take the appropriate test early in the fall of their senior year. Information concerning these tests may be obtained from the San Diego State University Test Office, Fifth Floor, Love Library.

San Diego State University Scholarships

Scholarship Philosophy and Eligibility Requirements

The University Scholarship Committee (USC) has adopted the philosophy that scholarships at San Diego State University should reward academic excellence and attract and retain excellent students. In keeping with this philosophy, the Committee established that, unless there were unusual and compelling circumstances, the eligibility requirements to apply for a scholarship are:

For Matriculated University Students:
- a 3.00 grade point average or — in the absence of a 3.00 —
- a 3.50 in the last 30 units of university work or a 3.25 in the last 60 units of university work.

For High School Seniors:
- a 3.00 cumulative grade point average (excluding physical education and military science) for all work completed in the last three years of high school.

The Scholarship Application Process

Applications for San Diego State University Scholarships are available each year during one application period (the fall semester) and may be requested from the SDSU Scholarship Office during that time. Scholarships are awarded in the spring for the following academic year.

The University Scholarship Committee Awards Program

Each departmental scholarship committee ranks up to ten scholarship applicants for the University Scholarship Committee Awards. Final selection is made by the Committee and is based on academic excellence of these top-ranked students. Students must enroll at SDSU to be eligible to receive the scholarship check in fall 1979. The number of awards depends on funds available. For the 1978-79 academic year there were 60 awards of $400 each. The following scholarships were awarded (or have been designated for following years):

Anonymous H
Aztec Shops Ltd.
Daniel Berry Memorial
Fleet Foundation
Fletcher Foundation
Amelia Fontaine Memorial Scholarship
Fox Foundation
General Dynamics
Arthur G. Harris Scholarship Fund
William and Edna La Salle Memorial Scholarship

Foster S. Post Memorial Scholarship
San Diego State University Memorial Fund
San Diego State University Resources Allocation Committee
Robert Patterson Shields Foundation
Wilma Tyler Trott Memorial Scholarship
Dewitt Bissbe Williams Memorial Scholarship Fund
Mr. and Mrs. John Zweck Memorial Scholarships

Department, School and College Scholarships

Certain scholarships have been donated to the University and are restricted to students in specific departments. Each departmental scholarship committee is asked to nominate a departmental finalist for each award from the applications of students in their Committee. The following scholarships, averaging about $350, were awarded for the 1978-79 academic year (or have been designated for following years):

COLLEGE OF ARTS AND LETTERS

English and Comparative Literature Department
D. C. and K. W. Stott Memorial

History Department
Samuel Mogilner Family Foundation
D. C. and K. W. Stott Memorial
Jon Sutherland Memorial

COLLEGE OF BUSINESS ADMINISTRATION

California First Bank
Robert F. Driver Co.
Mayor's Bridges to Business
San Diego Mortgage Bankers Association

School of Accountancy
American Society of Women Accountants
California Society of C.P.A.'s - Women's Auxiliary - San Diego Chapter
Edward K. M. Sue Memorial Scholarship
Getty Oil Company
Haskins & Sells
National Association of Accountants - San Diego Chapter
Southern California Society of Certified Public Accountants - San Diego Chapter

Touche Ross & Co.

Finance Department
Robert F. Driver Co.
San Diego Mortgage Bankers Association

Information Systems Department
Georgia Amsden Memorial
Robert Hess Memorial
Alvin Morrison Memorial

Management Department
Personnel Management Association of San Diego

Marketing Department
American Marketing Association
Harry Calloway
H. M. Stansbury

COLLEGE OF EDUCATION

Martha S. Biehl Memorial
California P.T.A.
California Retired Teachers
Delta Kappa Gamma - Delta Iota Chapter
Delta Kappa Gamma, Nu Chapter
Claudia Harrington
Heartland Human Relations Association
Linkletter Foundation
Catherine Yuhanna Lodge Memorial
National Charity League of San Diego
Pi Lambda Theta - Thetla Alumnae
Lauren C. Post Scholarship for Geographic Education
John Paul Stone Memorial

COLLEGE OF ENGINEERING

Alvarado Soils
American Concrete Institute
American Public Works Association
American Society of Civil Engineers
Associated General Contractors of America, San Diego Chapter
Association of California Water Agencies
California Council of Civil Engineers
California Society of Professional Engineers and Land Surveyors
California Society of Professional Engineers, Ladies' Auxiliary
Civil Engineering Faculty Scholarship

E. F. Cook and Associates, Ltd.
Electrical and Computer Engineering Dept. Scholarships
Employees of Woodward-Clyde Consultants
Engineers Club of San Diego
Frank Hope and Associates
Klaeppe, Stevens and Associates
James R. Libby and Associates
National Electrical Contractors Associations
North Island Professional Engineers Association
S. Falck Nielsen Scholarship / Nielsen Construction
Craig, Bultman and Nottomth
North Island Professional Engineers Association
San Diego Chapter CSPE/Redefelshieim
San Diego Chapter CSPE Auxiliary / Redelfsheimer
San Diego Section ASCE/Merrill B. Wittman Memorial
Society of Military Engineers
Cheng-Mo Sun Memorial
Testing Engineers of San Diego
Huntington Association of San Diego
Robert Young Engineering
Zinser-Furby, Inc.

COLLEGE OF HUMAN SERVICES

Communicative Disorders Department
Dorothy Baronefsky
California State Association of Emblem Clubs and Nevada-Hawaii Clubs
Claremont Women's Club
Paul Pfa, Sigma Alpha, Gamma Upsilon Chapter
Sigma Delta, Zeta Pi Chapter

School of Nursing
Allstate Foundation
Blue Cross of Southern California
Lottie E. Olberg Trust
United Commercial Travelers
Volunteer Association of Kaiser Foundation

School of Social Work
Country Friends

COLLEGE OF PROFESSIONAL STUDIES

Art Department
Art Department
Friends of Professor William Bowne
California China Painters Art Association

Drama Department
Jeweldean Brodie
Sharon Crossley Memorial
Sybil Eise Jones Memorial
Huntington Sellman
Henry Stanton Memorial

Industrial Studies Department
California P.T.A.

Journalism Department
James Copley Foundation
KFMB
Music Department
Alvin Morrison Memorial
Bessie S. Purdy Memorial
Sigma Alpha Iota
Sigma Alpha Iota, Student Chapter
SPEBSQSA
Paul C. Stauffer Memorial
Alan Wilson Memorial

Physical Education Department
George William Ellis
Guadalajara National Philharmonic
Mable Hedges Memorial
Miriam Paine Memorial
James Tripp Memorial

Recreation Department
Ray R. Butler
California Parks and Recreation Society, Local 12
Bonnie Jean Gore Memorial

Religious Studies Department
Louis Lieblitch Memorial

Speech Communication Department
The Honorable Clair W. Burgener
Percie Belle Senn Memorial

Telecommunications and Film Department
KFMB
KGTU
Linkletter Foundation
McGraw-Hill Broadcasting

COLLEGE OF SCIENCES
Mary Melton Kantor Memorial

Geological Sciences Department
Baylor Brooks Scholarship Fund
Standard Oil Company
San Diego Gas and Electric Company

Physics Department
American Nuclear Society
Cubic Corporation
Pacific Scene, Inc.
Rohr Corporation

Zoology Department
Crouch Scholarship lor Avian Behavior

General Scholarships
In addition to the University Scholarship Committee Awards and the College, Department and School Scholarships, there are a number of general scholarships, recipients for some basis chosen by the University Scholarship Committee, for others, chosen by the donors on the scholarship were awarded for the 1978-79 academic year (or have been designated for following years).

American Business Women’s Association, Cabrillo Chapter
American Business Women’s Association, Torrey Pines Chapter
American Society of Military Comptrollers, San Diego Chapter
Anonymous B.
Mary Earnest Bean Memorial
Brenda Beitner Memorial
Charles Coddow Memorial
Cap and Gown — May S. Finney Marcy Scholarship
Chevrolet Motor Division Scholarship
Del Cerro Memorial Club
Delta Kappa Gamma, Theta Gamma Chapter
Enfina Foods, Inc.
Connie Fotinos Memorial
Johanna Muench Fox Memorial
William Fox Memorial
Ruth J. Hiebert Memorial
Kappa Beta Nu
Kiwaiis Club of the University of San Diego
Linkletter Foundation
Morton Board Alumnae of San Diego
Optometrist Club of San Diego
Pan American League of San Diego
San Diego County Epilepsy Society — Margaret B. Thorsen Memorial
San Diego Imperial Counties Labor Council
San Diego State University Alumni and Associates
San Diego State University Women’s Club
Silvergate Lions Club
Anna and David Silverman Memorial
United Jewish Federation
Solar
Frank G. Tait Scholarship
Terry Lynn Thompson Memorial
Harold Wendt Memorial
Guilford Whitney Foundation

Study Skills Center
The Study Skills Center offers assistance to all students at any university level, including bilingual and international students, who wish to improve reading or writing skills or to obtain help with study problems or writing projects, either remedial or advanced. Five-week,
intensive mini-courses in a variety of learning-related topics are also offered by the Center. The Center's services are available on either an enrollment or a drop-in basis. In addition, the Center assists students in completing the university writing competency requirement. The university requires students to demonstrate writing proficiency consistent with its established standards, and accordingly requires all entering students to pass the Writing Competency Test, or to enroll in a writing course in the Study Skills Center during their first semester at SDSU and to continue in that course until successfully completing it.

Audiology Diagnostic Center
The Audiology Diagnostic Center is a service of the Communicative Disorders Department. It is located on the lower floor of the Communications Clinic. The principal objectives of this center are to provide diagnostic information regarding hearing loss for faculty, students, staff, and the community. A minimal fee is charged for diagnostic evaluations. This center operates throughout the school year. Referrals may be made through health professionals, agencies, school districts or as self-referrals.

Speech and Hearing Clinic
A speech and hearing clinic in which university students are trained in the application of speech, hearing and language pathology techniques, speech, lipreading, auditory training, manual communication, and language development for the hard of hearing and deaf. Tutorial services are available for hearing impaired students during the school year. The clinic operates through the school year and Summer Session II. The clinic serves those with all who apply can be admitted. A minimal fee is charged for diagnostic evaluations but not for students enrolled at San Diego State University. Referrals may be made through agencies, school districts, health professionals, or as self-referrals.

Clinical Training Center
The Clinical Training Center provides a supervised training and service facility which includes, but is not limited to direct involvement by undergraduate and graduate students of rehabilitation and treatment of behavioral, communicative, learning and personal-social difficulties. Students are supervised directly by faculty from their respective disciplines. The Center encourages interdisciplinary educational and research opportunities participating schools and departments is an integral part of the Clinical Training Center. For further information call 286-6121.

Student Resource and Information Center
The Student Resource and Information Center (SRIC) serves as the coordinating unit for resources and information regarding student programming efforts and student services. The SRIC is committed to identifying and opportunities which allow students to relate most effectively to their academic, social, and opportunities which facilitate the growth of students in groups, organizations, and as some of the projects and programs for which the Student Resource and Information Center is responsible include: new student orientation, University liaison to the Associated Campus organizations.

Aztec Center
San Diego State University was the first of the California State University and Colleges to build and operate a permanent university center. The Aztec Center story started in the mid-1930's when students and faculty began accumulating funds for construction. In 1956, the Associated Students Council set aside a permanent portion of the Activities Fee for the building fund. Students voted to assess themselves a mandatory fee for the further development of the project in 1963. Two years later the U.S. Department of Housing and Urban Development extended a 40-year loan of $2.9 million to enable construction to begin. The student union fee will be used to retire the indebtedness; no public tax money is involved. The furnishings and equipment were purchased with student and faculty funds and contributions from Aztec Shops, Ltd. From inception to the final furnishings, students and faculty have shared alike in all phases of its planning and development. Financed by a student union fee, it is a nonprofit, self-sustaining, self-liquidating, non-tax supported, student-financed operation. The Aztec Center finances the operation of the Center. Aquatics Center, and Open Air Theatre. Governance of the Center is by the Aztec Center Board, composed of nine students and one faculty member. Anyone is welcome to the meetings, which are open and frequent.

Use of the Center facilities is the privilege of San Diego State University students, faculty, staff, alumni and their guests. It provides a pleasant background for many cultural, social and recreational activities. Its name reflects its unifying nature: a dynamic, enriching focal point for the social life of members of the campus community.

The 120,000 square foot structure houses a portion of the activities program and includes the following facilities: Aquatics Center, The Backdoor, barber shop, banquet hall, bowling and billiards, conference rooms, Crafts Center, General Store, Information booth, lost and found, lounges, music rooms, record store, (Wherehouse), organizations center, pocket billiards, post office, program rooms, Security Pacific Bank, snack bar, table tennis, ticket office, video equipment classes, campus-wide concessions, amusement equipment, Scripps Cottage.

Child Care Center Program
The Associated Students Child Care Program, a parent cooperative, provides child care for SDSU students' children between the ages of six months and six years who are in good health. First priority is given to families with the greatest financial need and to earliest applicants regardless of race, religion, creed or sex. Faculty/Staff children are accepted on a limited basis.

Tuition for students is determined on a sliding fee scale based on family size and income. The program is staffed by seven paid employees, volunteers, parent participants and Child Development students. Parents make a weekly contribution of time as teachers in the classroom and attend a weekly parents meeting (to make an alternate contribution if a schedule conflict occurs). They also have the opportunity to run for the Child Care Board which is composed of parents and other campus representatives.

The program is designed so that a variety of activities is offered which will foster the child's social, emotional, intellectual and physical development and help the child view himself/herself and the environment positively.

The hours of operation are 7:45 a.m. to 5:00 p.m. for the preschool center (children 28 months to 6 years) and noon to 5:00 p.m. for the infant center (children 6 months to 28 months).

Aztec Shops
Aztec Shops, Ltd. is a nonprofit campus auxiliary organization serving San Diego State University exclusively. The primary purpose of Aztec Shops is to provide bookstore and food services to the campus. Other services of the Shops include ticket sales, a contract post office and a copy center.

The bookstore provides required textbooks, assigned class materials, reference works and offers a large selection of general interest books and supplies.

The copy center provides xerox copying, limited printing, binding and collating.
A note-taking service, weekly notes, taken with the approval of the faculty member are sold on a subscription basis.

Food service operates East Commons, West Commons and Monty's Den cafeterias. In addition, a meal ticket program is available to any enrolled student with 14- and 10-meal options.

Alumni & Associates
Membership in the Alumni & Associates is open to those persons who have an abiding interest in and commitment to the growth and future of SDSU and the community it serves. The Alumni & Associates is a dynamic, moving organization whose purpose is to promote the welfare of the University. It offers a number of programs and services designed to meet the variety of needs and interests of its alumni, including library privileges, reduced extended study options, workshops, and conferences. The Alumni & Associates also sponsors the University's annual fund drive to raise private funds for innovative educational programs beyond the basic curriculum and to meet numerous needs of the University community.

In addition, the Alumni & Associates sponsor an Annual Awards Program every spring honoring alumni and friends of the University, provides scholarships for students, and serves as a sounding board regarding University programs and policies. The Alumni & Associates publication for alumni and friends of the University is the monthly Aztec Report.

Housing and Residential Life
Residence Halls
Accommodations for 1709 single students are available in six residence halls on campus.

Five of the halls are three-story red-brick buildings accommodating 223 students each. The halls provide staff in each of the halls recommend standards for basic behavior in the residence halls.

Currently, the cost for room rental is approximately $516 to $566 per academic year. Two charges are present in the room rental: (1) per meal per week (weekly charge: $445 to $465) and (2) per room per year (as additional charges: $500 to $525). It is the responsibility of each student to contact the Housing and Residential Life Office if one wishes to obtain a room in the halls.

Number of Spaces on This Campus: There are 10 national sororities at San Diego State University which provide housing for female students. Each of the sororities provides a variety of residential options to meet the needs of its members. The sororities are located in various areas on campus and are available to female students who meet the eligibility requirements established by each sorority.

Marine Corps Programs
The Marine Corps Platoon Leaders Program, as well as the Marine Woman Officers Candidate Program, is available to qualified college students.

Male applicants may sign up during their freshman or sophomore year and attend two six-week summer training sessions at Quantico, Virginia, or they may sign up during their junior year and attend one ten-week summer training session at Quantico. Female juniors can sign up for the ten-week Office Candidate Course and attend training between their junior and senior years.

Upon successful completion of the summer training and upon graduation, each applicant will be commissioned as a Second Lieutenant of Marines. All candidates who have completed the first summer training are eligible to apply for the Marine Woman Officers Candidate Program, which operates at Quantico, Virginia. Female juniors can sign up for the ten-week Office Candidate Course and attend training between their junior and senior years.

Off-Campus Housing
Listings of apartments, houses, and single rooms are available to students seeking roommates. The Housing and Residential Life Office. Information on single rooms, apartments, and houses, with landlord information, is available at the Housing and Residential Life Office.

Admission to the campus is a nine-story privately owned and operated coeducational residence hall for San Diego State University students. Room and board are available for 568 students. For information apply directly to El Conquistador, 5505 Montezuma Road, San Diego 92115.

Greek Letter Organizations
There are 10 national sororities at San Diego State University which provide housing accommodations for approximately 290 women. A formal rush program is held during the fall semester while informal rush continues throughout the entire year. For further information contact the Panhellenic, c/o Housing and Residential Life Office, San Diego State University, 5300 Campanile Drive, San Diego, California 92182.

The 15 national fraternities invite students for membership throughout the academic year and summer months. Interested students may obtain further information by writing to the Intrafraternity Council, c/o Housing and Residential Life Office, San Diego State University, 5300 Campanile Drive, San Diego, California 92182.

Transportation and Parking
Bus transportation to the University, connecting with all areas of the metropolitan area, is available as follows:

Route 80/80A bus operates between Pacific Beach and Grossmont Shopping Center via Mission Beach, Pacific Beach, Fashion Valley, Mission Valley, and the campus. This service is planned for elimination on June 30, 1979.

Route 15/15A bus operates between downtown San Diego (5th and 'E' Streets) and City of El Cajon via La Mesa and Parkway Plaza via the campus and Fletcher Hills, with express service to and from 48th Street.

Route 80/80A buses stop at the corner of Campanile Drive and Hardy Avenue on the south side of the campus.

Route 15/15A bus stops at College Avenue adjacent to the campus.

Additional information concerning bus routes, services, route elimination, and fares can be obtained from San Diego Transit Corporation by telephoning 239-8161 in San Diego.

On-campus parking is by permit only, and is scarce at close-in areas. There usually is adequate parking in outlying areas. Visitors should stop for a permit at the Campanile information booth entrance to the campus. For further information on parking contact the Department of Public Safety.

Student Services / 43
**Navy Officer Programs**

The Nuclear Power Officer Collegiate Scholarship is a financial assistance program which pays over $650 per month to qualifying students completing their final year of undergraduate or graduate work in engineering, mathematics, chemistry or physics. It can be worth over $8000 in the senior year (or last year of master's degree program) followed by a job operating Naval Nuclear Propulsion plants. Application for the Nuclear Propulsion Officer Collegiate Program (NUPOC-C) can begin during the second semester of the junior year, during the senior year, or during the master's program. The Division of Naval Reactors will determine initial eligibility by screening the college transcripts of interested applicants.

The Nuclear Power Instructor Collegiate Scholarship is a financial assistance program for men and women which pays over $650 per month to qualifying students completing their final year of undergraduate or graduate work in engineering, mathematics, chemistry or physics. It can be worth over $8000 in the senior year (or last year of master's program) followed by a job teaching in the Navy's Nuclear Power School. Applications for the Nuclear Engineering Instructor Program (N1051-C) can begin during the second semester of the junior year, during the senior year, or during the master's program. The Division of Naval Reactors (a program in research is also available) will determine initial eligibility by screening the college transcripts of interested applicants.

The Navy Officer Information Team visits the campus several times during the school year. Interested students are encouraged to see them for further information. Additional information may also be received by sending transcripts or calling the Officer Programs Office, Navy Recruiting District, San Diego, NTC San Diego, California 92133.

**Educational Opportunities Program**

This program is designed to assist undergraduate students from educationally disadvantaged or low-income groups who wish to acquire a college education but have not been able to realize their potential because of economic, educational or cultural environments. In cooperation with various federal, state and local agencies, the program recruits and enrolls students and provides scholastic and personal counseling during their undergraduate careers. Financial aid is disbursed through the Financial Aid Office to those students who prove financial need in accordance with federal and state guidelines. EOP attempts to ensure that each student shall have the opportunity to reach his or her fullest potential.

**Veterans Services**

The Veterans Affairs Office (VAO) provides assistance to veterans and their dependents in applying for and utilizing G.I. Bill benefits. We provide benefit information, academic and financial aid counseling, and G.I. Bill benefits can be arranged by contacting the office at least two months before the beginning of the semester. For further information regarding veterans benefits contact the Veterans Affairs Office at 286-5813.

**Disabled Student Services**

Disabled Student Services provides the special support services needed by students with physical disabilities. Services include orientation for new students, priority registration for special equipment, accessibility information, maps and elevator keys are available. The attendants, interpreters for the deaf, and notetakers, as well as information on accessible assistance for personal, academic and vocational problems. Special programs, social and assistance with off-campus service and funding organizations. Some services require Campus Lab School, telephone 286-6473 or TTY 286-5417.
Admission and Registration

Admission Procedures and Policies

Requirements for admission to San Diego State University are in accordance with Title 5, Chapter 1, Subchapter 3, of the California Administrative Code. Prospective applicants who are unsure of their status under these requirements are encouraged to consult a high school or community college counselor or the Admissions Office. Applications may be obtained from the Admissions Office at any of the campuses of The California State University and Colleges or at any California high school or community college.

Career Placement Information

The campus will furnish, upon request, information concerning the subsequent employment of students who graduate from programs or courses of study which have the purpose of preparing students for a particular career field. This information includes data concerning average starting salary and the percentage of previously enrolled students who obtained employment. Interested prospective students may request copies of the published information from the School Relations Officer.

Requirement and Use of Social Security Number

Applicants are required to include their social security number in designated places on applications for admission pursuant to the authority contained in Title 5, California Administrative Code, Section 41201. The social security number will be used as a means of financial aid eligibility and disbursement and the repayment of financial aid and other debts payable to the institution.

Undergraduate Application Procedures

Prospective undergraduates, whether applying for part-time or full-time programs of study, in day or evening classes, must file a complete application including all the required fee should be in the form of a check or money order payable to The California State campus. An alternative choice campus and major may be indicated on the application, but State University and Colleges that they will attend if the first choice campus cannot accommodate them. Generally, an alternate degree major will be considered only at the alternate choice campus. Applicants will be considered automatically at the alternate choice campus if the first choice not be submitted until requested by the campus.

Locally and Systemwide Impacted Programs

Impacted programs are those in which applications received in the first month of the filing period exceed the total spaces available, either locally (at an individual campus) or the filing period may file more than one application and fee. Nonresidents, foreign, or domestic, usually are not considered for admission to impacted programs.

High school and community college counselors are advised prior to the opening of the used by the campuses to determine which applicants will be allocated space in impacted programs.

Locally Impacted Programs

In selecting first-time freshmen and lower division transfers with fewer than 12 transferable semester units, at least one-half of the available space will be reserved for the most highly qualified applicants based on previous academic performance as measured by the eligibility index. High school grade point averages based on grades earned in the final three years of high school exclusive of physical education and military science, as reported by applicants on the application, and test scores received by the campus no later than the end of the month of the filing period will be used to compute the eligibility index. You should take the ACT or SAT test at the earliest date, although the inability of fall 1979 applicants to supply test scores by December 1, 1978, will not jeopardize admission priority. Remaining space may be allocated on the basis of self-declared grade point average or other criteria, details of which will be given applicants by the campuses. Applicants who cannot be accommodated will be considered at the same campus in an alternative major or redirected to an alternative campus where the program is not impacted.

Systemwide Impacted Programs

The supplementary admission criteria used by the individual campuses to screen applicants to systemwide impacted programs appear periodically in the Counselors' Digest and are sent to all applicants under consideration. Unlike unaccommodated applicants to locally impacted programs who may be redirected to another campus in the same major, unaccommodated applicants to systemwide impacted programs may not be redirected in the same major, but may choose an alternative major either at the first choice campus or another campus.

Postbaccalaureate Application Procedures

All applicants for any type of postbaccalaureate status (e.g., master's degree applicants, those seeking credit dollars, and those interested in taking courses for personal or professional growth) must file a complete application within the appropriate filing period. Second growth applicants must file a complete application with the appropriate filing period. Second growth applicants must file a complete application within the appropriate filing period. Baccalaureate degree candidates should apply as undergraduate degree applicants and need not complete form B. A complete application for postbaccalaureate status includes all of the materials required for undergraduate applicants plus the supplementary graduate admission application. Postbaccalaureate applicants who completed graduate admission application. Postbaccalaureate applicants who completed a complete application for postbaccalaureate degree requirements and graduated the preceding term are also required to undergraduate degree requirements and graduated the preceding term. Applicants for postbaccalaureate degree programs for postbaccalaureate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus on each application, redirection to alternative campuses or later changes of campus will be minimal. In the event that a postbaccalaureate applicant wishes to be assured of initial consideration by more than one campus, it will be necessary to submit a separate application (including fee) to each. Applications may be obtained from the Graduate Studies office of any California State University or College campus in addition to the sources noted for undergraduate applicants.

Application Filing Periods

Terms in 1979-80

First Accepted

Student Notification Begins

Fall 1979

November 1, 1978

December 1979

Spring 1980

August 1, 1979

September 1979

Filing Period Duration. Each campus accepts applications until capacities are reached. Most campuses accept applications up to a month prior to the opening day of the term. Some campuses will close individual programs as they reach capacity.

All applications postmarked or received during the initial filing period will be given equal consideration within established enrollment categories and limitations. There is no consideration with a single campus on each application, redirection to alternative campuses or later changes of campus will be minimal. In the event that a postbaccalaureate applicant wishes to be assured of initial consideration by more than one campus, it will be necessary to submit a separate application (including fee) to each. Applications may be obtained from the Graduate Studies office of any California State University or College campus in addition to the sources noted for undergraduate applicants.

Application Filing Periods

Terms in 1979-80

First Accepted

Student Notification Begins

Fall 1979

November 1, 1978

December 1979

Spring 1980

August 1, 1979

September 1979

Filing Period Duration. Each campus accepts applications until capacities are reached. Most campuses accept applications up to a month prior to the opening day of the term. Some campuses will close individual programs as they reach capacity.

All applications postmarked or received during the initial filing period will be given equal consideration within established enrollment categories and limitations. There is no consideration within established enrollment categories and limitations. There is no

* Applicants to impacted programs or campuses should make every effort to take the SAT or ACT at the earliest date. However, the inability of fall 1979 applicants to supply test scores by December 1, 1978, will not jeopardize their admission priority.
advantage in filing before the initial filing period. Applications received before the initial filing period may be returned, causing a delay in processing. With the exception of the impacted undergraduate program areas (architecture, natural resources, nursing, and physical therapy), most campuses will be accepting applications well into the extended filing periods until enrollment spaces are filled.

Admission to the university is not required for summer session attendance at San Diego State University except in special summer master's degree programs. Summer session applications are included in the Summer Sessions Bulletin which is available in mid-March from the College of Extended Studies. For information on master's degree programs in summer sessions, consult the Graduate Division.

Space Reservation Notices
Most applicants will receive some form of space reservation notice from their first choice campus within two months of filing the application. A notice that space has been reserved is also a request for records necessary to make the final admission decision. It is an assurance of admission only if evaluation of the applicant's previous academic record indicates that admission requirements have been met. Such a notice is not transferable to another term or another campus.

Hardship Petitions
There are established procedures for consideration of qualified applicants who would be facing with extreme hardship if not admitted. Prospective hardship petitioners should write to the Admissions Office regarding specific policies governing hardship admission.

Filing of Records
File Official Transcripts. The applicant must file the following official transcripts with the Admissions Office:

1. Transcript from high school of graduation or last in attendance (not required of the student who holds a bachelor's degree from an accredited institution, but is required of the student who holds a bachelor's degree from a nonaccredited institution).
2. Transcripts from EACH college attended (including extension, correspondence, summer session, or evening courses). Graduate students must file transcripts in duplicate if they plan to enter a master's degree or credential program.
3. Photocopy or true copy of the military separation form DD-214 (or equivalent) if the applicant has had active military service. (Not required of graduate students.)

A transcript will be considered official and accepted to meet the regulations governing admission only if forwarded directly to San Diego State University by the institution attended. All records or transcripts received by the university become the property of the university and will not be released nor will copies be made.

Completion of Required Tests

Admissions Tests
College Aptitude Test. The American College Test (ACT) or the Scholastic Aptitude Test (SAT) is required for matriculation of entering freshmen and transfer students with less than 56 units. Applicants should consult the high school counselor or the San Diego State University Test Office for dates and places where tests are given.

Test of English as a Foreign Language. Applicants whose native language is not TOEFL. For further information see the section of this catalog on Admission of Foreign Students.

Qualification Tests

Chemistry Placement Examination. Required of students before enrollment in any course requiring chemistry. An ACT score of 20 is required. This examination must be taken before registration for examination dates.

English Placement Test. All students subject to degree requirements of 1977-78 and subsequent general catalogs must demonstrate competency in writing skills as a requirement for graduation. In addition, all first-time freshmen are required to take the CSUC English Placement Test (EPT) so that information can be available to help in the selection of appropriate course work in writing skills and to prepare for meeting the graduation requirement. Failure to take the English Placement Test at the earliest opportunity after admission may lead to administrative probation which, according to Section 41300.1 of Title 5, California Administrative Code, and CSUC Executive Order 185, may lead to disqualification from further attendance. The results of the EPT will not affect admissions eligibility.

Information bulletins and registration materials for the EPT will be mailed to all students subject to these requirements. Alternatively, the materials may be obtained from the Office of Admissions and Records. Information on current available ways to meet the EPT or the graduation requirement may be obtained from the Dean of Undergraduate Studies.

Mathematics Competency Test. Competency in basic mathematics is regarded as essential to successful study in the university environment. All undergraduates, both freshmen and transfers, must satisfy the mathematics competency requirement (see Graduation Requirements: VI. Competency Requirements section of this catalog for complete details).

Mathematics Placement Examination. Required of students before enrollment in any of the following courses: Mathematics 104, 119, 120, 121, 140, 150, Economics 201, Political Science 201, Psychology 201, and Sociology 201. These examinations may be taken before registration. Reservations for the examinations are not required. Refer to the calendar in the Class Schedule for examination dates.

Writing Competency Test. Competency in standard written English is regarded as essential to successful study in the university environment. All undergraduates, both freshmen and transfers, must satisfy the writing competency requirement at the time of entrance or within two semesters thereafter (see Graduation Requirements: VI. Competency Requirements section of this catalog for complete details).

All students who have not satisfied this requirement at time of entrance must take the TSWE at the SDSU Test Office (Room LE-560, 288-5216) sometime prior to or during their first semester on campus. Students who score below 40 on this test must register in Study Skills 150 (Writing Development, 3 units) in either their first or second semester at SDSU. Failure to do so will result in administrative Academic Disqualification at the end of the second semester; reinstatement thereafter will be conditional upon satisfaction of the Writing Competency Requirement.

Graduate Aptitude Tests. This test is required of all graduate students who intend to enroll in a master's degree program. May be taken before registration. Also given during the regular semester. Make reservations for this test at the Test Office, Old Library.

Undergraduate Admission Requirements

First-time freshman eligibility is governed by an eligibility index. The index is computed using the high school grade point average on all course work completed in the last three years of high school, exclusive of physical education and military science, and the ACT composite, or the SAT total score. A partial table of grade point averages, with corresponding test scores is reproduced on the following page. Test results of either the CEEB Scholastic Aptitude Test (SAT) or the American College Testing Program examination (ACT) are acceptable in establishing eligibility.

Registration forms and test dates for either test may be obtained from school or college counselors, from the addresses below, or from the campus testing offices. For either test, submit the registration form and fee at least one month prior to the test date.

ACT Address
American College Testing Program, Inc.
Registration Unit, P.O. Box 168
Iowa City, Iowa 52240

SAT Address
College Entrance Examination Board
P.O. Box 592
Princeton, New Jersey 08540
First-Time Freshmen (California high school graduates and residents). Applicants who are graduates of a California high school or legal residents for tuition purposes must have an eligibility index which places them among the upper one-third of California high school graduates. The minimum eligibility index is: SAT = 500 and ACT = 21. The following table illustrates grade point averages and test scores needed to qualify for admission.

Excerpts from Admissions Eligibility Table for California High School Graduates

<table>
<thead>
<tr>
<th>GPA</th>
<th>SAT Score</th>
<th>ACT Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>130</td>
<td>30</td>
</tr>
<tr>
<td>2.2</td>
<td>135</td>
<td>32</td>
</tr>
<tr>
<td>2.4</td>
<td>140</td>
<td>34</td>
</tr>
<tr>
<td>2.6</td>
<td>145</td>
<td>36</td>
</tr>
<tr>
<td>2.8</td>
<td>150</td>
<td>38</td>
</tr>
<tr>
<td>3.0</td>
<td>155</td>
<td>40</td>
</tr>
</tbody>
</table>

* Below 2.0 not eligible.
** Above 3.20 eligible with any score.

First-Time Freshmen (Nonresident). The admission requirements for nonresident applicants are higher than those for California residents. Applicants who are neither residents for tuition purposes nor graduates of a California high school must have an eligibility index which places them in the upper one-sixth of California high school graduates. The minimum index for such students is 826 (ACT) or 3402 (SAT).

High School Students. Students still enrolled in high school will be considered for enrollment in certain special programs if recommended by the principal and if preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given program and does not constitute the right to continued enrollment.

Recommended Preparation for High School Students. While no specific classes are required for admission to San Diego State University, students who plan their high school program with care will find themselves better prepared, more successful, and with more interesting options available to them than those who are deficient in basic skills and information.

Writing

Writing skills are essential to success in the university. Students are strongly urged to take at least three years of English classes which include instruction in writing. A speech English class, San Diego State requires a writing competency test prior to or during the first semester.

Mathematics

Mathematics competency is a graduation requirement at San Diego State and at least two years of high school mathematics (elementary algebra and either intermediate algebra or geometry). Students considering science or engineering as their major should take an additional two years of mathematics.

Social Science

All students need three years of social science including social studies, U.S. history, and government.

Science

All students should take at least two years of study to include a life science, a physical science, and a laboratory. Students who expect to continue in science or engineering should take both physics and chemistry.

Humanities

Classes in humanities and fine arts subjects help students to develop perceptual and analytic skills and are excellent preparation for college work.

Foreign Language

Students are advised to take at least two years of the same language. Many degrees at high school, or a combination of high school and college course work are required for admission to San Diego State, or students who are entering San Diego State University must have an eligibility index which places them among the upper one-third of California high school graduates. The minimum eligibility index is: SAT = 500 and ACT = 21. The following table illustrates grade point averages and test scores needed to qualify for admission.

Excerpts from Admissions Eligibility Table for California High School Graduates

<table>
<thead>
<tr>
<th>GPA</th>
<th>SAT Score</th>
<th>ACT Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>130</td>
<td>30</td>
</tr>
<tr>
<td>2.2</td>
<td>135</td>
<td>32</td>
</tr>
<tr>
<td>2.4</td>
<td>140</td>
<td>34</td>
</tr>
<tr>
<td>2.6</td>
<td>145</td>
<td>36</td>
</tr>
<tr>
<td>2.8</td>
<td>150</td>
<td>38</td>
</tr>
<tr>
<td>3.0</td>
<td>155</td>
<td>40</td>
</tr>
</tbody>
</table>

* Below 2.0 not eligible.
** Above 3.20 eligible with any score.

First-Time Freshmen (Nonresident). The admission requirements for nonresident applicants are higher than those for California residents. Applicants who are neither residents for tuition purposes nor graduates of a California high school must have an eligibility index which places them in the upper one-sixth of California high school graduates. The minimum index for such students is 826 (ACT) or 3402 (SAT).

High School Students. Students still enrolled in high school will be considered for enrollment in certain special programs if recommended by the principal and if preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given program and does not constitute the right to continued enrollment.

Recommended Preparation for High School Students. While no specific classes are required for admission to San Diego State University, students who plan their high school program with care will find themselves better prepared, more successful, and with more interesting options available to them than those who are deficient in basic skills and information.

Writing

Writing skills are essential to success in the university. Students are strongly urged to take at least three years of English classes which include instruction in writing. A speech English class, San Diego State requires a writing competency test prior to or during the first semester.

Mathematics

Mathematics competency is a graduation requirement at San Diego State and at least two years of high school mathematics (elementary algebra and either intermediate algebra or geometry). Students considering science or engineering as their major should take an additional two years of mathematics.

Social Science

All students need three years of social science including social studies, U.S. history, and government.

Science

All students should take at least two years of study to include a life science, a physical science, and a laboratory. Students who expect to continue in science or engineering should take both physics and chemistry.

Humanities

Classes in humanities and fine arts subjects help students to develop perceptual and analytic skills and are excellent preparation for college work.

Foreign Language

Students are advised to take at least two years of the same language. Many degrees at high school, or a combination of high school and college course work are required for admission to San Diego State, or students who are entering San Diego State University must have an eligibility index which places them among the upper one-third of California high school graduates. The minimum eligibility index is: SAT = 500 and ACT = 21. The following table illustrates grade point averages and test scores needed to qualify for admission.

Excerpts from Admissions Eligibility Table for California High School Graduates

<table>
<thead>
<tr>
<th>GPA</th>
<th>SAT Score</th>
<th>ACT Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>130</td>
<td>30</td>
</tr>
<tr>
<td>2.2</td>
<td>135</td>
<td>32</td>
</tr>
<tr>
<td>2.4</td>
<td>140</td>
<td>34</td>
</tr>
<tr>
<td>2.6</td>
<td>145</td>
<td>36</td>
</tr>
<tr>
<td>2.8</td>
<td>150</td>
<td>38</td>
</tr>
<tr>
<td>3.0</td>
<td>155</td>
<td>40</td>
</tr>
</tbody>
</table>

* Below 2.0 not eligible.
** Above 3.20 eligible with any score.

Undergraduate Transfer Applicants (Resident and Nonresident)

Transfer admission eligibility is based on transferable college units attempted, rather than on all college units attempted. California Community College transfer students should consult their counselors for information on transferability of courses. Applicants in good standing at the last institution attended may be admitted as undergraduate transfers if they meet either of the following requirements:

1. Eligible for admission in freshman standing (see freshmen requirements) with a GPA of "C" (2.0 on a scale where A = 4.0) or better if all transferable college units attempted.
2. Completed at least 56 transferable semester units or 84 transferable quarter units with a GPA of "C" (2.0 on a scale where A = 4.0) or better if a California resident. Nonresidents must have a GPA of 2.4 or better.

Other Applicants

Applicants not admissible under one of the above provisions should enroll in a community college, or other appropriate institution. Only under the most unusual circumstances will such applicants be permitted to enroll. Permission is granted only by special action.

San Diego State University offers a special program designed to expand educational opportunity for capable persons who, for a variety of reasons, have not previously had the opportunity. For detailed information regarding admission to this program, refer to the section of this catalog on the Educational Opportunities Program.

Admission of Postbaccalaureate and Graduate Students

All students holding a baccalaureate degree who desire to enroll at San Diego State University for postgraduate study must apply for admission to San Diego State University through the Office of Admissions. In making the application, they must observe the procedures outlined above.

Postbaccalaureate Standing (Unclassified)

For admission to unclassified postbaccalaureate standing, a student must: (a) hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association or have completed equivalent academic preparation as determined by an appropriate campus authority; (b) have attained a grade point of at least 2.5 (on a four-point scale) in the last 60 semester (90 quarter) units attempted; and (c) have been in good standing at the last college attended. Admission to a California State University or College with postbaccalaureate unclassified standing does not constitute admission to graduate degree curricula.

Postbaccalaureate Standing (Classified)

A student who is eligible for admission to a California State University or College in unclassified standing may be admitted to classified postbaccalaureate standing for the purpose of enrolling in a particular postbaccalaureate credential or certificate program; provided, that such additional professional, personal, scholastic, and other standards, including qualifying examinations, as may be prescribed for the particular program by the appropriate campus authority are satisfied.

Graduate Standing (Conditionally Classified)

A student who is eligible for admission to a California State University or College under unclassified postbaccalaureate standing above, but who has deficiencies in prerequisite preparation which in the opinion of the appropriate campus authority can be met by specified additional preparation, including qualifying examinations, may be admitted to an authorized graduate degree curriculum with conditionally classified graduate standing.
Graduate Standing (Classified)

A student who is eligible for admission to a California State University or College in an unclassified or conditionally classified standing may be admitted to an authorized graduate degree curriculum of the campus as a classified graduate student if he/she satisfactorily meets the professional, personal, scholastic, or other standards for admission to the graduate degree curriculum, including qualifying examinations, as the appropriate campus authority may prescribe. Only those applicants who show promise of success and fitness will be admitted to graduate degree curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to proceed in such curricula.

Admission as an International (Foreign) Student

The admission of international (foreign) students is governed by separate requirements. Prospective applicants from abroad should consult the individual campus catalogs and international student informational brochures available from the campuses. Health insurance coverage is mandatory for international foreign students. Present acceptable health insurance is available on campus at approximately $125 per year. Applicants for admission as either graduates or undergraduates whose education has been in a foreign country should file an application for admission, official certificates and detailed transcripts of record from each secondary school and collegiate institution attended several months in advance of the opening of the semester in which the applicant expects to attend. International students from outside the United States will be considered for admission only for the fall semester. Only those foreign students already in the United States will be considered for the spring semester. Students applying to transfer from a college or university in the United States must have completed a full year at that institution. If certificates and transcripts are not in English, they should be accompanied by certified English translations. Credentials will be evaluated in accordance with the general regulations governing admission to San Diego State University.

An applicant whose education has been in a language other than English must take the Test of English as a Foreign Language (TOEFL). This test is administered in most foreign countries and test scores must be received by the university before admission to the university can be granted. Information as to the location and time and place at which this test is given may be obtained by writing to Educational Testing Service (TOEFL), Princeton, New Jersey, 08540, U.S.A. Upon arrival at San Diego State University, a further test of English will be given. The purpose of placing students in an English language program commensurate with their appropriate level of English and for use by advisors to assist students in planning an one or more of the following courses, depending upon the student's first college may be required to take an English placement test.

Arrangements for housing should be completed before the student's arrival on the campus. Detailed information regarding housing may be obtained from the Housing, San Diego State University. Scholarship aid for entering students is limited; no arrangements for entering students are specifically reserved for students from another country. Further information regarding scholarships will be found in the section of this catalog on Financial Aid as early as possible with the International Student Counselor.

Limitation of Enrollment

Admission to a state university or college must be restricted in relation to the number of students. The Trustees have authority on this matter.

Registration

San Diego State University students are afforded the opportunity to participate in an Advance Registration system. Off-campus registration is also held just prior to the beginning of each semester. The Class Schedule, issued each semester and obtainable at the University bookstore prior to the registration period, contains specific information on registration, the courses offered for the term, and a listing of the fees required for registration. Fees are payable at the time registration materials are submitted and depend on the number of units selected. Late registration at San Diego State University is permitted only in cases for which there is demonstrable justification.

Determination of Residence for Nonresident Tuition Purposes

New and returning students of The California State University and Colleges are classified for the purpose of determining the residence of each student for nonresident tuition purposes. The Residence Questionnaire and, if necessary, other evidence furnished by the student is used in making these determinations. Students may not register and enroll in classes until their Residence Questionnaire has been received by the Admissions Office.

The following statement is the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

Legal residence may be established by an adult who is physically present in the state while, at the same time, evidencing intent to make California his permanent home. Steps must be taken at least one year prior to residence determination date to evidence the intent to make California the permanent home with concurrent relinquishment of the prior legal residence. The following statement of the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in Education Code Sections 68000-68090, 90403, 98705-89707.5, and 68122, 88124 and 88121, and in Title 5 of the California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

A man or a woman may establish his or her residence: marriage is not a governing factor. The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of his stay in California. The following statement is the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

Legal residence may be established by an adult who is physically present in the state while, at the same time, evidencing intent to make California his permanent home. Steps must be taken at least one year prior to residence determination date to evidence the intent to make California the permanent home with concurrent relinquishment of the prior legal residence. The following statement of the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

A man or a woman may establish his or her residence: marriage is not a governing factor. The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of his stay in California. The following statement is the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

A man or a woman may establish his or her residence: marriage is not a governing factor. The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of his stay in California. The following statement is the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

A man or a woman may establish his or her residence: marriage is not a governing factor. The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of his stay in California. The following statement is the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

A man or a woman may establish his or her residence: marriage is not a governing factor. The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of his stay in California. The following statement is the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for nonresident tuition purposes by the California State University and Colleges is found in California Administrative Code, Article 4 (commencing with Section 41900) of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.
4. Dependent children and spouses of persons in active military service stationed in California on the residence determination date. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year. The exception, once attained, is not affected by transfer of the military person directly to a post outside the 50 states and District of Columbia.

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 applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.

6. A student who is an adult alien is entitled to residence classification if the student has been lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States; provided, however, that the student has had residence in California for more than one year after such admission prior to the residence determination date. A student who is a minor alien shall be entitled to residence classification if both the student and the parent from whom residence is derived have been lawfully admitted to the United States for permanent residence in accordance with all applicable laws of the United States, provided that the parent has had residence in California for more than one year after acquiring such permanent residence prior to the residence determination date of the term for which the student proposes to attend the University.

7. Certain refugees.

8. Certain credentialed, full-time employees of school districts working toward a credential.

9. Full-time State University and Colleges employees and their children and spouses. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.

10. Certain exchange students.

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. A person in continuous full-time attendance at an institution who had resident classification on May 1, 1973, shall not lose such classification as a result of adoption of the uniform student residency law on which this classification as a result of adoption of the uniform student residency law on which this student is entitled to classification as a result of adoption of the uniform student residency law on which this student is entitled to classification.

Any student, following a final decision on campus on his residence classification, may make written appeal to:

The California State University and Colleges
Office of General Counsel
400 Golden Shore
Long Beach, California 90802

within 120 calendar days of notification of the final decision on campus of his classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to the institution with instructions for a further review on campus. Students classified subject to nonresident classification as nonresidents and payment of nonresident tuition are not entitled to classification as residents for purposes of college admission. This exception applies to the California Administrative Code, the criteria for classification as residents for other purposes, and to nonresident students seeking classification for financial aid purposes. Applications for a change in classification with respect to a previous term are not accepted.

The student is cautioned that this summation of rules regarding residence determination changes may have been made in the rate of nonresident tuition, in the statutes, and the determination date. The student is cautioned that this summation of rules regarding residence determination changes may have been made in the rate of nonresident tuition, in the statutes, and the determination date.

Academic Advising

Academic advising is available on campus according to major. Students with a declared major or interest in a particular major should consult with the advising center or assistant dean for student affairs in the college of that major. Students who are undecided about their majors should consult with the University Advising Center. Besides the advising centers listed below, each department and academic program maintains advisers who may be consulted on specific questions related to their programs. These departmental and program advisers may be reached through any of the college advising centers listed below or through the University Advising Center. Most advising centers are open Monday through Friday between 9:00 a.m. and 4:30 p.m. Services are available either by appointment or on a drop-in basis.

College of Arts and Letters Advising Center
(Library East, Room 401)

- Afro-American Studies
- American Indian Studies
- American Studies
- Anthropology
- Asian Studies
- Classical & Oriental Languages
- Comparative Literature
- Economics
- English
- French & Italian Languages
- German & Slavic Languages
- History
- Humanities
- Latin American Studies
- Linguistics
- Philosophy
- Political Science
- Religious Studies
- Social Science
- Sociology
- Spanish & Portuguese
- Women's Studies

College of Business Administration Advising Center
(Business Administration, Room 441)

- Accounting
- Business Education
- Finance
- Information Systems
- Marketing
- Management
- Real Estate
- Educational Technology
- Multicultural Education
- Elementary Education
- Secondary Education
- Librarianship
- Special Education

College of Education Advising Center
(College of Engineering, Room 424)

- Aerospace Engineering
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering

College of Humanities Advising Center
(Hepner Hall, Room 111)

- Communicative Disorders
- Social Welfare Major
- Social Work
- Nursing
- Social Welfare Minor
- Graduate Program in Social Work

College of Professional Studies
(Social Sciences, Room 127)

- Aerospace Studies
- Art
- Athletics
- Drama
- Family Studies & Consumer Sciences
- Health Science & Safety
- Industrial Studies
- Journalism
- Music
- Mexican-American Studies
- Physical Education
- Public Administration
- Recreation
- Speech Communication
- Telecommunications & Film

College of Sciences Advising Center
(Life Sciences, Room 407)

- Astronomy
- Biology
- Botany
- Chemistry
- Geological Sciences
- Mathematical Sciences
- Microbiology
- Physics
- Psychology
- Zoology

Areas of interest within the majors: Animal behavior, chemical physics, computer science, counseling and clinical psychology, ecology, electronics, engineering geology, environmental health, entomology, genetics,
General Regulations

Student Responsibility for Catalog Information

Students are held individually responsible for the information contained in the catalog. Failure to read and comply with university regulations will not exempt students from whatever penalties they may incur.

Changes in Rules and Policies

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

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 (45 C.F.R. 99) and California Education Code section 67100 et seq, set out requirements designed to protect the privacy of students concerning their education records. The act establishes the basic rights of students concerning their education records, the circumstances under which such records may be shared outside of the university, and the rights, procedures, and remedies students have if they believe their privacy has been violated. These regulations are intended to enhance the protection of personally identifiable information contained in student education records and to ensure that students, their parents, and legal guardians of students understand the extent of the rights, procedures, and remedies available to them under the law.

Privacy rights apply to records maintained by The California State University and Colleges, the Chancellor of The California State University, the Trustees of The California State University, the President of the campus, and the campus. Copies of these policies and procedures may be obtained at the Office of the Dean of Student Affairs, the Chancellor's Office, or the University Advising Center located in the Library East Building, room 486.

Transcript Evaluation

Official evaluations may be requested at the Evaluations Office (AD-127) by declared majors upon the completion of 56+ semester units. Evaluations may be scheduled with evaluators by students with questions concerning their evaluations. Evaluators are also available to assist students during the registration period.
The campus is authorized under the Act to release public directory information concerning students. Directory information includes the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student and any other information authorized in writing by the student. The designated information is subject to release by the campus at any time unless the student has provided written objection to the release of directory information about themselves at the time of registration. 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 are those who have responsibilities in connection with the campus' academic, administrative, or service functions and who have reason for using student records connected with their campus or other related academic responsibilities.

Nondiscrimination on the Basis of Sex

The California State University and Colleges does not discriminate on the basis of sex in the educational programs or activities it conducts. Title IX of the Education Amendments of 1972, as amended, and the administrative regulations adopted thereunder prohibit discrimination on the basis of sex in education programs and activities operated by San Diego State University. Inquiries concerning the application of Title IX to programs and activities of San Diego State University may be referred to the Affirmative Action Officer, the campus officer assigned the administrative responsibility of reviewing such matters, or to the Regional Director of the Office of Civil Rights, Region 9, 760 Market Street, Room 700, San Francisco, California 94102.

Nondiscrimination on the Basis of Handicap

The California State University and Colleges does not discriminate on the basis of handicap in violation of Section 504 of the Rehabilitation Act of 1973, as amended, and the regulations adopted thereunder. More specifically, the California State University and Colleges does not discriminate in admission or access to, or treatment or employment in, its programs and activities. The Office of Student Affairs has been designated to coordinate the efforts of San Diego State University to comply with the Act and its implementing regulations. Inquiries concerning compliance may be addressed to this office at AD-231; telephone 286-5211.

Options, Computation and Registration of Grades

Registration of Grades

At the end of each semester or summer session in which a student is enrolled, a report of courses taken showing units and grades earned, is sent to the student. Grades and grade points per unit used in reporting are as follows: Grade of A (outstanding achievement, definitely above average), 4 points; B (praiseworthy performance, most common undergraduate grade), 3 points; C (average; awarded for satisfactory performance, the undergraduate achievement), 2 points; D (minimally passing; less than the typical as units attempted after one year, 0 points; SP (satisfactory progress), not counted in the grade point average; AU (audit), no credit earned and not counted in the grade point average; NC (no credit), no credit earned and not counted in the grade point average and progress point computation.

Undergraduate Student Options on Grading

An undergraduate student may elect to be graded credit/no credit in particular courses, subject to the following conditions:

1. Courses graded credit/no credit (Cr/NC), whether taken at this or at another institution, may not be used to satisfy requirements for the student's major except for those courses identified in the course listing as graded "Cr/NC."

2. No more than 24 units graded credit/no credit may be offered in satisfaction of the total units required in a bachelor's degree program, except that all units accepted as transfer credit from another institution at the time of the student's admission may be used. If 24 or more units graded credit/no credit are transferred, the student may offer no additional courses graded credit/no credit to satisfy total units required for a bachelor's degree.

Exceptions to this rule will be made if a student is required to take a course on a Cr/NC basis only.

3. If for any reason (change of major or transfer from another institution) courses graded credit/no credit are offered to satisfy requirements in the major, the student may be required by the major department to pass competency examinations at an acceptable level or take prescribed alternate courses before being allowed to continue in the major.

4. Selection of the grading basis (A through F or credit/no credit) is made at the time of registration for the course. Change of grading basis may be made by informing the Admissions and Records Office on or before the last date on which a student may withdraw from a class or change program.

5. A grade of "Credit" is awarded for work equivalent to all grades which earn 2.0 or more grade points (A through C). "No Credit" is awarded for work equivalent to all grades which earn less than 2.0 grade points (C- through F).

6. The only courses a student may repeat with a credit/no credit option are those in which the student previously received a grade of "No Credit."

Authorized Incomplete Grade

The symbol "I" (incomplete authorized) indicates that a portion of required course work has not been completed and evaluated in the prescribed time period due to unforeseen, but fully justified, reasons and that there is still a possibility of earning credit. It is the responsibility of the student to bring pertinent information to the instructor and to reach agreement on the means by which the remaining course work requirements will be satisfied. The conditions for removal of the Incomplete shall be reduced to writing by the instructor and given to the student with a copy placed on file with the department chair until the Incomplete is removed or the time limit for removal has passed. A final grade is assigned when the work agreed upon has been completed and evaluated.

Plus/Minus Grading

A plus/minus grading system is utilized at San Diego State University. Plus/minus grading is not mandatory but is utilized at the discretion of the individual instructor. A plus entails the addition of .3 grade points to the letter grade value (e.g., B+ = 3.3 grade points); assigning a grade of minus entails the subtraction of .3 grade points (e.g., B- = 2.7 grade points). The grades of A+, F+ and F- are not issued. The decimal values of plus and minus grades are utilized in the calculation of grade point averages as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A+</td>
<td>4.3</td>
</tr>
<tr>
<td>A-</td>
<td>4.0 -</td>
</tr>
<tr>
<td>B</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B-</td>
<td>3.0 -</td>
</tr>
<tr>
<td>C</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C-</td>
<td>2.0 -</td>
</tr>
<tr>
<td>D</td>
<td>2.0</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
<tr>
<td>F+</td>
<td>0.3</td>
</tr>
<tr>
<td>F-</td>
<td>0.0 -</td>
</tr>
</tbody>
</table>

Grade Point Average

To compute the grade point average, divide the total number of grade points earned by the number of units attempted. Units earned with a Cr (Credit) are not included in the computation nor is an Incomplete until one year has elapsed. The minimum GPA for a bachelor's degree is 2.0 (C); in other words, the student must have earned at least twice as many grade points as units attempted.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A+</td>
<td>4.3</td>
</tr>
<tr>
<td>A-</td>
<td>4.0 -</td>
</tr>
<tr>
<td>B</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B-</td>
<td>3.0 -</td>
</tr>
<tr>
<td>C</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C-</td>
<td>2.0 -</td>
</tr>
<tr>
<td>D</td>
<td>2.0</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
<tr>
<td>F+</td>
<td>0.3</td>
</tr>
<tr>
<td>F-</td>
<td>0.0 -</td>
</tr>
</tbody>
</table>
General Regulations

An Incomplete must be made up within one calendar year immediately following the end of the term in which it was assigned. This limitation prevails whether or not the student maintains continuous enrollment. Failure to complete the assigned work within one calendar year will result in the Incomplete being counted as equivalent to an "F" (or an "NC") for grade point average and progress point computation. Candidates for graduation with the baccalaureate degree whose record carries a grade of Incomplete will be graduated provided they are otherwise eligible for graduation. However, the Incomplete cannot be made up after the degree has been granted. If students do not wish to be graduated with the grade of Incomplete on their record, they must officially cancel their application for graduation.

Satisfactory Progress Grade

The "SP" symbol is used in connection with courses that extend beyond one academic term. It indicates that work is in progress and has been evaluated and found to be satisfactory to date, but that assignment of a precise grade must await completion of additional work. Cumulative enrollment in units attempted may not exceed the total number applicable to the student's educational objective. Work is to be completed within a stipulated time period. This may not exceed one year. Any extension of time limit must receive prior authorization by the Dean of Undergraduate Studies (for undergraduate courses) or the Dean of the Graduate Division and Research (for graduate courses).

Withdrawal Grade

The symbol "W" indicates that the student was permitted to drop the course after the fourth week of instruction with the signature of the instructor and the approval of the College Dean or designee. It carries no computation of quality of student performance and is not used in calculating grade point average or progress points.

Unauthorized Incomplete Grade

The symbol "U" indicates that an enrolled student did not withdraw from the course but failed to complete course requirements. It is used when, in the opinion of the instructor, evaluation of academic performance possible. For purposes of grade point average and progress point computation, this symbol is equivalent to an "F."

Courses

Except as permitted in graduation requirements, a course cannot be used to satisfy more than one requirement.

Numbering Courses

Courses numbered 100 through 299, or by letters (A, B, C, etc.) are in the lower division year and those numbered 500 through 499 are in the upper division and are also acceptable for advanced degrees; those numbered 600 through 799 are strictly graduate courses; and those numbered 800 through 899 are Continuing Education courses. The courses X-900, X-999 are those offered only through Continuing Education to meet specific academic needs of community groups. Courses at the X-900 level are designed to meet special or professional needs, and unless otherwise stated in the course description are applicable toward baccalaureate degree requirements, unless otherwise stated at San Diego State University. Courses at the X-900 level are not acceptable on advanced degree programs.

Auditing

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 fee structure as credit students and regular class attendance is expected. Once enrolled as prior to the fourth week of instruction. A student who is enrolled for credit may not change to

Repeated Course

An undergraduate student who has received a grade which earns less than 2.0 grade points may repeat that course. While the original grade will remain on the transcript, only the results of the last attempt will be used in computation of grade point average. A student may not repeat a course in which a grade of C or better was received, except in the following circumstances:

1. Petition the Dean of the College of Education during the final undergraduate semester (or summer session) when graduation occurs; (or summer session)
2. Attempt no more than 18 units during the final undergraduate semester (or summer session)
3. Petition the Dean of the College of Education during the final undergraduate semester (or summer session) when graduation occurs; (or summer session)
4. To petition the Dean of the College of Education during the final undergraduate semester (or summer session) when graduation occurs; (or summer session)
5. Extension courses are not acceptable for concurrent postbaccalaureate credit. Concurrent postbaccalaureate credit will not be granted retroactively.

Final Examinations

No final examination shall be given to individual students before the regular time. Any student who finds it impossible to take a final examination on the date scheduled must make arrangements with the instructor to have an incomplete grade reported and must take the deferred final examination within the time allowed for making up incomplete grades.

Academic Credit Through Course Work

Credit for Upper Division Courses

A maximum of 70 semester units may be applied toward the degree, with the following limitations: (a) no upper division credit may be allowed for courses taken in a community college; (b) no credit may be allowed for professional courses in education taken in a community college; and (c) no credit may be allowed for professional courses in continuing education to meet specific academic needs of community groups.

Community College Credit

A senior who is within 12 units of completing requirements for the bachelor's degree and whose grade point average in the last 60 semester units attempted is 3.0 or above may petition the Graduate Council to take for concurrent master's degree credit 500-numbered courses listed in the Graduate Bulletin as acceptable for master's degree programs, and certain 400- and 700-numbered courses approved by the department, with the remaining requirements for the bachelor's degree. Petitions must be submitted before the end of the first week of summer term II of the semester (or term) in which the concurrent credit is earned. The bachelor's degree must be completed at the end of the semester (or term) in which the concurrent credit is earned. The maximum number of units for the concurrent degree is determined by the difference between the number of units remaining for the bachelor's degree and 15.

Concurrent Master's Degree Credit

Applicable to the "Fifth Year" Credential Requirement Only

Concurrent postbaccalaureate credit may be earned during the final semester or summer session by seniors admitted to the College of Education who meet all of the following qualifications:
1. Have a minimum grade point average of 2.5 on the last 60 units attempted;
2. Complete course work in excess of graduation requirements during the semester (or summer session) when graduation occurs;
3. Attempt no more than 18 units during the final undergraduate semester (or 15 units during summer session);
4. Petition the Dean of the College of Education during the final undergraduate semester (or summer session) when graduation occurs;
5. Graduate at the end of the semester (or summer session) the petition is made.

Extension courses are not acceptable for concurrent postbaccalaureate credit. Concurrent postbaccalaureate credit will not be granted retroactively.
Credit for Extension Courses

The maximum amount of extension and correspondence credit which may be accepted toward the minimum requirements for the bachelor's degree is 24 semester units. Extension and correspondence credit do not count in satisfaction of the minimum residence requirement. A maximum of nine units in extension courses at San Diego State University may be accepted as part of the requirements for the master's degree, subject to limitations described in the Graduate Bulletin.

Continuing education courses offered by departments are of two kinds. The first includes regular courses listed in the General Catalog which are available for use by students in meeting college and university credit requirements of various kinds, and are usually at the upper division level. A second kind is offered by some departments at the X-900 level and serves to meet the needs of specific community groups. Courses at the X-900 level are designed to meet special or professional needs, and unless otherwise stated in the course description are applicable toward degree requirements at San Diego State University. Courses at the X-900 level are not acceptable on advanced degree programs.

Academic Credit Through Examination

Credit by Examination

Approval to receive undergraduate credit-by-examination is granted at the discretion of the appropriate college authorities and under the following conditions:

1. The student must be matriculated, in good standing (not on probation), be registered in at least one regular course (not Extension) at the time credit-by-examination is authorized, and pay for additional units if cost exceeds fees already paid.
2. Application for credit by examination must be made within the time limits for filing a change of program as listed in the Academic Calendar each semester.
3. Approval of the department chair and the Dean of the College concerned is required prior to taking the examination. Forms for approval may be obtained from the Evaluations Office.
4. Credit-by-examination is restricted to regular undergraduate courses listed in the general catalog; does not include 600- and 700-numbered, or Extension courses; cannot exceed 30 units as applicable to graduation; and does not count as residence credit.
5. Credit-by-examination is not treated as part of the student's study load and, therefore, is not considered by the Veterans Administration in the application of their regulations; and is not always accepted as transfer credit between collegiate institutions. In summer sessions the total units earned for courses and examinations cannot exceed the limit authorized by the Education Code.

Credit by Examination

<table>
<thead>
<tr>
<th>Examination</th>
<th>Score</th>
<th>Semester units credit allowed toward degree</th>
<th>SDSU course equivalents*</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>European History</td>
<td>3, 4, 5</td>
<td>6</td>
<td>History 109A-109B</td>
<td>(6)</td>
</tr>
<tr>
<td>French</td>
<td>3</td>
<td>6</td>
<td>French 201 and 211</td>
<td>(6)</td>
</tr>
<tr>
<td>Classics</td>
<td>3, 4, 5</td>
<td>5</td>
<td>Classics 202L</td>
<td>(5)</td>
</tr>
<tr>
<td>Latin Prose</td>
<td>3, 4, 5</td>
<td>5</td>
<td>Classics 202L</td>
<td>(5)</td>
</tr>
<tr>
<td>Latin Lyric</td>
<td>3, 4, 5</td>
<td>5</td>
<td>Classics 202L</td>
<td>(5)</td>
</tr>
<tr>
<td>German</td>
<td>3</td>
<td>6</td>
<td>German 201 and 211</td>
<td>(6)</td>
</tr>
<tr>
<td>Spanish</td>
<td>3</td>
<td>6</td>
<td>Spanish 201 and 211</td>
<td>(6)</td>
</tr>
<tr>
<td>Biology</td>
<td>3, 4, 5</td>
<td>6</td>
<td>Biology 100 and 100L</td>
<td>(4)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3, 4, 5</td>
<td>10</td>
<td>Chemistry 201L, 201L, 201L</td>
<td>(10)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3, 4, 5</td>
<td>6</td>
<td>Mathematics 150</td>
<td>(5)</td>
</tr>
<tr>
<td>Calculus</td>
<td>3, 4, 5</td>
<td>6</td>
<td>Mathematics 150</td>
<td>(5)</td>
</tr>
<tr>
<td>Calculus BC</td>
<td>3, 4, 5</td>
<td>9</td>
<td>Mathematics 150</td>
<td>(5)</td>
</tr>
<tr>
<td>Physics</td>
<td>3, 4, 5</td>
<td>8</td>
<td>Physics 124A, 124B</td>
<td>(6)</td>
</tr>
<tr>
<td>Art History</td>
<td>3, 4, 5</td>
<td>8</td>
<td>Art 258 and 259</td>
<td>(5)</td>
</tr>
<tr>
<td>Studio Art</td>
<td>3, 4, 5</td>
<td>8</td>
<td>Art 102, 103 or Art 101, 103</td>
<td>(6)</td>
</tr>
<tr>
<td>Music</td>
<td>3, 4, 5</td>
<td>6</td>
<td>Music 102, 151</td>
<td>(6)</td>
</tr>
</tbody>
</table>

* Credit may not be earned at SDSU for courses which duplicate credit already allowed for examinations as listed under SDSU course equivalents.

Credit for College Level Examination Program (CLEP)

San Diego State University will consider the granting of credit to those students who have attained a score at or above the 50th percentile on each test of the General Examinations of the College Level Examination Program exclusive of English. Credit may also be allowed for the Special Examinations of CLEP in mathematics. Scores should be forwarded to the Admissions Office for evaluation.

Academic Credit for Military Service

The university is guided by the recommendations of the American Council on Education in granting undergraduate credit toward the bachelor's degree for military service. Postgraduate credit is not granted.

To obtain credit for military service, the student must be fully matriculated and enrolled at the university.

Student Classification

A matriculated student is one who has complied with all requirements for admission to the university and has received his official Notice of Admission. All students taking courses in any regular semester must be matriculated students. Only in summer sessions or in extension courses may a student who has not matriculated be accepted for enrollment.

Each student who enrolls in one or more extension classes shall be classified as a summer session student. Each student who enrolls in one or more extension classes shall for his extension class work be classified as an extension class student. Such students need not be matriculated students as a prerequisite for enrollment in classes.
Freshman. A student who has earned a total of fewer than 30 semester units.

Sophomore. A student who has earned a total of 30 to 59 semester units, inclusive.

Junior. A student who has earned a total of 60 to 89 semester units, inclusive.

Senior. A student who has earned a total of 90 semester units or more.

Graduate. A student who has completed a four-year college course with an acceptable baccalaureate degree from an accredited institution and who has been admitted to the University with postbaccalaureate standing. For information on classification of graduate students, see the Graduate Bulletin.

Student Program and Records

Transcripts of Record

A student may obtain an official transcript of his record by filing an application at the Admissions and Records Office. A fee of $1 is charged for all transcripts and must be paid in advance. One week should be allowed for the processing and mailing of the transcript. Transcripts from other schools or colleges become the property of this university and will not be released or copied.

Change of Program

San Diego State University provides for change of program beginning the first day of classes every term. Changes of program includes: withdrawal from a class, adding a class, dropping a class, adding or reducing units of a class for which the student is already registered, changing a section of the same class, or changing grading options. Students are responsible for every course on their official study list filled at registration. If a student does not attend the first class meeting of the semester and is not present at the start of the second meeting, the professor may give his/her place to another student; however, if this occurs, the student must still take the necessary formal drop action personally. Changes of program cannot be effected by nonattendance in class; nonattendance without consequent formal drop action will result in a failing grade.

Withdrawals from class after the 20th day of classes.

Change of Program is permitted without penalty if the student has registered, changing a section of the same class for which the student is already registered. Withdrawal from a class after the 20th day of classes may be made in writing on prescribed forms. Withdrawals are not permitted during the first three weeks of the term. For complete information about withdrawals after the first four weeks of the term, refer to change of program.

Change of Major or Curriculum

At the time of admission to the university, each undergraduate student is assigned to a major field or curriculum, or is designated as an undeclared major. After registration, any change in major or curriculum must be made at the Admissions and Records Office. Changes of major or curriculum must be approved by the dean of the college of the student's major.

Educational Leave of Absence

Students are permitted to take a total of two semesters of approved leave of absence during their matriculation at San Diego State University if it can be clearly established that the leave will contribute to a student's educational objective. Students are not penalized for taking leaves. No fees are involved.

Educational Leave of Absence begins the 21st day of classes. For complete information about withdrawals after the first four weeks of the term, refer to change of program.

Veterans using veteran benefits must obtain appropriate approval from the Veterans Administration for necessary changes in letters of eligibility.

Withdrawal, Leave of Absence, Readmission, and Evaluation

Withdrawal. Students who wish to withdraw from the university must initiate action formally through the Admissions and Records Office. Failure to file will result in a failing grade in all courses. Under certain circumstances, complete withdrawal is possible up to three weeks preceding the last day of instruction; however, refunds are obtainable only for the first 14 days after the term begins. A student withdrawing during the refund period is no longer considered a continuing student and is required to apply for readmission.

A course will not appear on the permanent record if withdrawal occurs before the end of the 20th day of classes. For complete information about withdrawals after the first four weeks of the term, refer to change of program.

Unofficial Withdrawal. Students withdrawing unofficially from class or from the university will receive failing grades in all courses which they stop attending. An unofficial withdrawal is one in which a student stops attending classes without filing official withdrawal forms within the established deadlines.

Veterans unofficially withdrawing will have veteran's allowances immediately suspended and will be subject to full repayment of allowances received after date of unofficial withdrawal.

Educational Leave of Absence. Students are permitted to take a total of two semesters of approved leave of absence during their matriculation at San Diego State University if it can be clearly established that the leave will contribute to a student's educational objective. Students are not penalized for taking leaves. No fees are involved.

At least five weeks prior to registration period for the semester during which he or she wishes a leave, a student must file application for the leave at the Admissions and Records Office. Deadlines for filing may be obtained at that office. Requests will be reviewed by appropriate officials designated by the Vice President for Academic Affairs. Leaves cannot be revoked once granted, and no student will be permitted to register for a semester for which he has filed application for leave.

Approval for leaves of absence will not be granted to students who have been admitted but will not have completed at least one semester before the leave of absence period, or to students who are disqualified. To be eligible for leave an undergraduate must be eligible to return as an undergraduate; students qualifying for change in status from undergraduate to graduate are not eligible.

Readmission. A student who withdraws from the university must file application for readmission if a full semester elapses between his withdrawal and his return. A $20 application fee for readmission is required if the applicant was not regularly enrolled in either of the two semesters immediately preceding the semester for which the application is submitted, or if the student was enrolled at another institution subsequent to the last attendance at San Diego State University.

Evaluation. An evaluation is a summary of college work completed and of requirements to be completed for a bachelor's degree or credential. To be eligible for an evaluation, a student must have completed at least 56 units of acceptable college work, have a declared major, and be qualified for full matriculation. Authorization for more than one evaluation during any one semester or one evaluation in nine weeks of summer session requires special permission.

A student who has earned 56 semester units or more, who has not received an evaluation, should apply at the Evaluations Office for an official evaluation. The evaluation is made on the regulations in effect at the time the student entered this university, except as otherwise provided in the California Administrative Code, Chapter 5, Section 40401, Election of provided in the California Administrative Code, Chapter 5, Section 40401, Election of

Veterans using veteran benefits must obtain appropriate approval from the Veterans Administration for necessary changes in letters of eligibility.

After an interval of five years from the time an evaluation is made, courses in education to be applied toward a teaching credential are subject to reevaluation.
Credit and Study List Limits

A unit or credit hour represents 50 minutes of lecture or recitation combined with two hours of preparation per week throughout one semester of 18 weeks. Two hours of activity (as in physical education) or three hours of laboratory (as in the sciences) are considered equivalent to one hour of lecture. At registration time, students will not be permitted to enroll for more than 18 units. After registration, units may be added, if desired, by means of the add-drop process, though if students are employed outside of college they are strongly advised to undertake a modest college program. Going to college is properly a full-time job. Normally a student can expect to spend in class and study a total of three hours per week for each unit of college work attempted. A normal 16-unit load therefore represents a 48-hour week.

Dean's List

The Dean's List recognizes academic achievement within a single semester. Students must place within the top ten percent of the school or college in which they are majoring, and have a grade point average of at least 350 based on a minimum of 12 units of work attempted in the semester to include students who complete incomplete grades promptly. Students will be recognized by the Dean of their respective College; undeclared and liberal studies majors will be listed by the Dean of Undergraduate Studies.

Scholastic Probation and Disqualification

Undergraduate Students

Progress toward the bachelor's degree is monitored in terms of progress points per unit attempted. Progress points are as follows: A, four progress points; B, three; C and Cr, two. Academic probation at any time the student's cumulative grade point average in all college 2.0 or if during any term while the student is enrolled he/she fails to earn at least two times as many progress points as all units attempted.

An undergraduate student shall be removed from academic probation when higher cumulative grade point average of 2.0 or higher in all college work attempted and in all work points as all units attempted in a term.

An undergraduate student on academic probation is subject to academic disqualification if:

A. As a lower-division student (less than 60 semester hours of college work completed) if a student falls 15 or more grade points below a 2.0 (C) average on all units attempted or in all units attempted at this campus.
B. As a junior (60-89 semester hours of college work completed) if a student falls nine or more grade points below a 2.0 (C) average on all units attempted at this campus.
C. As a senior (90 semester hours of college work completed) if a student falls six or more grade points below a 2.0 (C) average on all units attempted at this campus.
D. Regardless of class level, if cumulative grade point average, if in any term while a student is on probation the student fails to earn at least twice as many progress points as units attempted.

Probation will be lifted when a student has attained a C average or better on all college work attempted at San Diego State University.

A disqualified student may be reinstated when conditions causing the poor performance have been alleviated. Application for reinstatement should be made at the Admissions Office.

Administrative Academic Probation

An undergraduate or graduate student may be placed on administrative academic probation by action of appropriate campus officials for any of the following reasons:

A. Withdrawal from all or a substantial portion of a program of studies in two successive terms or in any three terms.
B. Repeated failure to progress toward the stated degree or objective or other program objective (when such failure appears to be due to circumstances within the control of the student).
C. Failure to comply, after due notice, with an academic requirement or regulation which is routine for all students or a defined group of students (example: failure to take placement tests, failure to complete a required practicum).

Administrative Academic Disqualification

A student who has been placed on administrative academic probation may be disqualified from further attendance if:

A. The conditions for removal of administrative academic probation are not met within the period specified.
B. The student becomes subject to academic probation while on administrative academic probation.
C. The student becomes subject to administrative academic probation for some or similar reason for which the student has been placed on administrative academic probation previously, although not currently in such status.

Student Discipline and Grievances

Article 1.1, Title 5, California Administrative Code, reads as follows:

41301. Expulsion, Suspension and Probation of Students. Following procedures consonant with due process established pursuant to Section 41304, any student of a campus may be expelled, suspended, placed on probation or given a lesser sanction for one or more of the following causes which must be campus-related:

(a) Cheating or plagiarism in connection with an academic program at a campus.
(b) Forgery, alteration or misuse of campus documents, records, or identification, or knowingly furnishing false information to a campus.
(c) Misrepresentation of oneself or of an organization to be an agent of a campus.
(d) Obstruction or disruption, on or off campus property, of the campus educational process, administrative process, or other campus function.
(e) Physical abuse on or off campus property of the person or property of any member of the campus community or of members of his or her family or the threat of such physical abuse.
(f) Theft of, or nonaccidental damage to, campus property, or property in the possession of, or owned by, a member of the campus community.
(g) Unauthorized entry into, unauthorized use of, or misuse of campus property.
(h) On campus property, the sale or knowing possession of dangerous drugs, restricted dangerous drugs, or narcotics as those terms are used in California statutes, except when lawfully prescribed pursuant to medical or dental care, or when lawfully permitted for the purpose of research, instruction or analysis.
(i) Knowing possession or use of explosives, dangerous chemicals or deadly weapons on campus property or at a campus function without prior authorization of the campus president.
(j) Engaging in lewd, indecent or obscene behavior on campus property or at a campus function.
(k) Abusive behavior directed toward, or hazing of, a member of the campus community.
(l) Violation of any order of a campus president, notice of which had been given prior to such violation and during the academic term in which the violation occurs, either by way of publication in the campus newspaper, or by posting on an official bulletin board designated for this purpose, and which order is not inconsistent with any of the other provisions of this Section.
(m) Soliciting or assisting another to do any act which would subject a student to expulsion, suspension or probation pursuant to this Section.
Graduation Requirements for the Bachelor's Degree

I. General Education Requirements

As an important part of education, undergraduate students spend approximately one-third of their college years studying in the general education program. Course work in general education is intended to enrich students' overall academic programs and to complement their mastery of a more specialized subject area.

The General Education program at San Diego State University is evolutionary in nature. A permanent committee of faculty and students reviews the program continuously and encourages the development of new courses, concepts and learning experiences. The program has several major objectives: (1) to promote the development in students of the intellectual capabilities necessary to the enterprise of learning; (2) to introduce students to the modes of thought characteristic of diverse academic disciplines; (3) to help them to understand the conditions and forces which shape their lives; and (4) to assist them in learning to apply critical and informed judgments to the cultural achievements of their own and other cultures.

Course Work Excluded from General Education. The general education program has certain educational objectives not characteristic of other types of course offerings in the curriculum. Hence, certain types of courses are not acceptable for general education credit.

Types of courses that do not count for general education credit include:
1. Course work in a major (upper division courses).
2. Mathematics 102, 103, and all Study Skills courses.
3. Course work in excess of 12 units in one department.
4. Course work in excess of three units in courses numbered 299 (Experimental Topics), and courses numbered 496 or 596 (Experimental Topics).
5. Course work in excess of three units used to satisfy the American Institutions requirement (hence, all but one of the requirement is not met by taking courses) may be counted in the Humanities or Social Sciences section of the general education program.
6. Course work used to satisfy the Physical Activities graduation requirement.

Note: However, course work completed in Preparation for the Major may be used to satisfy General Education.

The requirements appearing in this catalog are applicable to students under the following circumstances:
1. Students who declare their major, or change their major, during the 1979-80 academic year must meet the graduation requirements appearing in this catalog. However, students must be allowed to continue to use the catalog in effect at the time of such change or declaration: they may not have their academic record changed to reflect the change in major after the deadlines by which they declare their major.
2. Students who graduate from SDSU, another campus in the CSUC system, or a California Community College entered SDSU, another campus in the CSUC system, or a California Community College.
3. Students may continue to use the catalog in subsequent years so long as they remain on campus property or at a campus auxiliary organization. Students entering SDSU, another campus in the CSUC system, or a California Community College.
4. Applications for graduation are available in the Evaluations Office (Administration Bldg., Room 127) and are normally filed in the fall semester of the senior year. Deadlines by which applications must be received in the Evaluations Office are published each year in the fall semester Class Schedule.

The declaration of a major can occur in either of two ways: (a) by entering it on an application for admission, or (b) by obtaining and filing a Change of Major card at the Evaluations Office, Administration Building.

Declaration of Major card at the Evaluations Office, Administration Building.

Student Grievances

If a student believes that a professor's treatment of him is grossly unfair or that a university authority's official reviewing bodies by following the procedures for handling student grievances against members of the faculty, adopted by the faculty senate. A copy of the procedures may be obtained from the Ombudsman's Office in Aztec Center.
Transfer Students. Transfer students who are certified by their previous (regionally accredited) institutions to have completed the state-mandated general education requirements as outlined in the California Administrative Code, Title 5, will not be required to take additional general education courses at San Diego State University. Partial certification, involving completion of course work in major areas of general education, will also be accepted.

The Program in General Education

The program consists of a minimum of 40 semester units, distributed as indicated below. The three major components—Basic Subjects, Foundations of Learning, and The Human Experience—are intended to be taken sequentially so that the study of each rests on the education program created in the one preceding it. For assistance in developing your general education program, contact an academic adviser. (Refer to section of catalog on Academic Advising.)

BASIC SUBJECTS

The inclusion of “Basic Subjects” in a general education program serves to establish that there are common modes of expression and analysis which underlie the whole enterprise of learning. The most fundamental of these are written and oral communication in English, modes of expression which should be achieved by students during the first semester or year of college, if not before.

Course Work in Basic Subjects: A minimum of nine units distributed as follows:

1. English Composition (Three units):
   - Afro-American Studies 120A. Composition and Reading (3)
   - English 100. Composition and Reading (3)
   - English 101. Composition and Literature (3)
   - Mexican-American Studies 111B. Written Communication (3)

2. Mathematics, Statistics, Logic (Three units from any of the following courses):
   - Mathematics 118. Topics in Mathematics (3), or a numbered course, with the exception of Computer Programming courses.
   - Economics 201. Statistical Methods (3)
   - Mathematics 119. Elementary Statistics (3)
   - Political Science 201. Elementary Statistics for Political Science (3)
   - Psychology 270. Statistical Methods in Psychology (3)
   - Sociology 201. Elementary Social Statistics (3)
   - Philosophy 120. Logic (3)

3. Intermediate Written Communication, Oral Communication (Three units selected from the following courses):
   - Afro-American Studies 140. Oral Communication (3)
   - English 200. Intermediate Composition (3)
   - English 280. Creative Writing (3)
   - Mexican-American Studies 111A. Oral Communication (3)
   - Speech Communication 103. Oral Communication (3)

FOUNDATIONS OF LEARNING

The basic subjects develop intellectual capabilities in students. Those capabilities must be focused and applied in systematic ways and this is a principal function of academic advising. Students of learning who have opportunities to learn a variety of conceptual frameworks and methods of thought which differ with opportunities in different fields and the approach to subject matter in the area, but also, especially, to initiate students into modes of thought which constitute the major subject matter of general education, the social and behavioral sciences, and the humanities.

Course Work in the Foundations of Learning. A minimum of 22 units, distributed as follows:

1. Natural Sciences (Seven units to include a laboratory):
   a. Life Sciences — At least three units from the following courses:
      - Anthropology 101. Human Bio-Cultural Origins (3)
      - Biology 100. General Biology (3)
      - Biology 100L General Biology Laboratory (1)
      - Botany 100. Plants and Man (3)
      - Microbiology 110. Microbiology and Man (3)
      - Microbiology 110L. Microbiology and Man, Laboratory (1)
      - Zoology 100. Evolution and Diversity of Animals (3)
      - Zoology 100L. Evolution and Diversity of Animals Laboratory (1)
   b. Physical Sciences — At least three units from the following courses:
      - Astronomy 101. Principles of Astronomy (3)
      - Astronomy 103. The Structure of Scientific Thought (3)
      - Astronomy 109. Astronomy Laboratory (1)
      - Geography 101. Introduction to Physical Geography (3)
      - Geography 101L. Physical Geography Laboratory (1)
      - Geography 103. Introduction to Meteorology (3)
      - Geography 103L. Introduction to Meteorology Laboratory (1)
      - Geological Sciences 101. General Geology (3)
      - Geological Sciences 101L. General Geology Laboratory (1)
      - Natural Science 100A. Physical Science (3)
      - Natural Science 102A. Physical Science with Laboratory (4)
      - Natural Science 103. Laboratory Exercises in Physical Science (2)
      - Natural Science 110A, Energy in Nature with Laboratory (4)
      - Physics 103. Physics for Poets (3)
      - Physics 115A. Elementary Physics (4)


† Only one of these courses may be taken for general education credit in Natural Science.

2. Social and Behavioral Sciences (Six units to include a 3-unit course in two different disciplines):
   a. Anthropology 102. Introduction to Cultural Anthropology (3)
   b. Economics 100. Contemporary Economic Problems (3)
   c. Economics 101. Principles of Economics (3)
   d. Economics 102. Principles of Economics (3)
   e. Geography 102. Introduction to Cultural Geography (3)
   f. Linguistics 101. Language Study (3)
   g. Mexican-American Studies 140. History and Sociology of Racism (3)
   h. Political Science 101. Introduction to Political Science (3)
   i. Political Science 102. Introduction to American Government and Politics (3)
   j. Political Science 302. Modern Political Thought (3)
   k. Psychology 101. Introductory Psychology (3)
   l. Sociology 101. Introductory Sociology (3)
   m. Women's Studies 201. Marxism and the Social Sciences (3)

* Either of these courses may be taken for general education credit, but not both.
3. Humanities (Nine units to include a 3-unit course in three of the following four areas)

a. Literature
   Comparative Literature 270A-270B. World Literature (3-3)
   English 220. Introduction to Literature (3)

b. Art, Drama, Humanities, Music
   Art 157. Introduction to Art (3)
   Art 259. Appreciation and History of Art (3)
   Drama 105. Introduction to the Theater (3)
   Drama 120. Dramatic Heritage (3)
   Humanities 101. Introduction to Humanities (3)
   Humanities 102. Humanities in Perspective (3)
   Humanities 140. Mythology (3)
   Music 151. Introduction to Music (3)

c. Classics, History
   Classics 140. The Heritage of Greece and Rome (3)
   History 100A-100B. The Global Community (3-3)
   History 105A-105B. Western Civilization (3-3)
   History 110A-110B. American Civilization (3-3)
   History 115A-115B. Comparative History of the Americas (3-3)
   Humanities 130. The Jewish Heritage I (3)

d. Philosophy, Religious Studies
   Philosophy 101. Introduction to Philosophy: Values (3)
   Philosophy 102. Introduction to Philosophy: Knowledge and Reality (3)
   Philosophy 103. Historical Introduction to Philosophy (3)
   Religious Studies 101. World Religions (3)

EXPLORATIONS IN THE HUMAN EXPERIENCE

Based upon "Foundations of Learning: the third section of the general education program affords students an opportunity to explore fundamental human concerns, especially as they affect contemporary men and women. These concerns cannot be addressed solely from the perspective of the humanist, or the social scientist, or the natural scientist, but require the intellectual collaboration of scholars and teachers from many diverse academic areas.

"Explorations in the Human Experience" consists primarily of upper division courses organized around themes or topics relevant to general education. Students are encouraged before undertaking course work in this section of the program to include a 3-unit course in three of the following four areas.

Patterns of Study
Explorations in the Human Experience can be completed by students in one of two general ways:
1. Students may identify a theme listed below and complete any three courses (a minimum of nine units) listed under the theme.
2. Students may design their own themes, in the following manner:
   With the approval of the college of their major (or the Undergraduate Division for work on undecided majors), students may design a theme containing nine units of course work selected closely to a general topic or theme the units must be offered by at least two colleges. At least six and/or Explorations in the Human Experience.

Regardless of the pattern of study chosen, students are subject to the following additional qualifications:
1. Students may take no more than one course per department or interdisciplinary program, except for Theme 27 (foreign language study).
2. Students required to take foreign language courses among the requirements for a degree cannot use those courses to satisfy Explorations in the Human Experience.

Note: Within these patterns of study in the Human Experience, course work may be taken in the form of a foreign travel study tour directed by a San Diego State University faculty member when offered by the College of Extended Studies with the approval of the department in which the course is regularly offered, the Dean of the College of that department, and the Dean of the College of Extended Studies.

Themes and Courses

1. The Way We Are: Human Nature and Behavior
   The behavior of contemporary men and women is conditioned by psychological, genetic, and environmental factors of great complexity. This theme explores various dimensions of this behavior, including the impact on modern life of culture and society, racial and sexual characteristics, and genetic factors.
   * Afro-American Studies 445. Ethnicity and Social Psychology (3)
   * Anthropology 432. Principles of Personality in Culture (3)
   * Biology 145. Introduction to Heredity (3)
   * English 340. The Psychological Novel (3)
   * Political Science 325. Political Behavior (3)
   * Psychology 342. Public Opinion Measurement (3)
   * Psychology 351. Psychology of Personality (3)
   * Recreation 104. Challenges of Leisure (3)
   * Religious Studies 353. The Human Dimension of Religion and Psychology (3)
   * Social Welfare 360B. Perspectives on Behavioral and Social Change (3)
   * Women's Studies 325. Psychology of Women (3)
   * Zoology 340. Sociobiology (3)

2. Social Change in the Third World
   The relationship between the industrialized world, represented largely by the West, and the non-industrialized societies of Asia, Africa and Latin America is a central and continuing problem in the modern world. The aim of this theme is to introduce students to the problems and processes of social change in the Third World (non-industrialized societies) in an interdisciplinary and cross-cultural framework. The term "social change" is used here in a broad sense to embrace transformations in all major aspects of social life, particularly in the nineteenth and twentieth centuries, in Third World societies.
   * Anthropology 425. Peasant Society and Culture (3)
   * Anthropology 426. Cultural Change and Processes (3)
   * Comparative Literature 272A. Third World Literature (3)
   * Economics 365. Economics of Underdeveloped Areas (3)
   * History 565. Revolution and Social Change in Asia (3)
   * Political Science 364. Political Change in Contemporary Africa (3)
   * Political Science 361. International Relations of the Developing Nations (3)
   * Political Science 561. Governments and Politics of the Developing Areas (3)
   * Sociology 506. Modernization of Traditional Societies (3)
   * Women's Studies 310. Women in Comparative Cultures (3)

3. Ways of Thinking and Knowing
   The idea that mankind can add to knowledge through scientific investigation and observation is, historically speaking, a fairly recent development. Other sources of knowledge such as intuition, reason, religious revelation, aesthetic perceptions, and mysticism have much longer histories and continue to compete with science as sources of human knowledge. This theme will allow students to explore several "ways of knowing" and compare different ideas about knowledge and its acquisition.
   * American Indian Studies 470. Roots of Indian Tradition (3)
   * Anthropology 424. Primitive Religion (3)
   * Classics 310. Greek and Roman Mythology (3)
   * Natural Science 317. Development of Scientific Thought (3)
   * Natural Science 430. Interpretation of Quantum Mechanics (3)
   * Philosophy 509. Ordinary Language Analysis (3)
Within this environment of verbal and nonverbal, a human has the air we breathe. Without communication skills a potential source of pollution of us must live. and IS as other single Ion Problems (3)

6. Natural Resources for the World’s Future
The dependency of people upon limited resources and the need to improve the conservation of those resources to permit an acceptable quality of life for present and future generations of the world’s population have been emphasized by environmental and energy experts for a number of years. The current generation of students is likely to be the first of many to receive the major impact of recent past and present policies for resource utilization; and it is likely to be the first of many which must effectively cope with the problems of diminishing resources and deteriorating environments. This theme provides a basis for students to understand the historical attitudes which have prevailed and which have led to present conditions, the particular problems which exist now, and possible consequences of alternative programs for the future. The questions of natural resource availability, utilization, and conservation are intrinsically interdisciplinary and constitute an increasingly significant problem for a world entering “an era of limits.”

- Biology 320. Concepts of Ecology (4)
- Biology 420. Conservation of Wildlife (3)
- Economics 452. Economics of Energy Resources (3)
- Engineering 360. Energy: Issues and Ideas (3)
- Geography 351. Economic Geography: Primary Production (3)
- Geography 371A-371B. Conservation of Natural Resources (3-3)
- Geography 574. Water Resources (3)
- History 540. Environmental History of the United States (3)
- Physics 301. Energy and Conservation (3)
- Zoology 430. Insects in Perspective (3)

7. Cross-Cultural Understanding: Issues and Challenges
This theme presents an interdisciplinary approach to cultures, with an emphasis on patterns of contact, communication, and adjustment. Topics include basic relationships of values, language, and behavior; how environment and history produce cultural differences; how cultures interact socially and politically; American challenges to cultural understanding at home and abroad; and how different cultures can be appreciated and enjoyed.

- Anthropology 150. World Cultures (3)
- Anthropology 350. World Ethnography (3)
- Comparative Literature 271B. Asian Literature (3)
- History 221. Asia’s Emerging Nations (3)
- Mexican-American Studies 376. Mexican-American Culture and Thought (3)
- Political Science 381. International Relations of the Developing Nations (3)
- Sociology 525. Minority Group Relations (3)
- Sociology 536. The Family in Cross-Cultural Perspective (3)
- Spanish 440. Spanish Civilization (3)
- Speech Communication 475. Intercultural Communication (3)

8. Science, Technology and Society
This theme focuses on the historical and contemporary relationship between science, technology and society. The theme will explore these relationships by studying the impact of science and technology on human values, the degree to which science and technology have affected the quality of human life, and the institutions society has developed to cope with science and technology. A general history of science, technology and society forms a basis for the theme. The theme will study science as a social institution. Also, a survey of major historical and contemporary conflicts between science, technology and society will be included.

- American Studies 360. Science, Technology and American Culture (3)
- Business Administration 455. American Business History (3)
- Chemistry 302. Chemistry and Society (3)
- Economics 380. Labor Problems (3)
- History 584A. Science and Society (3)
- History 584B. Science and Society (3)

Indicates courses with prerequisites, most of which are offered in Basic Subjects or Foundations of Learning.
9. The American Indian-Black-Chicano Experience in America

Many students are unfamiliar with the history, experience, cultures, and social patterns of the American Indian, Afro-American, and Mexican-American communities. These groups of courses are selected to improve their understanding and appreciation of America's ethnic mosaic and contributions of these communities to the development of American society.

- Afro-American Studies 101: Introduction to Afro-American Studies (3)
- Afro-American Studies 102: Afro-American Life-Styles (3)
- Afro-American Studies 250: Psychology of Blackness (3)
- Afro-American Studies 461: Afro-American Literature (3)
- American Indian Studies 110: American Indian Heritage (3)
- American Indian Studies 200: American Indian Literature (3)
- American Indian Studies 255: American Indian Music (3)
- American Indian Studies 265: American Indian Art (3)
- Mexican-American Studies 110A: Introduction to Mexican-American Studies (3)
- Mexican-American Studies 115: Mexican-American in Transition (3)
- Mexican-American Studies 320: Mexican-American Life-Styles (3)
- Mexican-American Studies 380: Chicano Folklore (3)

10. Cultural Pluralism in America

Cultural pluralism is a fundamental characteristic of American society. This theme examines the group structure of society especially in terms of relations among racial and religious minorities and other significant groups within society. It also explores strategies that have been used to promote positive relations among the diverse groups and cultures in the United States.

- Afro-American Studies 448: Black and Non-Black Interpersonal Relations (3)
- Anthropology 441: The California Indian (3)
- Comparative Literature 272B: Third World Literature (3)
- Mexican-American Studies 350B: Chicano History (3)
- Social Welfare 350: Cultural Pluralism (3)
- Sociology 525: Minority Group Relations (3)
- Women's Studies 341B: Women in American History (3)

11. Mass Society and the Individual

In many respects, the individual in contemporary society lives within a context of massive structures of power and influence over which he or she has no control and little influence. These include political and economic structures as well as social, religious, and cultural patterns and processes of nature. An appreciation of the processes at work in our world and the observable universe may be achieved by the study of natural phenomena revealed in geologic formations, the biosphere, and the stars.

- American Indian Studies 450: Bureaucracy and the American Indian (3)
- Economics 332: Capitalist Economy (3)
- Journalism 508: Mass Communication and Society (3)
- Philosophy 329: Social Ethics (3)

12. The Arts and the Contemporary World

The proposed courses offer experience in each of the following arts: visual arts, dance, drama, literature, and music. These arts undeniably reflect and express profound human experience. No time or place has been without them. From the beginning until now the arts give us a clear record of cultural value systems, reflecting the scope of ideals to which people have aspired.

- Art 558: Art of the 20th Century (3)
- Comparative Literature 514: Modern European Literature (3)
- Dramatic Literature 460B: History of the Theatre (3)
- Music 345: Music in Contemporary Life (3)
- Music 351B: Musical Masterpieces of the 20th Century (3)
- Philosophy 541: History of Aesthetics (3)
- Philosophy 542: Philosophy of Art (3)
- Political Science 310: Politics and the Arts (3)
- Telecommunications and Film 363: International Cinema (3)
- Telecommunications and Film 563: Film Classics (3)
- Women's Studies 363: Women Writers (3)

13. The Patterns of Nature

This theme provides students with opportunities to expand their knowledge of the patterns and processes of nature. An appreciation of the processes at work in our world and the observable universe may be achieved by the study of natural phenomena revealed in geologic formations, the biosphere, and the stars.

- Astronomy 301: Cosmology and Gravitational Collapse (3)
- Biology 200: Natural History of Plants and Animals (3)
- Biology 380: Processes of Organic Evolution (3)
- Geography 507: Geography of Natural Vegetation (3)
- Geography 508: Physical Climatology (3)
- Geological Sciences 105: Historical Geology (4)
- Geological Sciences 301: Geology of National Parks and Monuments (3)
- Geological Sciences 333: The History of Life (3)
- Natural Science 431: The Origins of Life (3)
- Physics 304: Concepts in Modern Physics (3)
- Zoology 314: Natural History of the Vertebrates (3)
- Zoology 330: Life in the Sea (3)

14. Power and Innocence in America

Americans sometimes see themselves as innocents pursuing values such as simplicity, spontaneity, and isolation, at other times they view themselves as powerful, producing new technologies, building great organizations and defending alliances from aggression. These two self-images often clash, requiring reconciliations visible in our art, philosophy, popular culture and history. While studying the dynamic relationship of power and innocence in culture and history, students will be exploring their own values, elements of our social structure and an important influence on our relations with other peoples of the world.

- Political Science 348: The Supreme Court and Contemporary Issues (3)
- Political Science 372: Democracy and Mass Society (3)
- Philosophy 340: Social Psychology (3)
- Sociology 533: Sex Roles in Contemporary Societies (3)
- Telecommunications and Film 315: Theory and Criticism of Broadcasting and Film (3)
- Women's Studies 320: Socialization of Women (3)
- Women's Studies 370: Women and the Law (3)

* Indicates courses with prerequisites, most of which are offered in Basic Subjects or Foundations of Learning.
Graduation Requirements / 79

15. The Human Health Experience

Human survival and the quality of life are preeminently health dependent. Health experience derives from a complex interplay of genetic, cultural, environmental, psychological, and individual variables. Understanding of these variables suggests interdisciplinary study. This theme provides experiences relevant to optimizing human health potential and is of personal value in offering clues to orthobiology (proper life-style) and of social significance in its illumination of components of the interdependent health system.

- Biology 350. Human Heredity (3)
- Biology 362. Principles of Human Physiology (3)
- Biology 390. Environment, Health and Disease (3)
- Family Studies and Consumer Sciences 107. Nutrition Today (3)
- Health Science and Safety 101. Health and Life-style (3)
- Microbiology 360. Microorganisms in Human History (2)
- Psychology 150. Psychology of Individual Adjustment (3)
- Psychology 330. Developmental Psychology (3)
- Sociology 523. The Sociology of Mental Illness (3)
- Sociology 526. Medical Sociology (3)

16. The Urban Experience

Urbanization is a development that has had a very significant impact on modern life (in the United States 70 percent of the population now live in cities or suburbs). The trend gives benefits and endures the problems associated with urban living. This theme permits students understanding the urban environment with insights which may improve their contributions to it as well as benefits from it.

- Afro-American Studies 220. Politics and Economics of Urban Development (3)
- Anthropology 429. Urban Anthropology (3)
- Biology 351. Biology of Populations (3)
- Economics 458. Urban and Regional Economics (3)
- Geography 354A-354B. Geography of Cities (3-3)
- History 642A. The City in American History (3)
- History 642B. The City in American History (3)
- Mexican-American Studies 302. Community Organization and Development (3)
- Political Science 522. Urban Politics (3)
- Political Science 523. Community Political Behavior (3)
- Social Welfare 351. Perspectives on Life in Urban Communities (3)
- Sociology 557. Urban Sociology (3)

17. Ancient Sources of the Western Tradition

A study of the roots of Western civilization in the Mediterranean basin and Europe from early times through the classical age. The theme will be concerned prominently with the heritage of Greece, Rome, and the Jews in shaping the civilization of the West. Emphasis will be placed on humanistic achievements and on the development of ideas, art forms, and institutions which contributed to the emergence of Western civilization.

- Anthropology 478. Post-Pleistocene Archaeology of Europe (3)
- Art 568. Art of Crete, Mycenae, Greece, and Rome (3)
- Classics 310. Greek and Roman Mythology (3)
- Classics 320. Classical Literature (3)
- Classics 330. Classical Drama (3)
- Classics 340. Classical Civilization (3)
- Comparative Literature 505. The Bible as Literature (3)
- English 505. The Bible as Literature (3)
- History 500A. Ancient History (3)
- History 500B. Ancient History (3)
- Natural Science 315. History of Science I (3)
- Philosophy 301. History of Philosophy I (3)
- Political Science 301A. History of Western Political Thought (3)

18. The Emergence of Western Civilization

A study of Europe and the Mediterranean region during the formative centuries from the end of the Roman Empire to 1500. This theme will be concerned prominently with the development of the ideas, art forms, and institutions which came together to give Western civilization by the end of the Middle Ages, its distinct character.

- Art 571. Medieval Art (3)
- Comparative Literature 510. Medieval Literature (3)
- European Studies 401A. The Cultural Heritage of Europe I (3)
- History 503A. Europe in the Middle Ages (3)
- History 503B. Europe in the Middle Ages (3)
- Philosophy 502. History of Philosophy II (3)
- Religious Studies 310. Greek and Latin Fathers (3)
- Religious Studies 314. Medieval Western Christianity (3)

19. Western Civilization from the Renaissance Through the Age of Enlightenment

A study of Western civilization from the sixteenth through the eighteenth centuries. Emphasis will be placed on humanistic achievements and on the development of the ideas, art forms, and institutions which characterized the early modern age of the West.

- Comparative Literature 511. Continental Renaissance (3)
- Comparative Literature 512. Seventeenth and Eighteenth Century European Literature (3)
- English 260A. English Literature (3)
- European Studies 401B. The Cultural Heritage of Europe II (3)
- European Studies 402A. The Cultural Heritage of Europe III (3)
- History 307A. Modern Europe (3)
- History 307B. Modern Europe (3)
- History 307C. Modern Europe (3)
- Music 351A. Musical Masterpieces of the 18th and 19th Centuries (3)
- Natural Science 316. History of Science II (3)
- Philosophy 303. History of Philosophy III (3)
- Political Science 301B. History of Western Political Thought (3)
- Religious Studies 316. The Reformation and Beginnings of Modern Christianity (3)

20. Western Civilization in the Modern Age

A study of Western civilization in the nineteenth and twentieth centuries. Emphasis will be placed on humanistic achievements and on the development of the ideas, art forms, and institutions that characterized the industrial and nuclear age.

- Anthropology 440. Cultures of Europe (3)
- Comparative Literature 513. Nineteenth Century European Literature (3)
- European Studies 402B. The Cultural Heritage of Europe IV (3)
- History 307B. Modern Europe (3)
- Humanities 131. The Jewish Heritage II (3)
- Natural Science 308. Modern Physical Science (3)
- Philosophy 504. History of Philosophy IV (3)
- Philosophy 505A. Twentieth Century Philosophy (3)

* Indicates courses with prerequisites, most of which are offered in Basic Subjects or Foundations of Learning.
21. East Asia: Traditions and Transformations

This theme presents an interdisciplinary approach to East Asian cultures. The emphasis is on China and Japan, but a number of courses also treat the Indian sources of East Asian traditions and the impact of China and Japan on adjacent areas and the West.

- Anthropology 451, Chinese Society (3)
- Anthropology 452, Japanese Society (3)
- Anthropology 481, Archaeology of East Asia and Oceania (3)
- Art 264, Chinese Art (3)
- Art 265, Japanese Art (3)
- Asian Studies 458A, Asian Cultures (3)
- Comparative Literature 530, Asian Literature (3)
- Economics 465, Economic Problems of South and East Asia (3)
- Geography 331, Eastern Asia (3)
- History 320, Asia's Dynamic Traditions (3)
- History 561B, The Far East (3)
- Philosophy 590, Topics in Asian Thought (3)
- Political Science 562, Governments and Politics of the Far East (3)
- Religious Studies 503, Religions of the Far East (3)

22. South and Southeast Asia: Traditions and Transformations

This theme presents an interdisciplinary approach to South and Southeast Asian cultures in modern times.

- Anthropology 447, Cultures of Southeast Asia (3)
- Anthropology 450, Cultures of India (3)
- Art 565, The Art of India and Southeast Asia (3)
- Asian Studies 458B, Asian Cultures (3)
- Comparative Literature 271B, Asian Literature (3)
- Economics 465, Economic Problems of South and East Asia (3)
- Geography 333, Southeastern Asia (3)
- Geography 334, Southern Asia (3)
- History 562, Civilization of India: The Great Traditions (3)
- History 563, The Modern Indian Subcontinent (3)
- History 564A, Southeast Asia (3)
- History 564B, Southeast Asia (3)
- Religious Studies 501, Religions of India (3)

23. Cultures and Civilizations of Africa

The theme will emphasize the study of the cultures and civilizations of the peoples of Africa. An understanding of how people in other societies and lands confront human and environmental conditions can provide a better comprehension of the complexity and dynamics of tradition and change as they are faced by non-industrial societies moving rapidly into the industrial age. A cluster of courses in this thematic area allows an unusual opportunity for the depth and breadth of understanding of this important area.

- Anthropology 449, Cultures of Sub-Saharan Africa (3)
- Anthropology 479, Archaeology of Africa (3)
- Comparative Literature 540, African Literature (3)
- History 575A, Africa (3)
- History 575B, Africa (3)
- Humanities 158, African Culture and Civilization (3)
- Political Science 364, Political Change in Contemporary Africa (3)

* Indicates courses with prerequisites, most of which are offered in Basic Subjects or Foundations of Learning.

24. Cultures and Civilization of the Middle East

The theme will emphasize the study of the cultures and civilizations of the peoples of the Middle East in a temporal and spatial context, and their relevance to contemporary problems and issues. An understanding of how people in other societies and lands confront human and environmental conditions can provide a better comprehension of the commonality and diversity of man. The Middle East culture area provides a unique opportunity to understand the dynamics of tradition and change as they are faced by non-industrial societies moving rapidly into the industrial age. A cluster of courses in this thematic area allows an unusual opportunity for both depth and breadth of understanding of this important area.

- Anthropology 453, Near Eastern Societies (3)
- Art 566, The Art of Persia and the Islamic World (3)
- Comparative Literature 535, Near Eastern Literature (3)
- Economics 469, Economic Problems of Africa and the Middle East (3)
- Geography 335, The Middle East and North Africa (3)
- History 573A, History of the Near East from the 7th Century to World War I (3)
- History 573B, History of the Near East from the 7th Century to World War I (3)
- History 574, The Near East in the Twentieth Century, 1914 to Present (3)
- Humanities 157, Arab-Islamic Culture and Civilization (3)
- Humanities 357, Islamic Culture and Civilization (3)
- Political Science 563, Government and Politics of the Middle East (3)
- Religious Studies 340, Islam (3)

25. Culture and Civilization of Latin America

This theme is intended to provide students with an opportunity to come to grips with a major cultural component of the Western Hemisphere. Latin America encompasses the area from Tijuana to Tierra del Fuego. It constitutes one-sixth of the world's land mass, and it incorporates a majority of the population in our hemisphere. Latin America will necessarily occupy a place of increasing importance in the concerns of the United States, and given our proximity to the area, these concerns will weigh even more heavily upon residents of southern California. The courses included under this theme will provide our students with an understanding of diverse aspects of Latin American culture that will enable them to deal more effectively with these concerns. The content of these courses is such that they are all appropriate for incorporation in the theme. Each of them deals broadly with Latin American culture and civilization with reference to periods of time and/or areas covered.

- Anthropology 442, Cultures of South America (3)
- Anthropology 443, Contemporary Latin American Cultures (3)
- Anthropology 477, Postclassic Cultures of Mesoamerica (3)
- Art 561, Arts of the Pre-Hispanic Americas (3)
- Art 562, Colonial Art of Latin America (3)
- Comparative Literature 545, Modern Latin American Literature (3)
- Economics 464, Economic Problems of Latin America (3)
- Geography 323A, Middle America (3)
- Geography 323B, Middle America (3)
- Geography 324, South America (3)
- History 315A, Latin America (3)
- History 315B, Latin America (3)
- Latin American Studies 101, Latin American Heritage (3)
- Latin American Studies 334, Latin American Civilization (3)
- Political Science 566, Political Change in Latin America (3)
- Political Science 567, Political Systems of Latin America (3)

26. The Other Europe: Soviet Russia and East Europe

In political, military, ideological, scientific, economic and many other realms, the Soviet-East European nations confront the United States with its major challenge of the twentieth century. Despite historic diversity and antagonism among many of these nations, the advent of Marxism-Leninism has transformed the area into a political-military bloc with strong
II. Major and Minor Requirements

A. Preparation for the Major. Every major requires a set of introductory and/or skills courses designed to prepare the student for upper division study in that field. Courses taken for this purpose can also be used to satisfy general education requirements. Liberal Arts and Sciences must complete a foreign language requirement. See item IV listed below.

B. Foreign Language. Students whose majors lead to the Bachelor of Arts degree must complete a foreign language requirement. See item IV listed below.

C. Major. Completion of a specialized study which provides the student with extensive knowledge and its organizing concepts. It consists of 24 or more upper division units for the Bachelor of Arts, Bachelor of Music, and Bachelor of Vocational degree. At least half of the units must be completed at SDSU unless specifically waived by the department; however, in no case shall a student be allowed to complete less than twelve units in the major. As stated earlier, units through SDSU extension courses are not applicable to this requirement. A summary list of all majors appears at the close of this chapter, in the minor will be upper division units, but in minors where the number of prerequisite lower division units makes it impossible to take 12 upper division units without exceeding a total of 22-24 units, the required upper division course work may be reduced to six units. A summary list of all minors appears at the close of this chapter, the full statement of requirements for each minor can be found through the Index. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements.

II. American Institutions Requirement

A. Examinations: By passing three examinations administered by the SDSU Test Office, one in American History, Institutions and Ideals (2 hours), a second in United States Constitution (90 minutes), and a third in California Government (60 minutes).

B. Courses: By passing any one of the following pairs of courses:
   - Afro-American Studies 170A-170B
   - History 110A-110B
   - History 115A-115B
   - History 310A-310B
   - History 547A-547B
   - Mexican-American Studies 120A and 120B
   - Mexican-American Studies 141A and 141B
   - Political Science 101 and 102
   - Political Science 320 and 321
   - Political Science 305 and 320
   - Political Science 320 and 522
   - Political Science 305 and 321
   - Political Science 305 and 522
   - Political Science 305 and 522

C. Examinations and courses: By passing any one or two of the aforementioned examinations AND course work appropriate to the remaining area or areas. Courses applicable to each area are listed below.
   1. American History, institutions and ideals:
      - All courses listed in Ill A above and History 537A-537B, 544A-544B, 545A-545B.
   2. United States Constitution:
      - Afro-American Studies 170A; History 110A, 115A, 310A, 531, 532, 545A, 545B, 547A; Mexican-American Studies 120A, 141A; Political Science 102, 320, 547A and 547B.
   3. California State and Local Government:
      - Afro-American Studies 170B; History 110B, 115B, 310B, 541B, 547B; Mexican-American Studies 120B, 141B; Political Science 102, 320, 321, 522.

D. Transfer credit: By providing evidence on a transcript or other official document from an accredited California university, liberal arts college, or community college that the requirement as outlined in Title 5, Article 5, Section 40404, has been satisfied.

NOTE: Three units in courses taken to satisfy the American Institutions requirement may be used for general education credit in the Humanities or Social Science section if listed there.

IV. Foreign Language Requirement

The Bachelor of Arts degree in Liberal Arts and Sciences requires competency in a foreign language (equivalent to that which is normally attained through the three consecutive semesters of college study) in one foreign or American Indian language as part of the preparation for the major. Such competency may be demonstrated by:
   - Successfully completing three college semesters of one foreign language;
   - Successfully completing four high school years of one foreign language;
   - Successfully completing a proficiency examination in one foreign language.

Any combination of the preceding is also acceptable. However, conversation courses are not counted toward satisfying this requirement.
Secondary school language courses can be used to satisfy this requirement, as follows:

- The first two years of high school language courses count as the equivalent of the first semester of a college language course, three years in high school count for two college semesters, and four high school years count for three college semesters.
- The last year-course taken by a student in the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work.
- Native speakers from foreign countries who have finished high school or the equivalent in their native language except with advance approval from the department.

(B.M. Degree, Applied Arts and Sciences only)

Eight to twelve units (or equivalent knowledge demonstrated) in one of the foreign languages may be granted toward the foreign language department by the foreign language department concerned in consultation with the Department of Music as follows:

1. Vocalists - one semester each of French, German, and Italian.
2. Music history and literature students - 12 units of one foreign language chosen from French, German, or Italian.
3. Other - eight units of one foreign language chosen from French, German, or Italian (except that classical guitar students may substitute Spanish).

V. Physical Activities Requirement

A. Physical Activities. A minimum of two semesters of physical education activity courses, or equivalent monitored activities (including intercollegiate athletics), or a combination of courses and monitored activities are required for graduation. No more than one activity course or monitored activity in any one semester may be counted toward this requirement. An acute-care course taken in the summer session may be counted in lieu of one taken during the fall or spring semester. Any combination of activities and monitored activity may be used.

B. Exemptions: Veterans having served one continuous year on active duty in the United States Armed Forces, having passed their twenty-fifth birthday at time of entrance are also exempt.

VI. Competency Requirements

Competency in basic mathematics and standard written English is regarded as essential to successful study in the university environment.

A. Mathematics. All undergraduates, both freshmen and transfers, must satisfy the Mathematics Competency requirement in any of the following ways:

1. By a score of 470 or higher on the mathematics section of the Scholastic Aptitude Test (SAT).
2. By a standard score of 17 or higher on the mathematics section of the American College Test (ACT).
3. By passing the SDSU Mathematics Placement Examination and qualifying for any course for which Mathematics 103 is a prerequisite.
4. By a score of 490 or higher on the Mathematics General Examination of the College Level Examination Program (CLEP).
5. By a score of 3, 4, or 5 on the College Entrance Examination Board's (CEEB) Advanced Placement Test in calculus, either levels AB or BC.
6. By passing the General Mathematics Examination of the Mathematics and Colleges each spring in most California high schools.

Transfer students may also satisfy the requirement by:

1. Credit in the equivalent of Mathematics 103 taken at the institution from which the student is transferring.
2. Credit in any mathematics course taken at the institution from which the student is transferring provided that the equivalent course at SDSU requires Mathematics 103 as a prerequisite.

Graduation Requirements

Students who have not satisfied this requirement at time of entrance must take the Mathematics Competency Test as administered by the SDSU Test Office (LE-560, 286-5216). The Mathematics Competency Test may be repeated.

Only students who fail the Mathematics Competency Test may enroll in Mathematics 102 (Fundamentals of Mathematics, 3 units) in order to satisfy the Mathematics Competency requirement.

B. Writing. All undergraduates, both freshmen and transfers, must satisfy this requirement at time of entrance or within two semesters thereafter. The completion of prior examinations and/or courses in English composition or developmental English is not a basis for exemption. The requirement can be satisfied in any of the following ways:

1. By a score of 40 on the Test of Standard Written English (TSWE), offered as a part of the Scholastic Aptitude Test (SAT) since October 1974.
2. By a score of 16 on the verbal section of the American College Test (ACT).
3. By a score of 3, 4, or 5 on the College Entrance Examination Board's (CEEB) Advanced Placement Test in English.
4. By passing the English Equivalency Examination (EEC) administered by the California State University and Colleges each spring in most California high schools.
5. By scores of 8 (essay) and 151 (objective) on the English Placement Test (EPT) administered through The California State University and Colleges.
6. By a passing grade in Study Skills 150 at SDSU.

Students who have not satisfied this requirement at time of entrance must take the TSWE at the SDSU Test Office (LE-560, 286-5216) sometime prior to or during their first semester on campus. Students who score below 40 on this test must register in Study Skills 150 (Writing Development, 3 units) in either their first or second semester at SDSU. Failure to do so will result in Administrative Academic Disqualification at the end of the second semester. Reinstatement thereafter will be conditional upon satisfaction of the Writing Competency Requirement.

NOTE: All students subject to degree requirements of 1978-79 and subsequent general catalogs must demonstrate competency in writing skills as a requirement for graduation. In addition, all first-time freshmen are required to take the CSUC English Placement Test (EPT) so that information can be available to help in the selection of appropriate course work in writing skills and to prepare for meeting the graduation requirement. Failure to take the English Placement Test at the earliest opportunity after admission may lead to administrative probation which, according to section 41300.1 of Title 5, California Administrative Code, and CSUC Executive Order 186, may lead to disqualification from further attendance. The results of the EPT will not affect admissions eligibility.

Information bulletins and registration materials for the EPT will be mailed to all students subject to these requirements. Alternatively, the materials may be obtained from the Office of Admissions and Records. Information on currently available ways to meet the graduation requirements in mathematics and writing may be obtained from the Dean of Undergraduate Studies.

VII. Unit Requirements

A. Total unit requirement. The total number of units necessary for a bachelor's degree is as follows:

1. For the Bachelor of Arts degree in Applied Arts and Sciences ........................................ 124
2. For the Bachelor of Arts degree in Liberal Arts and Sciences ........................................ 124
3. For the Bachelor of Science degree (except engineering) ........................................ 128
4. For the Bachelor of Science degree in Engineering ....................................................... 132
5. For the Bachelor of Music degree ................................................................................ 132
6. For the Bachelor of Vocational Education ..................................................................... 124

The degree which applies to a particular student is determined by the student's choice of the applicable degree. The full statement of each major can be found by consulting the Index.
B. Upper division unit requirement. The total number of upper division units necessary for a bachelor's degree is as follows:

1. For the Bachelor of Arts degree in Applied Arts and Sciences ........................................... 40
2. For the Bachelor of Arts degree in Liberal Arts and Sciences ........................................... 45
3. For the Bachelor of Science degree (except engineering) .................................................... 38
4. For the Bachelor of Science degree in Engineering ............................................................ 36
5. For the Bachelor of Music degree .......................................................................................... 40
6. For the Bachelor of Vocational Education degree .............................................................. 40

Courses offering upper division credit are those numbered 300 through 599. All units from from courses in the major and the minor, and from courses used to satisfy the major requirements.

C. Special unit totals. The maximum number of special units accepted for a bachelor's degree is as follows:

1. From transferable community and junior college courses ..................................................... 70
2. From extension and correspondence courses ....................................................................... 40
3. From credit/no credit courses ................................................................................................ 24
4. From Experimental Topics courses numbered 299 ............................................................. 9
5. From Experimental Topics courses numbered 496 and 596 ................................................. 9
6. From University Studies courses numbered 200 and 400 .................................................... 6

D. Units in one department.

1. Bachelor of Arts degree in Liberal Arts and Sciences. The maximum number of units in any department, lower and upper division combined, which can be except in journalism. Students majoring in journalism may not accumulate more than 36 units of credit in journalism courses.

2. Bachelor of Music degree. The maximum number of units in upper division music courses acceptable toward the Bachelor of Music degree is 70.

3. Bachelor of Science degree in Business Administration. The minimum Bachelor of Science degree in any of the seven business majors is 52.

4. Other degrees. The maximum number of units per department for other degrees is 52.

VIII. Residence Requirement

A minimum of 30 units must be earned in courses taken at San Diego State University.

IX. Grade Point Average Requirements

A. An average based on all courses attempted at SDSU and other universities, liberal arts colleges, and community colleges.

B. An average based on all courses attempted at SDSU and transferable courses at other institutions of higher education.

C. An average based on all upper division courses attempted in the major.

Information on the computation of averages can be found in the chapter, General Regulations, under these headings: Grade Point Average, Grades, Incomplete Grade, and Repeated Course.

Application for Graduation

Graduation is not automatic on the completion of requirements. Students who intend to graduate must complete the following steps:

1. Contact the Office of Undergraduate Studies, which will verify that all requirements have been satisfied.

2. Complete the Application for Graduation, which must be filed by the last day of classes in the fall if they want to graduate in mid-year, and not later than the end of the eleventh week of classes in the fall if they want to graduate in May or at the end of summer session. The Class Schedule specifies the exact date. An application fee of $6.00, which is nonrefundable and nontransferable, is required. After the degree is granted no changes can be made in the undergraduate record.

Election of Regulations for Graduation

Undergraduate students remaining in continuous attendance in regular sessions and continuing on the same curriculum in any campus of The California State University and Colleges or in any of the California community colleges may, for purposes of meeting graduation requirements, elect to meet the graduation requirements in effect at San Diego State University either at the time of their entering the curriculum or at the time of their graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper authorities.

Graduation With Honors and Distinction

Graduation with honors is granted to those undergraduate students in each graduating class who achieve high grade point averages. Excellence is recognized at three levels: cum laude (3.50-3.64), magna cum laude (3.65-3.79), and summa cum laude (3.80-4.00).

The grade point average is computed on work done at this institution, except that if the grade point average for work at other collegiate institutions is lower, those grades are included in the computation.

Grades for the final semester's work are included in calculation of eligibility for graduation with honors. Students are tentatively designated as eligible for graduation with honors if the GPA meets required standards at the beginning of the fall semester for mid-year graduates, and at the end of the fall semester for May and summer session graduates. Notation of cum laude, magna cum laude, or summa cum laude on transcripts and diplomas is based on actual total achievement. Grades for removal of Incompletes and any other grade changes must be received in the Admissions and Records Office no later than the end of the eleventh week of classes in which the student plans to graduate, and the student must file an application for graduation by the published deadline.

Upon recommendation of their major department, students doing superior work in their major field may be graduated with distinction in that field.

Commencement

Commencement exercises are held once a year at the end of the spring semester for students who were graduated at mid-year, those graduating at the end of the spring semester, and undergraduate students who expect to complete requirements for graduation semester, and undergraduate students who expect to complete requirements for graduation. The President of the University, by the authority of the Trustees and on recommendation of the faculty, awards the degrees.

Second Bachelor's Degree

A second bachelor's degree may be earned if the student has an excess of 24 units beyond the minimum requirements for the first bachelor's degree, makes a change in major, fulfills all requirements for the degree (including general education requirements) as required by this university, and has approval of the department and the Dean of Undergraduate Studies.
<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Details</td>
</tr>
</tbody>
</table>
# Summary of Curricula Offered

<table>
<thead>
<tr>
<th>Majors</th>
<th>Applied Arts and Sciences</th>
<th>Liberal Arts and Sciences</th>
<th>Graduate Curricula</th>
</tr>
</thead>
<tbody>
<tr>
<td>** Accounting</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Aerospace engineering</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Afro-American studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Anthropology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Art.</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Asian studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Astronomy</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Biology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Botany</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Business administration</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Chemical physics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Chemistry</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Child development</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>City planning</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Civil engineering</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Classics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Comparative literature</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Computer science</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Counseling</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Criminal justice administration</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Drama</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Ecology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Economics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Education</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Engineering</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>English</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Environmental health</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>European studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Finance</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>French</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>German</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Geography</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Geology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Health science</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>History</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Home economics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Industrial arts</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Information systems</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Insurance</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Journalism</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Latin American studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Liberal studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Linguistics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Management</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Marketing</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Mass communication</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Mathematics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Mechanical engineering</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Mechanical engineering</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Mexican-American studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Music</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Nursing</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Philosophy</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Physical education</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Physical science</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Physics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Political science</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Psychology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Public administration</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Radiological physics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Radio-television</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Real estate</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Recreational administration</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Rehabilitation counseling</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Religious studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Russian</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Russian and East European studies</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Social science</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Social welfare</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Social work</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Sociology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Spanish</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Speech communication</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>** Speech pathology and audiology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Statistics</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Vocational arts</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Zoology</td>
<td>AB</td>
<td>MS</td>
<td>MS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Majors</th>
<th>Applied Arts and Sciences</th>
<th>Liberal Arts and Sciences</th>
<th>Graduate Curricula</th>
</tr>
</thead>
<tbody>
<tr>
<td>** Accounting</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Aerospace engineering</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Afro-American studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Anthropology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Art.</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Asian studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Astronomy</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Biology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Botany</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Business administration</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Chemical physics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Chemistry</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Child development</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>City planning</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Civil engineering</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Classics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Comparative literature</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Computer science</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Counseling</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Criminal justice administration</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Drama</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Ecology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Economics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Education</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Engineering</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>English</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Environmental health</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>European studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Finance</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>French</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>German</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Geography</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Geology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Health science</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>History</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Home economics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Industrial arts</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Information systems</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Insurance</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Journalism</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Latin American studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Liberal studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Linguistics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Management</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Marketing</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Mass communication</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Mathematics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Mechanical engineering</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Mechanical engineering</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Mexican-American studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Music</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Nursing</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Philosophy</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Physical education</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Physical science</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Physics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Political science</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Psychology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Public administration</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Radiological physics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Radio-television</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Real estate</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Recreational administration</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Rehabilitation counseling</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Religious studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Russian</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Russian and East European studies</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Social science</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Social welfare</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Social work</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Sociology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Spanish</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Speech communication</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>** Speech pathology and audiology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Statistics</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Vocational arts</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
<tr>
<td>Zoology</td>
<td>AB</td>
<td>MA</td>
<td>MS</td>
</tr>
</tbody>
</table>

### SPECIAL CURRICULA

#### Certificate (Nondegree) Programs
- Certificate in applied linguistics
- Certificate in business administration
- Certificate in community college administration
- Certificate in human services
- Certificate in public administration

#### Preprofessional Curricula
- Preprofessional Curricula
  - Certificate in business administration
  - Certificate in community college administration
  - Certificate in criminal justice administration
  - Certificate in human services
  - Certificate in public administration

#### Military Curricula
- Aerospace studies (AFROTC)
Teaching Credentials

Multiple subjects teaching credential
Single subject teaching credential
Community college instructor credential (occupational)
Community college instructor credential (academic)
Health services credential
Standard designated subjects, adult
Specialist credentials
  Administrative services
  Bilingual/cross cultural
  Clinical rehabilitative services
  Early childhood
  Library services
  Pupil personnel services
  Reading specialist
  School psychology
Special education:
  Communication handicapped
  Physically handicapped
  Learning handicapped
  Severe handicapped
  Gifted

Minors for the Bachelor's Degree

Accounting
Aerospace studies
African studies
Afro-American studies
Anthropology
Art
Asian studies
Astronomy
Biology
Botany
Business management
Chemistry
Child development
Classical humanities
Classics
Comparative literature
Computer science
Dance
Drama
Economics
Educational technology
  and librarianship
Employee relations
Engineering
English
Environment and society
Finance
French
Geography
Geology
German
Health science
History
Home economics

Industrial arts
Information systems
Insurance
Italian
Jewish studies
Journalism
Linguistics
Marketing
Mathematics
Mexican-American studies
Middle East studies
Music
Oceanography
Philosophy
Physical education
Physics
Political science
Portuguese
Production and operations
  management
Psychology
Public administration
Radio-televisio
Real estate
Recreation
Religious studies
Russian
Social welfare
Sociology
Spanish
Speech communication
Speech pathology and audiology
Women's studies
Zoology
Undergraduate Division

Objectives and Functions
The Undergraduate Division serves to provide coordination, evaluation, and stimulation to the undergraduate programs at San Diego State University. It has general responsibility for the undergraduate curriculum, and for academic standards and regulations that affect undergraduate students.

The Division has a special concern and responsibility for academic programs of a University-wide character. It administers the University Honors Program, the College Level Examination Program, the Advanced Placement Program and the preprofessional programs in medicine, dentistry and law. In addition, it offers special course work in the University Studies series and sponsors the liberal studies major for noncredential students.

The furtherance of innovative and nontraditional education on the campus is a principal concern of the Undergraduate Division, and toward this end, it sponsors the Coordinated Freshman Studies Program. Special services are provided to students through the Test Office, which is part of the Undergraduate Division.

The policy-making agency for the Division is the Undergraduate Council, which is composed of faculty and student representatives and chaired by the Dean of the Undergraduate Division. On significant matters of University-wide concern, the Council submits proposals to the University Senate for consideration and action.

Above all, the Undergraduate Division exists to promote the quality, diversity and richness of the undergraduate programs at San Diego State University. It does so through the active involvement of students and faculty in the programs of the Undergraduate Division.

Honors Program

University Honors Program
The University Honors Program provides opportunities for students with demonstrated academic ability to find the stimulation and challenge that will help them develop their potential. Honors sections of regular classes, as well as those specially designed for the program are available; students should anticipate enrolling in one or two honors courses per year, drawing their other work from the regular offerings of the University. The program is open to students in all majors, and involves small classes, special advising in both academic requirements and career options, opportunity for independent projects, and participation in student exchanges with similar programs across the nation.

Students may apply by contacting the Undergraduate Division (AD-223) at entrance, or before completion of three semesters. Eligibility at entrance is determined by an SAT score of approximately 1150 or above (ACT 27), or a high school GPA of 3.75, or successful completion of advanced high school courses; later eligibility is determined by a superior GPA at the University.

Departmental Honors Courses
Some departments regularly offer honors classes which are independent of the University Honors Program; for these eligibility is determined according to achievement in the particular field. Students should consult the Class Schedule for such honors classes (most are listed under the department's 300 number), and contact the department or instructor for information.

New Hampshire Exchange Program
Students eager to attend a university on the East Coast for a semester may take advantage of the exchange program established between San Diego State University and the University of New Hampshire. The program permits participants to pay normal fees at their home campus while involved in the exchange, thus relieving them of additional tuition costs. Students must provide their own travel and room and board expenses; however, those currently receiving financial aid may continue to be qualified for it. Credits earned at New Hampshire are transferable to the home campus. To be eligible, the student must have completed at least 30 units by the exchange date, with 12 units completed at SDSU at the Division office before October 22, 1979 for the spring semester exchange, and before March 3, 1980 for the following fall.

Test Office
The Test Office serves both students and faculty in administering and scoring a wide variety of tests, including placement tests, the Writing Competency Test and the Graduate Record Examination. The Test Office works closely with faculty members in developing new tests and in evaluating the results. It is located in Library East where it maintains a library of over 800 different tests.

Preprofessional Health Advising Office
The preprofessional health advising office is responsible for advising premedical, pre-dental and pre-veterinary students in their preparation and application to the professional schools of their choice. This office works in conjunction with the candidate's major department to establish a degree program coordinated with the preprofessional requirements of the professional schools. It is the communication link between the student and the profession keeping the student apprised of changes in the requirements and procedures for acceptance. The Advising Office is located in the Physics Building, Rooms 236-237.
Graduate Division

Organization and Administration

All graduate work leading to advanced degrees is under the jurisdiction of the Graduate Division and responsibility for all graduate curricula is delegated to the Graduate Council under the chairmanship of the Dean of the Graduate Division, who also serves as the administrative officer of the Graduate Division.

The Graduate Division admits all students to the University and to authorized graduate degree curricula. Administration of all matters related to graduate degree curricula, minimum requirements for which are specified in Section 40504 of the California Administrative Code.

Association Membership

San Diego State University is a member of the Western Association of Graduate Schools and the Council of Graduate Schools in the United States.

Degrees Offered

All master's degrees are conferred by the Trustees of The California State University and Colleges upon recommendation of the faculty of San Diego State University. These degrees are designed to provide instruction for graduate students in the liberal arts and sciences, in applied fields, and in the professions, including the teaching profession.

Doctoral degrees are awarded jointly by the Board of Regents of the University of California and the Board of Trustees of The California State University and Colleges in the names of San Diego State University and the cooperating campus of the University of California and Claremont Graduate School.

**Doctor of Philosophy**

The Doctor of Philosophy degree in Chemistry is offered jointly with the University of California, San Diego.

The Doctor of Philosophy degree in Ecology is offered jointly with the University of California, Davis.

The Doctor of Philosophy degree in Genetics is offered jointly with the University of California, Berkeley and the University of California, San Diego.

The Doctor of Philosophy degree in Education is offered jointly with the Claremont Graduate School.

**Master of Arts**

The Master of Arts degree is offered jointly with the Claremont Graduate School.

**Master of Science**

The Master of Science degree is offered in the following fields:

- American studies
- Anthropology
- Art
- Asian studies
- Biology
- Chemistry
- Drama
- Economics
- Education
- English
- French
- Geography
- German
- Health science
- History
- Industrial arts
- Latin American studies
- Linguistics
- Mathematics
- Music
- Philosophy
- Physical education
- Physics
- Political science
- Psychology
- Radio and television
- Russian
- Social science
- Sociology
- Spanish
- Special major
- Speech communication
- Speech pathology
- and audiology

**Master of Business Administration**

- Master of City Planning
- Master of Fine Arts in Drama
- Master of Public Administration
- Master of Social Work

**Master of Business Administration**

Non-Degree Postbaccalaureate Study

In addition to specific programs of graduate study, the Graduate Division offers to individuals holding a bachelor's degree the opportunity to pursue postbaccalaureate study for reasons other than acquiring an advanced degree or credential. By selecting from the variety of academic experiences provided by the seven colleges of the University, the postbaccalaureate student may seek to satisfy intellectual curiosity and enhance personal growth, to upgrade professional skills, or perhaps to prepare for a change in career.

Not bound by a prescribed course of study or a time limit, the postbaccalaureate student is eligible to enroll in all but advanced graduate level courses for which he or she meets the prerequisites. Additionally, the minimum grade point average requirement as well as greater choice in the selection of grading systems (such as opting for "credit" grades or "audit") gives the postbaccalaureate student more academic flexibility than students seeking degrees.

Enrollment in postbaccalaureate status does not necessarily preclude a student from later admission to a degree program. Often some of the course work completed as a postbaccalaureate student can be applied toward an advanced degree, subject to the postbaccalaureate student's approval, the requirements of the particular degree program and the regulations of the Graduate Division.

Further information about non-degree postbaccalaureate study may be obtained by contacting the Graduate Division Office.

Admission to Postbaccalaureate Study

Admission to San Diego State University for postbaccalaureate study is on a controlled basis and limited to those applicants judged by the University to be fully qualified and to have an academic record commensurate with the standards set by the faculty. The requirements listed below are the minimum for admission to the University. For many programs, the departments have required for admission to the University. For some programs, the departments have established additional requirements. Potential applicants should refer to the Graduate Division Bulletin under the departmental listings. Students are also advised to contact the Graduate Division Bulletin for the required applications and deadlines for admission.

Further information about non-degree postbaccalaureate study may be obtained by contacting the Graduate Division Office.
Application Procedures

All applicants for postbaccalaureate study (e.g., advanced degree applicants, those seeking credentials, and those interested in taking courses for personal or professional growth, etc.) must file a complete application within the appropriate filing period. **Second baccalaureate degree candidates should apply as undergraduate degree applicants.** A complete application for postbaccalaureate study includes all of the materials required for undergraduate applicants plus the supplementary graduate admissions application. Postbaccalaureate applicants who completed undergraduate degree requirements and were graduated from this University are also required to complete and submit an application and the $20.00 nonrefundable application fee. Since applicants for postbaccalaureate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus choice will be minimal. In the event that a postbaccalaureate applicant wishes to be assured of initial consideration by more than one campus, it will be necessary to submit a separate application (including fee) to each. Applications may be obtained from the Admissions and Records Office or the Graduate Division Office of any California State University or College campus.

**General Admission Requirements**

All applicants for any type of postbaccalaureate study at San Diego State University must: (a) hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association or have completed equivalent academic preparation as determined by the Dean of the Graduate Division; (b) have attained a grade point average of at least 2.5 (when A equals 4) in the last 60 semester (90 quarter) units attempted; and (c) have been in good standing at the last college attended. An applicant who does not meet the criteria for admission may be admitted by special action of the Dean of the Graduate Division if on the basis of other evidence (such as the GRE) he/she is judged to possess sufficient academic, professional, and other potential pertinent to his/her educational objectives to merit such action.

**Admission Categories**

All applicants seeking admission to postbaccalaureate study at San Diego State University must apply and be accepted in one of the following categories:

**Postbaccalaureate Standing (Unclassified)**

A student wishing to enroll in courses at the University with a personal or professional growth objective, but not necessarily with an objective of an advanced degree or credential, may be considered for admission with postbaccalaureate standing (unclassified) when the admitted in this category may enroll in 500-numbered courses, but are ineligible to enroll in 600- and 700-numbered courses. Admission with postbaccalaureate standing (unclassified) does not constitute admission to, or assurance of consideration for admission to, advanced degree curricula.

**Postbaccalaureate Standing (Classified)**

A student wishing to be admitted to a program leading to an advanced degree must meet the criteria specified under General Admission Requirements. Additionally, all students in advanced credential programs must achieve a satisfactory score on the GRE Aptitude test. (Students holding an advanced degree from an institution that is a member of the Council of Graduate Schools are exempted from this requirement.) A student must also meet professional, personal, scholastic and other standards prescribed by the appropriate department. The applicant should contact the department involved for information concerning specific admission requirements, and should submit a departmental (classified) application within the appropriate filing period. Admission with postbaccalaureate standing (classified) does not constitute admission to, or assurance of consideration for admission to, advanced degree curricula.

**Graduate Standing (Classified)**

A student wishing to be admitted to a program of study leading to an advanced degree must meet the criteria specified under General Admission Requirements, and, in addition, must:

(a) Achieve a satisfactory score on the Graduate Record Examination Aptitude Test. (Students holding an advanced degree from an institution which is a member of the Council of Graduate Schools are exempted from this requirement; students applying to the College of Business Administration will take the Graduate Management Admission Test.)

(b) Have completed an undergraduate major appropriate to the field in which he/she desires to earn an advanced degree.

(c) Satisfy the special departmental or college requirements as stated in Part Four of the Graduate Bulletin under "Fields of Study and Courses of Instruction."

(d) Meet the professional, personal, and scholastic standards for graduate study established by the Graduate Council.

Students admitted with graduate standing (classified) are admitted to authorized advanced degree curricula and may enroll in 600- and 700-numbered courses. Such admission does not imply that a student will be advanced to candidacy for an advanced degree.

**Conditional Graduate Standing (Classified)**

A student wishing to be admitted to a program of study leading to an advanced degree and meeting the criteria specified under General Admission Requirements but having deficiencies in the criteria for graduate standing (classified) may be granted conditional graduate standing (classified), if the deficiencies can be met by specific additional preparation, including qualifying examinations. Not more than 15 semester units may be assigned to satisfy undergraduate deficiencies in the major and all course conditions must be met within five semesters from the time of initial enrollment. Students admitted with conditional graduate standing (classified) are admitted to authorized advanced degree curricula and may enroll in 600- and 700-numbered courses. Once the conditions established by the department or college have been met, the student will be accorded full graduate standing (classified).

A student who is already enrolled in the University with postbaccalaureate standing may request acceptance into an advanced degree curriculum with graduate standing (classified). Applications for such continuing students are available at the Graduate Division Office. Score reports of the GRE Aptitude Test must be on file at the University before continuing students may apply for graduate standing (classified).

**Graduate Bulletin**

Complete details on the operation and administration of these requirements, together with other information on graduate study, will be found in the Graduate Bulletin, which is available at the Bookstore.
Nondegree Curricula

Preprofessional Programs
Preprofessional Programs

Entrance into professional schools is becoming increasingly competitive; therefore, it is imperative that students begin planning their curriculum at the earliest possible time in conjunction with the appropriate academic adviser.

Predental Curriculum

The predental program is pursued in conjunction with a degree program. Students ordinarily elect to concentrate in biology, chemistry, or zoology, with a major in one area and selected course work in the others. Other departmental majors are permissible, however. Predental students must confer with a predental adviser prior to the initial registration and at least once each semester regarding their progress, and to obtain approval for their program for the coming semester.

Regardless of the major predental students should include the following courses in their program:
- Botany 200 and Zoology 200
- Biology 215, 502, 503
- Zoology 503 or Biology 541
- Chemistry 200, 200L, 201L, 211, 231L, 231L, 431, 431L
- Mathematics 150 and 151 or 121 and 121L
- Physics 124A and 124B or 194A and 194B, 125A, 125B or 195, 195L, 196L, 197L, Psychology 101 plus one additional course in psychology. Each student should consult the major for level of course required when there are alternatives.

In addition to the courses listed, students should fulfill all requirements for their major and, if possible, take at least one advanced course recommended by their department such as Biology 502; Chemistry 361A, 361B; Microbiology 310, 330; Zoology 506, 508, 535. The students are also expected to obtain information regarding the entrance requirements of specific dental schools.

High school students planning to enter dentistry should include the following subjects: elementary algebra, plane geometry, intermediate algebra, chemistry, physics and two or three years of French or German.

The Preprofessional Health Adviser will be available to high school or transfer students from May 15-30 and during the registration period by appointment. All predental students should establish a personnel file in Physics Room 228, 256-6638.

Prelegal Curriculum

The prelegal program is pursued in conjunction with a degree program. There is no specific prelaw program leading to a bachelor's degree. Students interested in the legal requirements of the specific law school they hope to attend should consult the catalog of the program. Further information regarding the entrance requirements of specific law schools is available from the Assistant Dean of Students in the appropriate college at San Diego State University. However, students who may wish to take some undergraduate work in liberal arts courses should inform the Preprofessional Health Adviser prior to initial registration and at least once each semester regarding their progress, and to obtain approval for their program for the coming semester.

Regardless of the major, prelegal students should include the following courses in their program:
- Botany 200 and Zoology 200; Biology 215, 502, 503; Biology 541 or Zoology 503
- Chemistry 200, 200L, 201L, 201L, 231L, 231L, 431, 431L 250 or 251, 310A and 310B or 410A and 410B, 361A and 361B. Mathematics 150, 151; Physics 194A, 194B, 125A, 125B; or 195, 195L, 196L, 197L, 197L. Each student should consult the major for level of course required when there are alternatives.

In addition to the courses listed, students should fulfill all requirements for their major and, if possible, take at least one advanced course recommended by their department such as: Biology 572; Chemistry 361A-361B or 560A-560B; Microbiology 310, 330; Psychology 101; Zoology 506, 508, 535. The students are also expected to obtain information regarding the entrance requirements of specific medical schools.

High school students planning to enter medicine should include in their high school program the following subjects: elementary algebra, plane geometry, intermediate algebra, chemistry, physics and two or three years of French or German.

The Preprofessional Health Adviser will be available to high school or transfer students from May 15-30 and during the registration period by appointment. All prelegal students should establish a personnel file in Physics Room 228, 256-6638.

Premedical Curriculum

The premedical program is pursued in conjunction with a degree program. Students ordinarily elect to concentrate in biology, chemistry, or zoology, with a major in one area and selected course work in the others. Other departmental majors are permissible, however. Premedical students must confer with a premedical adviser prior to initial registration and at least once each semester regarding their progress, and to obtain approval for their program for the coming semester.

Regardless of the major, premedical students should include the following courses in their program:
- Botany 200 and Zoology 200; Biology 215, 502, 503; Biology 541 or Zoology 503
- Chemistry 200, 200L, 201L, 201L, 231L, 231L, 431, 431L, 250 or 251, 310A and 310B or 410A and 410B, 361A and 361B. Mathematics 150, 151; Physics 194A, 194B, 125A, 125B; or 195, 195L, 196L, 197L, 197L. Each student should consult the major for level of course required when there are alternatives.

In addition to the courses listed, students should fulfill all requirements for their major and, if possible, take at least one advanced course recommended by their department such as: Biology 572; Chemistry 361A-361B or 560A-560B; Microbiology 310, 330; Psychology 101; Zoology 506, 508, 535. The students are also expected to obtain information regarding the entrance requirements of specific medical schools.

High school students planning to enter medicine should include in their high school program the following subjects: elementary algebra, plane geometry, intermediate algebra, chemistry, physics and two or three years of French or German.

The Preprofessional Health Adviser will be available to high school or transfer students from May 15-30 and during the registration period by appointment. All premedical students should establish a personnel file in Physics Room 228, 256-6638.

Preveterinary Curriculum

The preveterinary program is pursued in conjunction with a degree program. Students ordinarily elect to concentrate in biology, chemistry, or zoology, with a major in one area and selected course work in the others. Other departmental majors are permissible, however. Preveterinary students must confer with the preveterinary adviser prior to initial registration and at least once each semester regarding their progress, and to obtain approval for their program for the coming semester.

Regardless of the major, preveterinary students should include the following courses in their program:
- Botany 200 and Zoology 200; Biology 215, 502, 503; Biology 541 or Zoology 503
- Chemistry 200, 200L, 201L, 201L, 231L, 231L, 431, 431L, 250 or 251, 310A and 310B or 410A and 410B, 361A and 361B. Mathematics 150, 151; Physics 194A, 194B, 125A, 125B; or 195, 195L, 196L, 197L, 197L. Each student should consult the major for level of course required when there are alternatives.

In addition to the courses listed, students should fulfill all requirements for their major and, if possible, take at least one advanced course recommended by their department such as: Biology 572; Chemistry 361A-361B or 560A-560B; Microbiology 310, 330; Psychology 101; Zoology 506, 508, 535. The students are also expected to obtain information regarding the entrance requirements of specific medical schools.

High school students planning to enter veterinary medicine should include in their high school program the following subjects: elementary algebra, plane geometry, intermediate algebra, chemistry, physics and two or three years of French or German.

The Preprofessional Health Adviser will be available to high school or transfer students from May 15-30 and during the registration period by appointment. All preveterinary students should establish a personnel file in Physics Room 228, 256-6638.

Preparation for Other Professions

Full programs of professional study in other fields, such as agriculture, forestry, dentistry, veterinary medicine, optometry, pharmacy and theology, are not available at San Diego State University. However, students who may wish to take some undergraduate work in liberal arts courses should inform the Preprofessional Health Adviser prior to initial registration and at least once each semester regarding their progress, and to obtain approval for their program for the coming semester.

Regardless of the major, preveterinary students should include the following courses in their program:
- Botany 200 and Zoology 200; Biology 215, 502, 503; Biology 541 or Zoology 503
- Chemistry 200, 200L, 201L, 201L, 231L, 231L, 431, 431L, 250 or 251, 310A and 310B or 410A and 410B, 361A and 361B. Mathematics 150, 151; Physics 194A, 194B, 125A, 125B; or 195, 195L, 196L, 197L, 197L. Each student should consult the major for level of course required when there are alternatives.

In addition to the courses listed, students should fulfill all requirements for their major and, if possible, take at least one advanced course recommended by their department such as: Biology 572; Chemistry 361A-361B or 560A-560B; Microbiology 310, 330; Psychology 101; Zoology 506, 508, 535. The students are also expected to obtain information regarding the entrance requirements of specific medical schools.

High school students planning to enter veterinary medicine should include in their high school program the following subjects: elementary algebra, plane geometry, intermediate algebra, chemistry, physics and two or three years of French or German.

The Preprofessional Health Adviser will be available to high school or transfer students from May 15-30 and during the registration period by appointment. All preveterinary students should establish a personnel file in Physics Room 228, 256-6638.

Preprofessional Programs / 105
College of Extended Studies

Continuing Education
External Degree Programs
Continuing Education

Functions
The College of Extended Studies serves as the principal University liaison with the adult community and provides a wide variety of traditional and nontraditional credit and noncredit educational experiences designed to fit the life-style and expectations of mature adults. In addition, it provides a range of academic and special programs for students and groups during the summer months, in the evenings, and between semesters. Under the direction of the Dean of the College, programs are developed and carried out within six divisions—Summer and Conferences, Extension and Professional Programs, International Programs, Academy for Theatre Arts, Institute for Brazilian Programs, and Retired Adult. The majority of the programs are operated on a self-support basis since state funds are not provided for Continuing Education activities.

Summer and Conferences
The College of Extended Studies administers a comprehensive summer program for San Diego State University. Approximately 400 regular courses, workshops, short courses, interdisciplinary and experimental offerings, and special programs are available for credit. Applicants are from other institutions and special groups. Selected degrees and certificate programs are available for individuals who can only attend school during the summer. Credit earned during the summer is applicable to graduation and residence requirements; however, admission to the University is not required for summer attendance. The sessions are scheduled each summer; two 3-week terms during which students may earn seven units of credit. The summer program is offered from the first of June through the middle of August each year.

Military and External Degree Programs
In addition to its role of administering external degree programs for the civilian population, the Military and External Degree Programs serves as the liaison with the military opportunities for military personnel. The College of Extended Studies, which has been extended degree and certificate programs designed specifically for military and Public Administration, a Master of Arts degree in Vocational Education, a Master of Educational Administration and Supervision, a Bachelor of Science degree in Health Care, and a Bachelor of Arts degree in Legal Studies. Most classes are held on base take advantage of laboratories and other resources. This unit also administers special studies.

International Programs
American Language Institute
Two noncredit intensive English programs are offered throughout the year to students and professionals desiring to increase their proficiency. These are
Academic English for the University Bound—a semester-long course for students planning to enter San Diego State or other colleges or universities. Classes are offered in reading, writing, grammar, research skills, English for special purposes (e.g., English for Science and Economics, English for Business Education) and cultural orientation.
American Language and Culture—a quarter-long course focusing upon oral skills. Classes include American culture, conversation, pronunciation and comprehension and usage.
Summer Institutes—a number of special short-term language programs are offered by the ALI each summer (e.g., American Business English). All students at the institute are offered housing assistance, counseling for university entrance and orientation to university life.

Information about and applications for the institute can be obtained from the Director or American Language Institute.

The California State University and Colleges (CSUC) offers opportunities for students to pursue their studies at a distinguished foreign university or special program center. Under the auspices of the CSUC Office of International Programs, participants in this program are concurrently enrolled at their home campus, where they earn academic credit and maintain campus residency, and at an overseas institution of higher education.

Cooperating universities abroad include the University of Provence, France; the Universities of Heidelberg and Tubingen, Germany; the Hebrew University in Jerusalem in Israel; the University of Florence, Italy; the Universidad Ibero-Americana, Mexico; the Universidad Catolica, Peru; the Universities of Granada and Madrid, Spain; the University of Upsala, Sweden; Lincoln University College of Agriculture and Massey University, New Zealand; and Waseda University of Japan in the United Kingdom, cooperating universities, especially may vary from year to year include, among others, Aberdeen, Edinburgh, Bangor, and University of New Zealand and the University of the United Kingdom. All students at the institute are also oriented to university All students at the institute are also oriented to university of language and culture programs. For more information, contact the International Programs office. All students at the institute are also oriented to university All students at the institute are also oriented to university of language and culture programs. For more information, contact the International Programs office. All students at the institute are also oriented to university of language and culture programs. For more information, contact the International Programs office.
Detailed information and application materials may be obtained from the College of Extended Studies; further information may also be obtained by writing to The California State University and Colleges International Programs, 400 Golden Shore, Suite 300, Long Beach, California 90802.

In addition to the international programs sponsored by CSUC, San Diego State University has special institutional arrangements for student exchange with three prominent Japanese universities: Yokohama National University, Yokohama; Aoyama Gakuin University, Tokyo; and Seinan Gakuin University, Fukuoka. Information about student exchange opportunities in Japan may be obtained from the International Center.

San Diego State University also is a member of the Latin American Scholarship Program (LASPAP). The purpose of LASPAP is to help strengthen university Diego State offers tuition scholarships for graduate study to promising LASPAP scholars sponsored by institutions of higher learning in Latin America and the Caribbean.

International Faculty Exchanges
In order to enhance the international character of instruction and research, San Diego State University has developed a continuing program of faculty exchange with foreign universities. Since 1964, more than fifty exchanges of faculty members have been arranged with universities in Europe, Asia, and South America. Currently, San Diego State University has formal arrangements to exchange professors periodically with four French universities: the Universities of Angers, Nice, Clermont Ferrand, and Aix-en-Provence.

Retired Adults Education Program
The Educational Growth Opportunities Program (EGO) is sponsored by the College of Extended Studies at San Diego State University and operates out of two locations—downtown San Diego, California and Rancho Bernardo. EGO's programs are planned for and taught by senior adults who are interested in furthering the educational growth of their peers.

For further information contact the Director of Retired Adult Education Programs.

Foreign Travel/Study Programs
Each summer the College offers a variety of travel/study programs which are designed to give students and community members an opportunity to travel abroad and earn extension units of credit. Programs range from two to five weeks in length, with a maximum of six units used to satisfy the Human Experience section of the General Education requirements. Units of credit earned through travel/study may be used to satisfy the Human Experience section of the General Education requirements. Units of credit are available for study abroad. Students must select an instructor and prepare a study plan. For further information contact the Coordinator of Foreign Travel/Study Programs.

Extension and Professional Programs
In order to meet the needs of the adult community, as well as matriculated students, the Division of Extension and Professional Programs administers a variety of extension courses, workshops, concurrent enrollment, a winter session, certificate and external degree programs. The convenience of adult students makes courses in the division available during evenings or on weekends. On campus or at convenient learning centers throughout the service area. The following categories of programs are offered through the division.

Extension
Extension courses are offered each semester in a number of areas including education, business administration, public administration, and the arts and sciences. Many courses and programs are developed in cooperation with off-campus organizations and groups who have identified specific needs. The usual class carries three units of extension credit, although one-unit weekend workshops are also offered throughout the year. These courses are listed in a special Extended Studies Program Bulletin (Portals) published each semester.

Certificate Programs
Professional Certificate Programs are coordinated by the Extension Division. Educational services are provided for a wide variety of groups and professional organizations. Certificate Programs are offered in the following areas: Construction Practices, Fire Protection Administration, Labor Relations, Materials Management, and Personnel Administration.

The Division also coordinates the activities of the Center for Continuing Education in Business and Engineering, in cooperation with the College of Business Administration and the College of Engineering.

Concurrent Enrollment
A limited number of regular, on-campus classes are open to qualified extension students by special permission of the department and instructor. Students who take advantage of Concurrent Enrollment are required to pay regular extension fees. They are permitted to enroll only after matriculated students have completed their registration. Consult the Extension Division or the current Class Schedule for complete details on Concurrent Enrollment qualifications and registration procedures.

Winter Session
The College of Extended Studies administers a special academic program during the winter recess period titled "The Winter Session." This special session provides students an opportunity to earn resident academic credit through participation in concentrated and interesting course work.
External Degree Programs

Purpose
External degree programs have been established by the Board of Trustees of The California State University and Colleges to increase educational opportunities for adults who characteristically have not had access to traditional academic programs, to aid them in expanding their job and career potential or in pursuing personal enrichment goals.

External degree programs are designed for mature adults who by reason of geography, employment, family responsibilities or other personal circumstances find it difficult to spend extensive periods of time "in residence" on a university campus, or who are employees of particular firms, agencies or institutions, or occupational groups for whom an external curriculum is appropriate.

Admission Requirements
Applicants must be at least 18 years of age and have attained a high school diploma or its equivalent. Students are normally expected to have completed their lower division course work prior to entry into an external degree program. However, students with less than 56 units of college credit may be admitted to upper division courses for which they meet prerequisites.

Admission and Enrollment Procedures
Students who desire to become classified candidates for the degree must apply for admission to the degree program by completing the following steps prior to earning nine units of credit in that program:
1. Complete and submit Application for Admission.
2. Request transcripts from last high school and all colleges and universities attended; transcripts must be received directly from the school.
3. Submit a one-time admissions fee of $20.00.
4. Students may enroll in courses without having been admitted to the program. Priority will be given to those persons who have applied for admission and been accepted into the degree program.

Instruction and Scheduling
The quality of instruction in external degree programs is maintained at the same high level as that in campus programs. While the length of the instructional term for external students may vary from five to sixteen weeks, depending upon the time constraints of required in campus programs. All courses offered in external degree programs earn upper division units and resident credit.

Curriculum
The curriculum in an approved undergraduate external degree program is comprised of selected requirements. Students who have not completed general education and extension summer sessions at San Diego State University or at other regionally accredited institutions.

Special Provisions for the Military
San Diego State University subscribes to the policy and criteria of the Department of Defense Servicemen's Opportunity College Program as these apply to external degree programs. Through the College of Extended Studies academic programs are offered which afford service personnel special considerations by:

Increasing academic opportunities to pursue higher education through course offerings on military bases.

Providing opportunities for military students to complete academic work interrupted by military duties;
Providing a designated SOC Counselor who is familiar with the problems attendant to pursuing an education while in the Armed Forces;
Providing the maximum allowable recognition of credit from such nontraditional modes as DANES, CLEP, CEEB, and ACE Guide to the Evaluation of Educational Experiences in the Armed Services; and
Allowing a military student to continue to satisfy program curriculum requirements at another regionally accredited institution in accordance with the provisions of his/her Servicemen's Academic Agreement and Program of Studies.

Fees
Since Continuing Education and External Degree programs do not receive state support, they are required to be financially self-supporting. Fees for external degree courses range from $55 to $75 per semester unit.

Degrees Offered
Graduate:
Master of Public Administration degree.
Master of Arts in educational administration.

(For graduate external degree program details, refer to the Graduate Bulletin of the Graduate Division.)

Undergraduate:
*Major in criminal justice administration with the B.S. degree.
*Major in health care administration with the B.S. degree.
*Major in industrial technology with the B.S. degree.
*Major in liberal arts with the A.B. degree.

*Degree offered by Consortium of The California State University and Colleges.

Criminal Justice Administration Major

With the B.S. Degree
The criminal justice administration external degree program has been developed to meet the academic and occupational needs of persons who are currently or plan to become employed in the fields of law enforcement corrections, probation, parole, or investigative agencies. This external degree program is similar to the criminal justice administration major offered for matriculated students at SDSU.

In addition to the major and general education requirements, courses may be completed at either the lower or upper division level to fulfill the total unit requirement of 128 units for this degree.

General Requirements
Preparation Courses:
Social Sciences - 9 units
Statistics - 3 units
General Education - 40 units
American Institutions (included in general education)

Major:
Thirty-six upper division units selected from Criminal Justice Administration 301, 310, 320, 321, 330, 331, 485, 502, 510, 520, 531, 540, 543, 550; Public Administration 301, 310, 320, 340, 341, 450, 497, 512, 530; Sociology 440, 510, 513, 514.
Approved Electives
A minimum of 24 upper division units is required.

The student may select courses from the above list which have not previously been taken to satisfy the major requirements. Additional upper division courses may be selected which are specifically related to the student's academic and professional objectives including areas outside of criminal justice administration.

Health Care Administration Major

With the B.S. Degree

This external degree program was designed to assist administrators of health care facilities, and those desiring second careers in this rapidly expanding field, to develop and improve their knowledge of and skills in administration and organization of patient care. Emphasis is on administration of programs, personnel, and facilities in relation to the roles and responsibilities of the administrator.

The courses which meet the requirements for this major are offered through the joint sponsorship of the appropriate academic departments and the College of Extended Studies. The degree is awarded by the Board of Trustees of The California State University and Colleges. All courses offered by SDSU for this major are at the upper division level only.

In addition to the major and general education requirements, courses may be completed at either the lower or upper division level to fulfill the total unit requirement of 124 units for this degree.

General Requirements
Preparation Courses — 21 units
General Education — 40 units
American Institutions (3 of the 6 units required are included in general education)

Major
Forty-five upper division units selected from Business Administration 350, 352, 360, 496; Nursing 496, 499 (Management of Patient Care); Psychology 350; Public Administration 462 recommended by Coordinator; Sociology 526, 527.

Approved Electives
The courses should be in the field of either health care administration or business administration. Consultation with the Academic Program Coordinator is recommended for planning and fulfilling all curriculum requirements.

Industrial Technology Major

With the B.S. Degree

Emphasis in Electronics Technology

The requirements for this major are the same as those listed in the Courses and Curricula section of this catalog under Industrial Technology.

Only upper division courses which satisfy the requirements for the major and for approved electives will be offered by SDSU externally; lower division requirements may be fulfilled through community college course offerings.

In addition to the major and general education requirements, courses may be completed at either the lower or upper division level to fulfill the total unit requirement of 128 units for this degree.

General Requirements
Preparation Courses — 19 units
General Education — 40 units
American Institutions (3 of the 6 units required are included in general education)

Major
The student must complete a core requirement of 36 upper division units.

Liberal Arts Major

With the A.B. Degree

In conjunction with the Consortium of The California State University and Colleges, courses are offered leading to a Bachelor of Arts degree in Liberal Arts. The major consists of 48 units of upper division course work. A San Diego State University Certificate is awarded after the successful completion of the first 24 credit units in one of several areas of emphasis (human resources management, women's studies, etc.) and may be used to satisfy the 24-unit residency requirement in the A.B. in Liberal Arts degree.

The courses which meet the degree requirements are offered through the joint sponsorship of the appropriate campus academic departments and the College of Extended Studies. The degree is awarded by the Board of Trustees of The California State University and Colleges.

The lower division requirements for the degree may be fulfilled through community college offerings. The courses offered by San Diego State University are upper division. In addition to the major and general education requirements, courses may be completed at either the lower or upper division level to fulfill the total requirement of 124 units.

General Requirements
General Education — 40 units
American Institutions (3 of the 6 units required are included in general education)

Major
Rather than requiring specific courses, this major designates areas which represent basic components involved in an educational process: literacy, methodological processes (heuristics) and synthesis. The three categories provide the individual not only with content materials but with the techniques and perspectives which allow learning to take place beyond formal degree programs.

Writing Skill
A 15-unit requirement of demonstrated proficiency in written English skills is required. The student must demonstrate his or her ability to write in courses other than English composition.
Courses and Curricula
Courses and Curricula

Course Numbering

Courses numbered from 100 to 299 are lower division (freshman or sophomore) courses; those numbered 300 to 499 are upper division (junior or senior) courses intended for undergraduates; those numbered 500 to 599 are upper division courses also acceptable for advanced degrees; those numbered 600 to 799 are graduate courses; and those numbered 800 through 899 are doctoral courses. Courses numbered X-900 through X-999 are offered only through Continuing Education to meet the specific academic needs of community groups and are listed in the External Academic Programs Bulletin. Courses numbered in the X-900 series unless otherwise stated in the course description are applicable toward degree requirements at San Diego State University. Courses at the X-900 level are not acceptable on advanced degree programs.

The Unit or Credit Hour

In the listing of courses that follow, figures in parentheses indicate the unit value of the course. One unit or credit hour represents 50 minutes of recitation or lecture, together with the required preparation, or three hours of laboratory work or two hours of activities, each week for a semester.

Prerequisites for Undergraduate Courses

Prerequisites for each course are stated in the course description. Students should not register for any course for which they have not completed the indicated prerequisites. The one exception to this is that they may register for the course without having completed the stated prerequisites if they have secured the consent of the instructor.

Students are reminded that they may be disenrolled from courses in which they have not completed the prerequisites and have not secured the consent of the instructor.

Semester in Which Courses Are Offered

In the listing of courses that follow, Roman numeral I indicates a course offered in the fall semester. Roman numeral II indicates a course offered in the spring semester. An “S” indicates a course offered in the summer.

Following the course title are designations of credit and the semester in which course is offered. Examples:

- (3) I
- (3) II
- (3-3) I, II

Three units, Offered in fall semester.
Three units, Offered in spring semester.
Three units each semester. Year course normally beginning in the fall semester.
Three units each semester. Year course beginning either semester.

Although the university fully expects to carry out the arrangements planned in the list of courses, it reserves the right to make changes. Classes in which the enrollment does not come up to the minimum number set by the Trustees of the State University and Colleges may not be offered or may be postponed.

Common Courses

Experimental Topics Courses (299, 496 or 596)

Any department or college may offer courses under the numbers 299, 496 and 596. Experimental Topics (2-4) under the following conditions: Each course must be approved by the Dean of the College concerned. Such a course must be approved by the same title and content. Limit of nine units of 299 (excluding University Studies 299) and nine units of 496 or 596 applicable on a bachelor's degree of which no more than three units of 299 (excluding University Studies 299) and three units of 496 or 596 may be applicable to general education requirements. Such courses are applicable to the minor or to preparation for the major only by special action of the department.

Specified sections of Experimental Topics courses (299 and 496) may be offered for credit/no credit under the following conditions:

1. Requests to offer these courses for Cr/NC must be submitted with the class schedule tentative program forms.
2. The Cr/NC option applies only to separate courses offered under 299 and 496, i.e., separate sections of the same course cannot have two different grading systems.
3. Only those requests submitted to the Office of the Vice President, Academic Affairs, in time for inclusion in the printed class schedule will be approved.

Honors Courses (300)

These courses are intended for students with superior scholastic records and aptitude. An interested student should direct his inquiries to the chairman of the department concerned.

Special Study (499)

These courses provide opportunity for individual study of a subject not offered in the regular curriculum. The student does this outside of the classroom. He should seek out an instructor under whose supervision he wishes to work, discuss the topic with him, and come to an understanding on the amount of time he is to devote to the topic, the credit he is to earn, and his mode of investigation and report. As with regular courses, the expectation is that the student will devote three hours per week to the subject for each unit of credit.

Credit/No Credit Courses

Courses which are offered for credit/no credit are indicated by the symbols Cr/NC in the course title.
Aerospace Studies

In the College of Professional Studies

Faculty
Professor: Neal (Chair)
Assistant Professors: Greer, Kramer

Offered by the Department
A.F.R.O.T.C. curriculum.
Minor in aerospace studies.

A.F.R.O.T.C. Curriculum
The department offers a two-year Air Force Reserve Officers' Training Corps program designed to develop officers who have broad understanding and high growth potential. Cadets participate in dialogues, problem solving, and other planning activities designed to develop leaders and managers. All coursework is done on campus with the exception of the Field Training Unit conducted at an active Air Force base and the Flying Instruction Program conducted at a local civilian flying school. Summer training is required of all students, other than veterans, prior to enrollment in on-campus courses. Upon completion of the program and all requirements for a bachelor's degree, cadets are commissioned second lieutenants in the Air Force and serve a minimum of four years' active duty. Graduates who are qualified may apply for pilot or navigator training immediately upon graduation. Other graduates go on active duty in a specialty consistent with their academic major and existing Air Force needs. Graduates may request a delay from entry on active duty to continue their education in graduate programs. Graduates may apply for Air Force sponsored graduate study after entry on active duty.

Applying for the Program
Any student or prospective student may take the Air Force Officer Qualifying Test and the physical examination during the year preceding entry into the program.

When selected, applicants attend a six-week field training course at an Air Force base in the summer prior to their last two years of college. No further summer training is required (Note: Veterans who are granted credit for prior military service may enter the program as juniors and attend a four-week field training between their junior and senior year.) Field training emphasizes military orientation for the junior officer and aircraft and aircrew familiarization. Cadets receive physical training and participate in competitive sports. They are trained in the use of weapons, drill and ceremonies, and observe selected Air Force units perform everyday operations of the Air Force.

Flight Instruction and Pay
The Flight Instruction Program (FIP) is offered to qualified senior cadets who have elected to enter pilot training when reporting for active duty. The cost of the flight training is paid by the Air Force. Instruction is divided between class work taught on the campus and flying training conducted by a civilian contractor in the area.

Cadet retainer pay of $100 per month is given for 20 months of the program. Cadets receive approximately $350 during the Field Training Unit and are reimbursed for the cost of travel to and from the unit.

Officer Training Program Requirement
To meet Air Force assessment requirements, 80 percent of the accepted applicants for the officer training program must be enrolled in a technical academic major. Majors that satisfy this prerequisite include Engineering, Computer Science, Information Systems, Mathematics, Physics, Chemistry, or a liberal studies major that is approved by the Aerospace Studies Department Chair.

Aerospace Studies Minor
The minor in aerospace studies consists of a minimum of 15 units in aerospace studies. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

UPPER DIVISION COURSES
(Intended for Undergraduates)

300A-300B. The Professional Officer (3-3)
Semester I: The Professional Officer: The military justice system; leadership theory and practice. Semester II: Management principles and functions; problem solving, briefing for commissioned service.

333-S. Field Training Unit (3)
Required for advanced cadets; military orientation and flight familiarization. Credit granted through the Extension Division on basis of individual student application with approval of the Aerospace Studies Department Chair.

499. Special Study (1-3) I, II
Prerequisite: Consent of Aerospace Studies Department chair.
Individual study. Maximum credit six units.
Afro-American Studies
In the College of Arts and Letters

Faculty
Chair: Kerri
Professor: Chambers
Associate Professors: Kerri, Kornweibel, Meadows
Assistant Professors: Scarborough, Thomas, Weber
Lecturer: Smith

Offered by the Department
Major in Afro-American Studies with the A.B. degree in liberal arts and sciences.
Minor in Afro-American studies.

Afro-American Studies Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for the degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major. Afro-American Studies 101, 266; three units selected from 102, 140, 230, 231, 232, 250, and three units selected from 170A, 170B, 180 and 260. (12 units.)

Foreign Language Requirement. Twelve units in a foreign language or demonstration of equivalent knowledge in a reading examination administered by the foreign language department concerned.

Major. A minimum of 24 upper division units to include six units of Afro-American Studies 496 and 12 units selected from one of the following areas and six units from the remaining two areas.
Area II. Afro-American Studies 363, 460, 461, 470 and 480.
Area III. Afro-American Studies 362, 470, 471A and 471B.

Afro-American Studies Minor
The minor in Afro-American studies consists of a minimum of 18 units to include six units selected from the courses for preparation for the major, six units selected from one of the three areas of the major, and three units from each of the remaining areas. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES
101. Introduction to Afro-American Studies (3) I, II
Interdisciplinary introduction that examines development and scope of subject matter orientation of Afro-American studies through analysis of major dimensions of Black experience.

102. Afro-American Life Styles (3) I, II
Afro-American life styles in the past, present, and future. Examination of contemporary problems, their roots and their effects on Twentieth Century America. (Formerly numbered Afro-American Studies 233.)

120A. Composition and Reading (3) I, II
Practice of composition skills utilizing analytical and critical writing and readings, as exemplified by various nonfictional works of scholarly Black personalities. Not open to course in Mexican-American Studies 111B.

120B. Composition and Literature (3) I, II
Outstanding works of fictional writings by Black authors. Practice of composition skills.

140. Oral Communication (3) I, II
Practice in speaking, critical listening, reasoning and organizing. Theory and techniques of communications used to evaluate the effect they have on the lives of Blacks and others. Not open to students with credit in Mexican-American Studies 111A or Speech Communication 103.

170A-170B. Afro-American History (3-3) I, II
American history from a Black perspective. (Satisfies American institutions requirements.)

180. Afro-American Music (3) I, II
Afro-American Music from its African roots to present. Consideration of musical styles, events, significant contributors as well as role of socio-cultural variables in development of music.

220. Politics and Economics of Urban Development (3)
Prerequisite: Afro-American Studies 101.
Political, economic, and other social implications of urban development, decay and renewal and context within which they occur or are undertaken. Analysis of specific programs and projects.

230. Ethnicity and Black Social Competence (3) I, II
An exploration into the concept of ethnicity as a positive mental health model for Afro-Americans in the process of identity formation and coping strategies.

231. Cultural Patterns and Black Identity (3) I, II
An analysis of institutions in society and their socializing effect upon Afro-Americans, and the cultural parameters that guide behavior.

232. Social Analysis From a Black Perspective (3)
Prerequisite: Afro-American Studies 101 or 102.
Sociological concepts and models used to describe the social behavior of Afro-Americans. Issues in the interpretation of sociology from the Black perspective using the work of Black sociologists from 1900 to the present.

250. Psychology of Blackness (3) I, II
An exploration into the concept of ethnicity as a positive mental health model for Afro-Americans in the process of identity formation and coping strategies.

260. Introduction to Afro-American Literature (3) I, II
Modern and contemporary writing of Black-American authors. The sociopolitical impact the literature has had upon the Afro-American culture.

286. Statistics and Research (3) I
Prerequisite: Mathematics 103 or qualification on the Mathematics Placement Examination.
Fundamentals of research and statistics as used for writing reports, papers, books.

290. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of content. Limit of nine units applicable to a bachelor's degree in courses under this number of content. No more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
Intended for Undergraduates

320. Organizational Management of Urban Low-Income Neighborhoods (3)
Prerequisite: Afro-American Studies 101.
Examination of relevant approaches to administration and management in relation to the acquisition of skills for the analysis, development, and management of urban programs in low-income neighborhoods.

330. Black Child Development (3) I, II
Attitudes, needs and problems of the Afro-American child with emphasis on new approaches and insights into the development of positive changes for the child's growth and development.

331. The Black Family (3) I, II
Structure and functions of the Black family in contemporary American society.
360. Communications and Community Action (3) I, II
Prerequisite: Afro-American Studies 140 (field assignments are a major part of this course).
Application of the basic theories of communication through field projects. Study of the communication problems that exist between sociopolitical groups and the media.

362. Rhetoric of Black America (3) II
Prerequisite: Three units in Afro-American history or communications.
Rhetoric of Black Americans from David Walker to the present; the role rhetoric has played in the history of Black people and an analysis of the Black audience in terms of the Black experience.

363. Socio-Cultural Analysis of Black Languages (3)
Prerequisite: Three units in Afro-American Studies.
Social and cultural function of Black languages, verbal and non-verbal, in Afro-American life, and their profound impact on larger society. Also, a probe into issues concerning validity of Black English.

368. Blacks in the American Justice System (3)
Interpretation and application of constitutional principles and judicial decisions to political and social problems faced by Afro-Americans.

445. Ethnicity and Social Psychology (3)
Prerequisite: Afro-American Studies 101 or 250.
Analysis of major social psychological theories specifically focusing on how these theories relate to minority attitude/value formation and group behavior. Strategies for resolving social issues.

448. Black and Non-Black Interpersonal Relations (3)
Cognitive and experiential examination of contemporary issues around Black and non-Black interpersonal relations. Authenticity in relationships, personal development, conflict resolution, and proactive belief systems. Central aim to assist Blacks and non-Blacks to facilitate communication.

451. Black Consumer Psychology (3) I, II
Prerequisite: Afro-American Studies 250.
Attitude values and decision making of Black people as consumers. Laws and techniques of manipulating consumers.

452. Race Relations Strategies (3)
Prerequisite: Afro-American Studies 101 or 102 or 250.
Systematic inquiry into contemporary strategies and systems employed to ease racial tensions. Trends and approaches in military, religious, economic, educational, and other social institutions examined, focusing on those that offer most promise in terms of facilitating racial harmony.

453. Issues in Mental Health: A Multicultural Perspective (3)
Prerequisite: Afro-American Studies 230 or 250.
Examination of multicultural mental health issues. Institutionalization, treatment, social policy funding, prevention, insurance, and community programs will be covered. Relevant research literature will be examined.

460. Black Images in Western Literature (3) I, II
Study of how the image of the Black has been portrayed in Western (white) literature and the attitudes and images of non-Black writers towards Blacks.

461. Afro-American Literature (3) I, II
Prerequisite: Afro-American Studies 101 or 260.
Contemporary writings of Afro-Americans. Analysis of themes, techniques, etc., of Afro-American fiction, poetry, and drama.

470. Comparative History: Afro-American and African Heritage (3) I, II
Conceptual framework of African history and a comparative study of Afro-American institutions.

471A. Antebellum Forms of Black Struggle (3) I, II
Prerequisite: Afro-American Studies 101 or 170A.
Antislavery movement and the resistance of Afro-Americans to the institution of slavery and the culmination of the movement during the Civil War.
American Indian Studies

In the College of Arts and Letters

Faculty

Chair: Rouillard
Associate Professor: Rouillard
Assistant Professor: Robinson
Lecturers: Cook, Dixon, Grider, Huff, James, Russo

Offered by American Indian Studies

Courses in American Indian Studies
Major or minor work in American Indian studies is not offered.

LOWER DIVISION COURSES

101A. Hopi Language Elementary (4) I
Development of beginning conversational competency in Hopi and the required insights into the culture as it affects language. Emphasis in acquiring the vocabulary necessary to carry on a basic conversation.

101B. Kumeyaay Language Elementary (4) I
Development of beginning conversational competency in Kumeyaay and the required insights into the culture as it affects language. Emphasis in acquiring the vocabulary necessary to carry on a basic conversation.

101C. Sioux Language Elementary (4) I
Development of beginning conversational competency in Sioux and the required insights into the culture as it affects language. Emphasis in acquiring the vocabulary necessary to carry on a basic conversation.

102A. Hopi Language Intermediate (4) II
Prerequisite: American Indian Studies 101A.
Continuation of Hopi 101A with emphasis on developing vocabulary, conversational skills and grammar.

102B. Kumeyaay Language Intermediate (4) II
Prerequisite: American Indian Studies 101B.
Continuation of Kumeyaay 101B with emphasis on developing vocabulary, conversational skills and grammar.

102C. Sioux Language Intermediate (4) II
Prerequisite: American Indian Studies 101C.
Continuation of Sioux 101C with emphasis on developing vocabulary, conversational skills and grammar.

110. American Indian Heritage (3) I, II
American Indian experience and their interpretations of the natural forces of nature from European contact to modern times.

120. American Indians in Contemporary Society (3) I, II
Sociological understanding of the American Indian groups in contemporary society with emphasis on the relationship to dominant society and why the focus has been on Indians as social problems.

200. American Indian Literature (3) I, II
Introduction to American Indian literature: creation and origin stories, legends, and poetry from the oral tradition to contemporary American Indian authors.

201A. Hopi Language Readings and Literature (4) I, II
Prerequisite: American Indian Studies 102A.
Study of Hopi literature. Reading of legends, tales, stories and poetry of Hopi. Translations of literature will be from English to Hopi and from Hopi to English.

201B. Kumeyaay Language Readings and Literature (4) I, II
Prerequisite: American Indian Studies 102B.
Study of Kumeyaay literature. Readings of legends, tales, stories, poetry of Kumeyaay. Translation of literature will be from English to Kumeyaay and from Kumeyaay to English.

201C. Sioux Language Readings and Literature (4) I, II
Prerequisite: American Indian Studies 102C.
Study of Sioux literature. Reading of legends, tales, stories, poetry of Sioux. Translation of literature will be from English to Sioux and from Sioux to English.

215. American Indian Psychological Perceptions (3) I
Topics relating to the dynamics of intercultural relations as reflected in the various levels of culture clash.

255. American Indian Music (3) I, II
Survey of American Indian music and the culturally diverse elements that differentiate musics of North American tribes and culture groups. Traditional forms of study and investigation contrasted and compared with cultural elements as they relate to traditions.

275. Experimental Topics (1-4)
Selected topics. May be repeated with consent of instructor. See Class Schedule for specific content.

UPPER DIVISION COURSES

(intended for Undergraduates)

303. American Indian Women in American Society (3) I
Historical and contemporary analysis of the role of Indian women in both Indian and dominant society.

400. The American Indian Political Experience (3) I, II
Social and political response to dominant group policies by the American Indian as compared to other minority groups.

430. American Indian Poetry (3) I, II
Analysis of American Indian oral literatures, focusing on selected tribal traditions. Relationship between oral traditions and contemporary American Indian poetry will be explored in studies of James Welch, Simon Ortiz, Norman Russell, Scott Momaday and others.

440. American Indian History (3) I, II
Historical analysis of Indian-White contact. Emphasis on the impact of historical events upon the various cultures.

450. Bureaucracy and the American Indian (3) II
Comparative study in the dynamics of the bureaucratic influence on society, with reference to the American Indian experience.

460. American Indian Community Organization and Development (3) I, II
Prerequisite: American Indian Studies 110 or 120.
Analysis of theories and purposes of development of community organizations and their study of structures and functions as they relate specifically to American Indian communities both reservation and urban. Analysis of policies which govern local community programs will be explored.

470. Roots of Indian Tradition (3) II
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.

500. Special Study (1-4)
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.
UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

533. Problems in American Indian Education (3) II
Prerequisite: American Indian Studies 110 or 120.
Survey of education system imposed on Indian America from the close of the Indian-White military conflict period to the present, Philosophies, government policy and public school accommodation will be central to the topic. Studies, recommendations and resultant programs that affect the overall educational process will be assessed.

American Studies
In the College of Arts and Letters

Faculty
American Studies is administered through the American Studies Committee, composed of faculty members from the departments of Afro-American Studies, Anthropology, Geography, History, Literature, and Political Science. For names of American Studies advisers, contact the College of Arts and Letters, Student Advising Center, LE-469.

Offered by American Studies
Master of Arts degree in American studies.
Major in American studies with the A.B. degree in liberal arts and sciences.

American Studies Major
With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements.

Preparation for the major. American Studies 201, and 12 units from English 250 (3 or 6 units), History 101A-110B (3 or 6 units), Anthropology 102, 299 (when American Culture). (15 units) Students should note that a number of the upper division required and recommended courses listed below have lower division prerequisites, but these prerequisites do not constitute requirements per se for the completion of the major.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements.

Major. A minimum of 33 upper division units to include History 547A-547B or History 548A-548B (may be used for Group B); and two groups of nine and one group of six upper division units selected from Group A, Group B, or Group C, to be approved by the adviser. American Studies 501 and 580 are recommended for all majors.

The remaining nine units needed to fulfill the 33-unit requirement may be taken in courses listed in Groups A, B, C, and D, except that no more than 12 of the 30 units may be taken from any one group. American Studies 580 can be used for Group A, B, or C, where applicable.

Group A: American Literature. Afro-American Studies 461; Comparative Literature 570; American Studies 335; Mexican-American Studies 303, 320; Physical Education 476; Political Science 305, 320, 332, 335, 336, 378, 522, 530, 531, 536, 546, 547A-547B; Religious Studies 520, 522; Sociology 422, 424, 513, 514, 521, 525, 536, 545, 547, 557; Women's Studies 330.


Group D: Electives. American Studies 501; Art 560; Music 347, 351D; Philosophy 564.

LOWER DIVISION COURSES

201. Introduction to American Culture Studies (3) I, II
Emphasizes the concept of culture as matrix for introductory cross-disciplinary study of the American culture, through analyses of such things as artistic expression, historical events, social processes, folk and popular culture, using methodology adapted from social sciences and humanities.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of content. Which no more than three units may be applicable to general education requirements.
UPPER DIVISION COURSES  
(Intended for Undergraduates)

360. Science, Technology and American Culture (3)  
Effects of scientific theories and practical technologies on the growth and character of  
American culture. From Jefferson and Franklin to smashing of atoms and space exploration,  
how science and technology have influenced American values, environment, arts, politics, and  
national identity.

499. Special Study (1-3)  
Prerequisite: Consent of instructor.  
Individual study in interdisciplinary humanities and social sciences work.

UPPER DIVISION COURSES  
(Also Acceptable for Advanced Degrees)

501. Study of American Culture (3) II  
Prerequisite: Major in American studies; open to other students with permission of  
instructor.  
American studies as a discipline, the critical methods of the field, the variety of materials  
for interdisciplinary study.

580. Topics in American Studies (1-3) I, II  
Topics dealing with cultural images and myths, social protest, folklore; themes focusing  
upon fear, alienation and nationalism; problems around racism, minorities and counter-  
cultures. See Class Schedule for specific content. May be repeated once with new content;  
and with the approval of the adviser, more than once by American studies majors. Maximum  
credit six units applicable on a master's degree in American studies.

Anthropology  
In the College of Arts and Letters

Faculty  
Emeritus: Anderson, Ezell, Rogers  
Chair: Leach  
Professors: Goldkind, Leach, Lippold, Pendleton, Watson, Whitney  
Associate Professors: Greenfield, Henry, Himes, Moors, Pillsbury, Rohrl, Stanford  
Assistant Professors: Ball, Bartel, Scolley, Sonek

Offered by the Department  
Master of Arts degree in anthropology.  
Major in anthropology with the A.B. degree in liberal arts and sciences.  
Minor in anthropology.

Anthropology Major  
With the A.B. Degree in Liberal Arts and Sciences  
All candidates for a degree in liberal arts and sciences must complete the graduation  
requirements listed in section of this catalog on "Graduation Requirements."  
A minor is not required with this major.

Preparation for the major. Anthropology 101, 102. (Six units.)

Foreign Language Requirement. Competency (equivalent to that which is normally  
attained through three consecutive semesters of college study) is required in one foreign  
language as part of the preparation for the major. Refer to section of catalog on "Graduation  
Requirements."

Major. A minimum of 24 upper division units in Anthropology to include Anthropology 301,  
302, 303, 304, 305, and nine units of electives selected from Anthropology with approval of  
the adviser. (Anthropology 400A and 400B may not be counted in the upper division  
requirements for graduation.)

Anthropology Minor  
The minor in anthropology consists of a minimum of 15 units in anthropology, 9 to 12 units  
of which must be in upper division courses (excluding Anthropology 400A-400B). The 15 units  
must be selected from one of the following areas:

Bio-Cultural: Anthropology 101 and 301 and nine units selected from Anthropology 406,  
496 (if appropriate), 499, 500, 501, 502, 503, 504, 505, 506 and 507.

Prehistory: Anthropology 101 and 302 and nine units selected from Anthropology 470,  
471, 472, 474, 476, 478, 479, 481, 496 (if appropriate), 499, 561A, 561B.

Sociocultural: Anthropology 102, 303 and 350 and six units selected from Anthropology  
305, 423, 424, 425, 426, 427, 428, 429, 430, 496 (if appropriate), 520, 522, 532.

Linguistics: Anthropology 102, 304 and 410 or 511 and six units selected from  
Anthropology 303, 305, 423, 496 (if appropriate), 499.

General: Anthropology 101, 102 and nine units selected from 301, 302, 303, 304, 305.  
Courses in the minor may not be counted toward the major, but may be used to satisfy  
preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES  
101. Human Bio-Cultural Origins (3) I, II  
Man's place in nature; fossil evidence for hominid evolution; evolutionary theory; racial,  
cultural and genetic variability; relationship of physical and cultural adaptations; the rise of  
civilization. Not open to students with credit in Anthropology 400A. (Formerly numbered  
Anthropology 100.)

102. Introduction to Cultural Anthropology (3) I, II  
May be taken before Anthropology 101.  
Man's relationship to his environment; types of preliterate society; systems of social  
organization, politics, economics, religion, and language. Not open to students with credit in  
Anthropology 400B. (Formerly numbered Anthropology 101.)
150. World Cultures (3)
Prerequisite: Anthropology 102.
Comparative and systematic application of the culture concept to the major culture areas of the world.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

**UPPER DIVISION COURSES**

(Intended for Undergraduates)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Prerequisite(s)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>301.</td>
<td>Principles of Physical Anthropology (3) I, II</td>
<td>Anthropology 101 or 400A. Primate comparative anatomy</td>
<td>3</td>
</tr>
<tr>
<td>302.</td>
<td>Principles of Archaeology (3) I, II</td>
<td>Anthropology 101 or 400A. Physical measurement of the</td>
<td>3</td>
</tr>
<tr>
<td>303.</td>
<td>Principles of Cultural Anthropology (3) I, II</td>
<td>Anthropology 101 or 400B. Primary emphasis on the</td>
<td>3</td>
</tr>
<tr>
<td>304.</td>
<td>Principles of Anthropological Linguistics (3) I, II</td>
<td>Anthropology 102 or 400A. The structural nature of</td>
<td>3</td>
</tr>
<tr>
<td>305.</td>
<td>History of Anthropological Theory (3) I, II</td>
<td>Anthropology 303. Development of theories which lie</td>
<td>3</td>
</tr>
<tr>
<td>350.</td>
<td>World Ethnography (3)</td>
<td>Anthropology 302. Cultural patterns of representative</td>
<td>3</td>
</tr>
<tr>
<td>351.</td>
<td>Primitive Technology (3)</td>
<td>Nine units of anthropology. Techniques of tool</td>
<td>3</td>
</tr>
<tr>
<td>400A-400B.</td>
<td>Principles of Anthropology (3-3) I, II</td>
<td>Anthropology 400A: Human evolution as a biocultural</td>
<td>3-3</td>
</tr>
</tbody>
</table>

400A. Nonhuman Primates (3)
Prerequisite: Anthropology 101.
Basic aspects of nonhuman primates, geographical distribution, ecology (habitat, diet), external and internal morphology, locomotion, and social behavior, reproduction and development.

410. Language in Culture (3)
Prerequisite: Anthropology 102 or 400B.
Survey of anthropological interests in the study of language and of linguistic interests in the sociocultural context of language. (Formerly numbered Anthropology 510)

422. Music and Culture (3)
Prerequisite: Anthropology 102 or 400B.
How the forms, functions and meanings of music vary cross-culturally. Understanding a society's music historically, holistically and experimentally, with emphasis on non-Western music. Universal music and music use. Ethnological theories of music and music change.

423. Kinship and Social Organization (3)
Prerequisite: Anthropology 102 or 400B.
Comparison of kinship systems and the structure of social relationships throughout the world. The methodological orientations and theories relating to social organization with emphasis on non-Western societies. (Formerly numbered Anthropology 523)

424. Primate Behavior and Culture (3)
Prerequisite: Anthropology 102 or 400B.
How the forms, functions and meanings of music vary cross-culturally. Understanding a society's music historically, holistically and experimentally, with emphasis on non-Western music. Universal music and music use. Ethnological theories of music and music change.

425. Peasant Society and Culture (3)
Prerequisite: Anthropology 102 or 400B.
The social organization and culture of present-day small agricultural communities with emphasis on changes brought about by modernization. (Formerly numbered Anthropology 525)

426. Cultural Change and Processes (3)
Prerequisite: Anthropology 102 or 400B.
The individual and the culture pattern: the acquisition of culture, innovation and invention, social relationships and cultural values inherent in the economies of primitive and peasant societies. Cross-cultural comparisons made of various means by which goods and services are acquired and distributed in non-Western, non-market-industrial societies. (Formerly numbered Anthropology 527)

427. Economic Anthropology (3)
Prerequisite: Anthropology 102 or 400B.
Beliefs and ritual of primitive man, magic and religion. Forms of animism and polytheism. (Formerly numbered Anthropology 524)

428. Ecological Anthropology (3) I, II
Prerequisite: Anthropology 102 or 400B.
Biological and cultural interactions in the environment. Studies of biological and cultural interactions with the environment in relation to adaptations of contemporary and historic peoples: Indians of the Southwest, Eskimos, aboriginal groups of Australia, Africa and Oceania. (Formerly numbered Anthropology 528)

429. Urban Anthropology (3)
Prerequisite: Anthropology 102 or 400B.
The social organization of urban centers and processes of urbanization in non-Western, cultural roles of urban centers and processes of urbanization in non-Western, cultural roles of urban centers and processes of urbanization in non-Western. Urban influence of traditional peasant and nonindustrial societies of past and present. Urban influence of traditional peoples of Africa, Asia, and Latin America. (Formerly numbered Anthropology 529)

430. Political Anthropology (3)
Prerequisite: Anthropology 102 or 400B.
Political processes, institutions, and ideologies in primitive and peasant societies. (Formerly numbered Anthropology 530)

432. Principles of Personality in Culture (3)
Prerequisite: Anthropology 102 or 400B.
Principles related to the determinants of human behavior contained in culture. Studies of behavior cross-culturally.
433. Cross-Cultural Cosmology (3)
Prerequisite: Anthropology 102 or 400B.
Cultural perception and expression of the nature and origin of the universe, humanity and peoples' expressive capabilities. American Indian, African, Asian, and other sociocultural cosmologies compared and applied to contemporary American issues and progress.

440. Cultures of Europe (3)
Prerequisite: Anthropology 102 or 400B.
The study of society and culture in contemporary Europe, utilizing current ethnographic materials. The relationship of such studies to European culture growth and to the definition of European sociocultural regions. (Formerly numbered Anthropology 540.)

441. The California Indian (3)
Prerequisite: Anthropology 102 or 400B.
Native California Indian cultures with stress on the Indian groups of Southern California. The industries, arts, social organization, folklore and religion will be considered as revealed through the study of living peoples and archaeological evidences. (Formerly numbered Anthropology 541.)

442. Cultures of South America (3)
Prerequisite: Anthropology 101 or 102 or 400A or 400B.
Indian cultures in terms of origins, migration, relation to habitat, cultural variation and relevance to contemporary trends. Development of Inca civilization, the effects of the Spanish conquest and its aftermath. (Formerly numbered Anthropology 542.)

443. Contemporary Latin American Cultures (3)
Prerequisite: Anthropology 102 or 400B.
A social anthropological approach to the structure and dynamics of contemporary conditions and problems, especially as revealed in studies of particular communities included are such topics as ethnic and regional differences within national societies, population changes, social consequences of economic changes, changes in stratification. (Formerly numbered Anthropology 543.)

445. Ethnology of North America (3)
Prerequisite: Anthropology 102 or 400B.
Native cultures and the role of environmental and historical factors in North America. (Formerly numbered Anthropology 545.)

446. Southwestern Ethnology (3)
Prerequisite: Anthropology 102 or 400B.
Indian cultures of the American Southwest in historic times; ecological adaptations. Anthropology 546.

447. Cultures of Southeast Asia (3)
Prerequisite: Anthropology 102 or 400B.
Prehistory, races and cultures of Indonesia, Philippines and nearby mainland Southeast Asia. Includes both primitive and peasant societies and reviews them with respect to environmental, historical and social factors. (Formerly numbered Anthropology 547.)

448. Cultures of Oceania (3)
Prerequisite: Anthropology 102 or 400B.
The aboriginal cultures and peoples of Australia, Melanesia, Micronesia, and Polynesia in prehistoric, historic, and modern times. (Formerly numbered Anthropology 548.)

449. Cultures of Sub-Saharan Africa (3)
Prerequisite: Anthropology 102 or 400B.
Indigenous peoples and cultures of Africa south of the Sahara. A comparison of cultural traditions, social organization, and modern trends in newly emergent nations of the area. (Formerly numbered Anthropology 549.)

450. Cultures of India (3)
Prerequisite: Anthropology 102 or 400B.
Indigenous peoples and cultures of India and contiguous areas of South Asia. The development of cultural traditions, social organization, and modern trends. (Formerly numbered Anthropology 550.)

451. Chinese Society (3)
Prerequisite: Anthropology 102 or 400B.
Culture and social organization of Chinese people. Traditional China, overseas Chinese, contemporary China and Taiwan. (Formerly numbered Anthropology 551.)

452. Japanese Society (3)
Prerequisite: Anthropology 102 or 400B.
Culture and social organization of Japanese people. Traditional Japanese economic, social, political and religious institutions. Effects of colonialism, modern industrial and urban changes in modern Japan. (Formerly numbered Anthropology 552.)

453. Near Eastern Societies (3)
Prerequisite: Anthropology 102 or 400B.
Cultures and social organization of the peoples of Southwest Asia and North Africa. (Formerly numbered Anthropology 553.)

454. Mesoamerican Ethnohistory (3)
Prerequisites: Anthropology 102 or 400B and Anthropology 477.
Prehistory of Mesoamerica as revealed through European contact and early Colonial periods in Mesoamerica from initial occupation to the 16th century. (Formerly numbered Anthropology 554.)

470. Prehistory of South America (3)
Prerequisite: Anthropology 102 or 400A.
Development of native South American cultures from initial occupation to the 16th century. Emphasis on major historical trends, particularly of the Andean area. (Formerly numbered Anthropology 570.)

471. Archaeology of North America (3)
Prerequisite: Anthropology 101 or 400A.
Origin of the American Indian and survey of the main prehistoric cultures of the North American continent. (Formerly numbered Anthropology 571.)

472. Southwestern Prehistory (3)
Prerequisites: Anthropology 101 and 102 or 400A and 400B.
Prehistoric Indian cultures in the American Southwest: ecological adaptations and outside cultural influences. (Formerly numbered Anthropology 572.)

473. Paleolithic Archaeology of Europe (3)
Prerequisites: Anthropology 101 and 102 or 400A and 400B.
First evidence of hominid activity through the end of the Pleistocene. (Formerly numbered Anthropology 573.)

474. Archaeology of Western and Central Asia (3)
Prerequisites: Anthropology 101 and 102 or 400A and 400B.
Prehistoric Indian cultures in the American Southwest: ecological adaptations and outside cultural influences. (Formerly numbered Anthropology 574.)

475. Preclassic Cultures of Mesoamerica (3)
Prerequisite: Anthropology 101 or 400A.
Developmental background of Mesoamerican peoples to rise of Teotihuacan urban state. (Formerly numbered Anthropology 575.)

476. Classic Pre-Columbian Civilizations of Middle America (3)
Prerequisite: Anthropology 101 or 400A.
General overview and selected topics in culture history of Middle America from rise of Teotihuacan in first century A.D. Emphasis on Teotihuacan, Maya, and Zapotec peoples. (Formerly numbered Anthropology 576.)
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>477</td>
<td>Postclassic Cultures of Mesoamerica</td>
<td>3</td>
<td>Anthropology 101 or 400A</td>
<td>History and process in Mesoamerica from rise of Teotihuacan to fall of Tula. Emphasis on role of commerce in rise and fall of civilizations. Emphasis on Toltec, Maya, Mixtec, and Aztec peoples. (Formerly numbered Anthropology 577.)</td>
</tr>
<tr>
<td>478</td>
<td>Post-Pleistocene Archaeology of Europe</td>
<td>3</td>
<td>Anthropology 101 and 102 or 400A and 400B.</td>
<td>Culture change in the area from Ireland to India, and its impact on European Russia in time period from the first Holocene hunter-gatherer-fisher adaptations and domestication of plants and animals through Roman Colonialism. (Formerly numbered Anthropology 578.)</td>
</tr>
<tr>
<td>479</td>
<td>Archaeology of Africa</td>
<td>3</td>
<td>Anthropology 101 and 102 or 400A and 400B.</td>
<td>Culture change in the regions of northern Africa and sub-Saharan Africa beginning with the first evidence of hominin activity through ethnographically known societies. (Formerly numbered Anthropology 579.)</td>
</tr>
<tr>
<td>480</td>
<td>Topics in Arctic Anthropology</td>
<td>3</td>
<td>Anthropology 101 or 102 and consent of instructor.</td>
<td>Discussion of selected areas, periods or problems in the context of broad considerations of prehistoric, historic or contemporary cultural development and human ecology throughout the arctic and subarctic regions. See Class Schedule for specific content. (Formerly numbered Anthropology 580.)</td>
</tr>
<tr>
<td>481</td>
<td>Archaeology of East Asia and Oceania</td>
<td>3</td>
<td>Anthropology 101 and 102 or 400A and 400B.</td>
<td>Culture change in the areas of China, Siberia, southeast Asia, Australia, Japan and Oceania beginning with the first evidence of hominin activity through ethnographically known societies. (Formerly numbered Anthropology 581.)</td>
</tr>
<tr>
<td>482</td>
<td>Ethnoarchaeology</td>
<td>3</td>
<td>Anthropology 302.</td>
<td>Theoretical perspective and method for analyzing contemporary societies in order to acquire archaeological insight of behavioral patterning. Survey of experiments duplicating archaeological technologies of the past. Worldwide ethnographic examples.</td>
</tr>
<tr>
<td>488</td>
<td>Experimental Topics</td>
<td>1-4</td>
<td>May be repeated with new content. See Class Schedule for specific content.</td>
<td>Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.</td>
</tr>
<tr>
<td>498</td>
<td>Special Study</td>
<td>1-3</td>
<td>Consent of instructor.</td>
<td>Individual study. Maximum credit six units.</td>
</tr>
<tr>
<td>500</td>
<td>Primate Social Behavior</td>
<td>3</td>
<td>Anthropology 101 or 400A</td>
<td>Development of primate socialization. Development of social behavior with emphasis on communication, group structure, aggression, and sex. Various methods of analysis and observation practiced using primate collection at the San Diego Zoo.</td>
</tr>
<tr>
<td>501</td>
<td>Human Paleontology</td>
<td>3</td>
<td>Anthropology 101 or 400A</td>
<td>Comparative anatomy of fossil man and other primates; evolutionary relationships and cultural associations.</td>
</tr>
<tr>
<td>502</td>
<td>Microevolution</td>
<td>3</td>
<td>Anthropology 301.</td>
<td>The evolution of human populations over a short period of time. Interaction of the evolutionary forces of mutation, selection, drift and gene flow with the cultural systems of human populations.</td>
</tr>
<tr>
<td>503</td>
<td>Human Variation</td>
<td>3</td>
<td>Anthropology 101 or 400A</td>
<td>Morphological, physiological and genetic aspects of human variability. Significance of this diversity in the biological adaptations of human populations.</td>
</tr>
<tr>
<td>504</td>
<td>Primate Anatomy</td>
<td>3</td>
<td>Anthropology 301 and Zoology 108.</td>
<td>Primate anatomy both regional and systemic, including skeletal, cardiovascular and digestive systems; the integument and otolaryngology of primates.</td>
</tr>
<tr>
<td>505</td>
<td>Human Osteology</td>
<td>3</td>
<td>Anthropology 301.</td>
<td>Identification of individual bones and teeth; sex, age, and racial variation; stature reconstruction; continuous and discontinuous morphological variations; paleopathology. Training in observations, measurements, and analyses.</td>
</tr>
<tr>
<td>506</td>
<td>Physical Anthropology of the Living</td>
<td>3</td>
<td>Anthropology 301.</td>
<td>Theory and practice of techniques in measurement and description of biological variations in modern populations.</td>
</tr>
<tr>
<td>507</td>
<td>Blood Groups and Anthropology</td>
<td>3</td>
<td>Anthropology 301 and 503</td>
<td>Human blood groups and their frequencies in populations, analyses of gene frequencies, methods of defining and selecting samples from human population, evolutionary significance of blood groups and species antigens.</td>
</tr>
<tr>
<td>511</td>
<td>Field Methods in Linguistics</td>
<td>3</td>
<td>Anthropology 302 or 304, and consent of instructor.</td>
<td>Principles and techniques of linguistic analysis, problems and methods in the phonemic transcription and analysis of unwritten, non-indo-European languages. Emphasis on phonetics, phonemics, field techniques, and work with informants.</td>
</tr>
<tr>
<td>522</td>
<td>Social Anthropology</td>
<td>3</td>
<td>Anthropology 350.</td>
<td>Development of social anthropology as a distinct subfield of cultural anthropology. Development of social anthropology as a distinct subfield of cultural anthropology. (Formerly numbered Anthropology 352.)</td>
</tr>
<tr>
<td>531</td>
<td>Applied Anthropology</td>
<td>3</td>
<td>Anthropology 426.</td>
<td>Application of social theories and methods to the examination of social behavior and development of social change. Examination of social behavior and development of social change.</td>
</tr>
<tr>
<td>532</td>
<td>Culture and Personality</td>
<td>3</td>
<td>Anthropology 102 or 400B</td>
<td>The relationship of individual personality to culture in a variety of cultures. A consideration of various theories and studies in the social and personality sciences.</td>
</tr>
<tr>
<td>533</td>
<td>Evaluative Procedures in Culture and Personality</td>
<td>3</td>
<td>Anthropology 102 or 400B</td>
<td>Methods of eliciting and evaluating cross-cultural information about patterns of behavior. Such field methods as the interview and participant observation will be reviewed and evaluated.</td>
</tr>
</tbody>
</table>
560. Advanced Archaeological Field Methods (3)
One lecture and six hours of laboratory.
Prerequisite: Anthropology 302.
Advanced projects in excavation and stabilization of ruins, archaeological surveys, laboratory analysis and preparation of reports.

561A-561B. Archaeological Laboratory Methods (3-3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 560, Anthropology 561A is prerequisite to 561B.
Semester I: Application of palynology, palentology and technologies. Semester II: Practical applications of materials from 561A. Individual laboratory research project required.

582. Regional Anthropology (3)
Prerequisite: Anthropology 102 or 400B.
In-depth study of a major geographical region of the world such as Africa, the Arctic, East Asia, Europe, Latin America, the Middle East, North America, Oceania, or South Asia. See Class Schedule for specific content.

583. Topical Anthropology (3)
Prerequisite: Anthropology 101 or 102 or 400A or 400B as appropriate depending on the topic.
In-depth study of a major subdiscipline such as Political Anthropology, Economic Anthropology, Social Anthropology, Psychological Anthropology, Cultural Ecology, or Environmental Anthropology. See Class Schedule for specific content.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Art
In the College of Professional Studies
The Department of Art is a Member of the National Association of Schools of Art.
For purposes of exhibition and reference, the department reserves the right to retain for a limited period some of each student's work produced in class.

Faculty
Emeritus: Andrews, Dirks, Jackson, Ruocco, Sorenson, Swiggett
Chair: Orth
Professors: Baker, Berg, Bigelow, Covington, Fisch, Groover, Higgins, Hopkins, Hunter, Longenecker, Miller, Orth, Rogers, Tanzer, Wallace
Associate Professors: Austin, Bowne, Frick, Hodge, Papworth, Ray
Assistant Professors: Cotten, Daniels, Dominguez, Forster, Malveto, Litrownik,
Lecturers: Baker, Brodie, Daniels, Dominguez, Forster, Malveto, Litrownik,
Offered by the Department
Master of Arts degree in art.
Major in art with the A.B. degree in liberal arts and sciences.
Major in art with the A.B. degree in applied arts and sciences.
Teaching major in art for the single subject teaching credential.
Minor in art.

Art Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." This major in art may be planned with an emphasis in studio arts or art history.
A minor is not required with this major in art.

Emphasis in Studio Arts
Preparation for the major. Art 100, 101, 102, 103, 157, 203, 204, 216, 258 and 259,
Philosophy 101. (33 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."
Major. A minimum of 24 upper division units in art to include Art 402, 404, 500, 557, 560,
Philosophy 541; and six units selected with the approval of the adviser from Art 405, 406, 416,
499, 502, 505, 506, 516, 516, 517, 570, 573 and 574.

Emphasis in Art History
Preparation for the major. Art 158, 258, 259, 264 and 265. (15 units.) Four semesters of French, German (or Italian for Renaissance majors only), with a grade of "B" or better, or a reading knowledge of the language selected. Refer to section of catalog on "Graduation Requirements."

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major.
Major. A minimum of 24 upper division units in art history, selected from Art 557 through
570, to include at least one three-unit course from each of the five groups listed below:
Ancient and Medieval Art: Art 557, 568, 571
Renaissance and Baroque Art: Art 573, 574, 575
Modern Art and American Art: Art 557, 558, 560
Native American, African and Oceanic Art: Art 561, 569, 570, 576
Byzantine, Islamic and Indian Art: Art 565, 566, 572
Art Major

With the A.B. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

The major in art may be planned with an emphasis in crafts, environmental design, graphic communication, painting and printmaking, or sculpture. The programs in environmental design and in graphic communication have a preprofessional orientation supplemented by a strong liberal arts background. Environmental design can lead to interior, architectural, landscape design or city planning. Graphic communication prepares the student for the areas of environmental graphics, art direction, visual design for the contemporary media of advertising, fashion illustration or editorial illustration. The areas of painting and printmaking and sculpture prepare students for professional attitudes toward the fine arts and the institutions of higher learning. The preprofessional program in art education prepares the student for teaching in either elementary or secondary schools. The crafts program can be developed to specialize in ceramics, enameling, furniture, or industrial design, jewelry, metal smithing, textile design and weaving.

A minor is not required with this major. However, in graphic communication, an English minor is recommended.

Emphasis in Crafts

Preparation for the major. Art 100, 101, 102, 103, 220, 258, 259, and six units of art electives. (27 units.)

Major. A minimum of 24 upper division units in art to include nine units selected from one of the areas listed below, and three units of extended work in one of the selected areas; six are strongly recommended.

Fiber: Art 334, 434, 435, 436, 534 and 535
Metal: Art 331, 431, 531, 532
Clay: Art 325, 425, 525, 526
Enamel: Art 429, 529 (9 units)
Wood: Art 323, 423, 523

Emphasis in Graphic Communication

Preparation for the major. Art 100, 101, 102, 103, 241, 258, 259, and six units of art electives. (27 units.)

Major. A minimum of 24 upper division units in art to include Art 341, 441, 541, 557; three additional units of art history; and nine units selected from Art 340, 440, 442, 443, 444, 541.

Emphasis in Environmental Design

Preparation for the major. Art 100, 101, 102, 103, 216, 220, 225. (36 units.) Recommended: Art 205, 234, 241, 258, 259, 265. Industrial Arts 121 or Group I (Environmental Design) in consultation with an adviser.

Major. A minimum of 24 upper division units in art selected from Group I (Environmental Design) in consultation with an adviser. Group I: Art 451, 552, 553, 554, 557; six units selected from Art 381, 481, 581; three units selected from Art 323, 348, 450, 452, 454, 457, 577. Group II: Art 450, 454, 547, 550, 557, 577, and six units selected from Art 348, 381, 416, 451, 481, 552, 553, 561.

Emphasis in Painting and Printmaking

Preparation for the major. Art 100, 101, 102, 103, 203, 258, 259, and six units selected from Art 204, 205 or 210. (27 units.)

Major. A minimum of 24 upper division units in art to include Art 557; three additional units of art history; and 18 units selected in consultation with the adviser from Art 403, 404, 405, 406, 410, 411, 500, 502, 503, 504, 505, 506, 509, 510, 511, 512.

Emphasis in Sculpture

Preparation for the major. Art 100, 101, 102, 103, 216, 258, 259; and three units selected from Art 203, 204, 220, 225, 231, 217, 219, 223, 224. (24 units.)

Major. A minimum of 27 upper division units to include Art 416 or 517, 498A-498B, 516, 557; three additional units of art history; and nine units selected from Art 323, 331, 403, 404, 500.

Alternate Program for Advanced Degree Preparation

Students planning to pursue an advanced degree may elect a 53-unit (27 units lower division, 36 upper division) alternate degree program in Applied Arts and Sciences. This program involves the completion of the requirements for one of the emphasis areas listed above and 12 additional units of art planned in consultation with the advisor in the student's area of emphasis.

Art Major

For the Single Subject Teaching Credential

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. This major may be used by students in teacher education as an undergraduate major for the A.B. degree in applied arts and sciences.

Preparation for the major. Art 100, 101, 102, 103, 220, 258, 259, and six units of art electives. (27 units.)

Teaching Major. A minimum of 26-27 upper division units in art to include Art 557; three units of art history; and 20-21 units from Group I or Group II in consultation with the Art Education Adviser

Group I. Seventeen units of one major emphasis area, including Art 485 and 586, and three units of one other emphasis area. (20 units.)

Group II: Six units of drawing, painting, or printmaking; six units of crafts or sculpture; three units of graphic communication or environmental design, and Art 485 and 586. (21 units.)

Art Minor

The minor in art consists of a minimum of 22 units in art; 12 units of which must be in upper division courses in one emphasis area, as listed in the art majors. The courses must be selected in consultation with an emphasis area adviser. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

100. Drawing and Composition (3) I, II
Six hours. The ordering of two-dimensional space through drawing.

101. Design and Aesthetics (3) I, II
Six hours. Fundamentals of space and color design. Basic course used as a prerequisite for advanced work.

102. Drawing and Composition (3) I, II
Six hours.
Prerequisite: Art 100. Line and value in drawing; emphasis on structure and proportion, sketching, gesture, and contour drawing. (Formerly numbered Art 200.)

103. Design and Aesthetics (3) I, II
Six hours.
Prerequisite: Art 101. Continuation of Art 101. Original work in creative design including projects in three dimensions. (Formerly numbered Art 201.)
157. Introduction to Art (3) I
An illustrated lecture course dealing with the meaning of art derived from an investigation of the principles of art. Designed to increase the understanding and appreciation of art.

158. Tribal Arts of Native America, Sub-Saharan Africa and Oceania (3) I, II
Introduction to tribal arts of Native America, Sub-Saharan Africa and Oceania in cultural context, from the ancient to the contemporary period. Arts of diverse peoples living in small-scale societies are included. Field trips.

203. Life Drawing (3) I, II
Six hours.
Prerequisite: Art 102.

204. Painting (3) I, II
Six hours.
Prerequisites: Art 100, 101.

205. Sketching (3) I, II
Six hours.
Prerequisite: Art 101.

210. Printmaking (3)
Six hours.
Prerequisites: Art 102 and 103. Consent of instructor.

216. Sculpture (3) I, II
Six hours.
Prerequisite: Art 103.

217. Life Modeling—Sculpture (3) I, II
Six hours.
Prerequisite: Art 103.

220. Design in Crafts (3) I, II
Six hours.
Prerequisite: Art 103.

225. Ceramics (3) I, II
Six hours.
Prerequisite: Art 101.

231. Beginning Jewelry Design (3) I, II
Six hours.
Prerequisite: Art 220.

234. Weaving (3) I, II
Six hours.
Prerequisite: Art 220.

240. Graphic Imagery (3)
Six hours.
Prerequisite: Art 101.

241. Beginning Graphic Communication (3) I, II
Six hours.
Prerequisites: Art 100 and 103.

242. Fashion Imagery (3) I, II
Six hours.
Prerequisite: Art 101.

243. Intermediate Graphic Communication (3) I, II
Six hours.
Prerequisite: Art 241.

247. The House and Its Environment (3) I, II
Six hours.
Prerequisites: Art 100, 101, and 248.

250. The Contemporary House (3) I, II
Six hours.
Prerequisites: Art 100, 101, and 248.

251. Interior Design (3) I, II
Six hours.
Prerequisite: Art 103.

255. Chinese Art (3)
Six hours.
Prerequisite: Art 220.

259. Appreciation and History of Art (3) I, II
Six hours.
Prerequisite: Art 249.

260. Modern Art (3) I, II
Six hours.
Prerequisite: Art 259.

264. Japanese Art (3) I
Six hours.
Prerequisite: Art 220.

265. Japanese Art (3) II
Six hours.
Prerequisite: Art 220.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of content. No more than three units may be applicable to general education requirements.
UPPER DIVISION COURSES
(Intended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

323. Furniture Design (3) I
Six hours.
Prerequisite: Art 101. Industrial Arts 151 is recommended.
Study of the principles of design through the making of furniture.

325. Ceramics (3) I, II
Six hours.
Prerequisite: Art 225.
Basic methods of forming, decorating, glazing and firing pottery forms with emphasis on the use of the potter's wheel.

331. Beginning Jewelry Design (3) I, II
Six hours.
Prerequisite: Art 220.
Design and fashioning of jewelry. Not open to students with credit in Art 231.

334. Advanced Weaving (3) I, II
Six hours.
Prerequisite: Art 220.
Total credit in Art 234, 334 and 534 limited to nine units.
Advanced problems in fabric design and weave construction including tapestry and rug weaving techniques. Maximum credit six units.

340. Advanced Graphic Imagery (3) I, II
Six hours.
Prerequisite: Art 240.
Investigation of experimental photographic and technical reproductive media. Maximum credit six units.

341. Graphic Communication (3) I, II
Six hours.
Prerequisite: Art 243.
Investigation of design concepts relating to advertising.

347. The House and Its Environment (3) I, II
Architecture, interior design, landscape and city planning for forming man's physical and aesthetic environment, its simplicities and complexities. Not open to students with credit in Art 247.

348. Environmental Media (3)
Two lectures and four hours of laboratory.
Prerequisite: Art 249.
The communication of Environmental Design using photography, miniature, mock-ups, and transfers with emphasis on transparency projection.

381. History and Theory of Environmental Design (3) Irregular
Prerequisite: Art 268.
Environmental arts from earliest times to the 15th century.

387. Exploration in Crafts for Young People (3) I, II
Six hours.
Prerequisite: Art 101.
A design crafts course that explores in depth materials and processes that could be used with young people. Not open to students with credit in Art 220. (Formerly numbered Art 507.)

403. Advanced Life Drawing (3) I, II
Six hours.
Prerequisite: Art 203.
Drawing the nude model. Maximum credit six units.

404. Intermediate Painting (3) I, II
Six hours.
Prerequisite: Art 204.
Pictorial composition and painterly process. Maximum credit six units.

405. Intermediate Waterbase Media (3) I, II
Six hours.
Prerequisite: Art 204.
Composition in watercolor and related media.

406. Design and Composition (3) I, II
Six hours.
Prerequisites: Art 103 and 204.
Structure in picture making.

410. Intaglio Printmaking (3) I, II
Six hours.
Prerequisites: Art 101 and 203. Art 403 and 500 are recommended.
Creative intaglio—etching, drypoint, aquatint, engraving and variations. Emphasis on fine print quality and technical development. Maximum credit six units.

411. Lithography Printmaking (3) I, II
Six hours.
Prerequisites: Art 101 and 203. Art 403 and 500 are recommended.
Creative lithography—stone and plate planographic process. Emphasis on fine print quality and technical development. Maximum credit six units.

416. Advanced Sculpture (3) I, II
Six hours.
Prerequisite: Art 216.
Sculpture in various materials and techniques. Maximum credit six units.

423. Advanced Furniture Design (3) I, II
Six hours.
Prerequisite: Art 323.
Advanced individual design. Exploration of materials, process and function. Maximum credit nine units.

425. Ceramics (3) I, II
Six hours.
Prerequisite: Art 325.
Continuation of Art 325. Further development of knowledge, skills and philosophy of ceramics through individual creative projects.

429. Design in Enamels (3) I, II
Six hours.
Prerequisite: Art 220.
Design and production of vitreous enamels. Maximum credit six units.

431. Jewelry and Metalwork (3) I, II
Six hours.
Prerequisites: Art 231 or 331.
Design and production of jewelry and hollow ware.

435. Nonwoven Textile Construction (3) I, II
Six hours.
Prerequisite: Art 220.
Textile structures with an emphasis on nonloom techniques.

436. Textile Design (3)
Six hours.
Prerequisite: Art 220.
Application of design for the textile surface, using a broad variety of media and processes appropriate for both the individual designer and commercial reproduction. Media include: print, block, silkscreen, batik, and tie-dye. Maximum credit six units.

440. Contemporary Environmental Graphics (3) I, II
Six hours.
Prerequisites: Art 101. Art 103 and 241 are recommended.
Study of creative design for contemporary architectural and motivational graphics.

441. Advanced Graphic Communication (3) I, II
Six hours.
Prerequisite: Art 341.
The relation of art structure and the aspects of visual communication.
442. Advanced Fashion Imagery (3) I, II
Six hours.
Prerequisite: Art 101. Art 242 is recommended.
Emphasis on developing individual drawing concepts and creative techniques in fashion illustration. Creation of fashion drawings and fashion advertising layouts. Development of a professional portfolio. Maximum credit six units.

443. Drawing and Illustration for Graphic Communication (3) I
Six hours.
Prerequisites: Art 101 and 403.
The disciplines of realistic descriptive illustration including problems in imaginative, aesthetically refined painterly illustration. Media to include gouache, watercolor, scratch board, mixed media, and pen and ink.

444. Visual Communication Media (3) I, II
Six hours.
Prerequisite: Art 341.
Experimental, creative and practical exploration of contemporary communication as related to magazine and editorial layout. Production of a student designed limited edition.

450. Synergetic Environments (3)
Two lectures and four hours of laboratory.
Prerequisite: Art 454.
Synthesis of materials, space, sound and light using exploratory methods in full scale projects.

451. Residential Interior Design (3) Irregular
Six hours.
Prerequisites: Art 249 and 251.
Survey, analysis and conceptual design methods of residential interiors stressing materials, equipment, components and structural detailing. Maximum credit six units.

452. Interior Design Practicum (3) Cr/NC
Nine hours of laboratory.
Prerequisite: Credit or concurrent registration in Art 552.
Field experience with local professional interior designers in client relationships, business procedures, supervision of subcontracted work and installation, and execution of contracts.

454. Environmental Design (3) I, II
Six hours.
Prerequisite: Art 247.
Survey, analysis and design synthesis of problems of more complexity, through interiors, to landscape, to architectural planning and, finally, concern for city design.

479. History of Ceramics (4) I, II
Three lectures and two hours of activity.
Historical background to 20th century ceramics. Philosophical approaches to design of pottery and differing materials and techniques as related to contemporary ceramics. Field trips and activities to verify findings of research.

481. History and Theory of Environmental Design (3) Irregular
Prerequisites: Art 258 and 259.
Environmental arts. From the 15th to the 19th century.

485. Concepts and Observations in Art (3) I, II
Six hours.
Prerequisite: Twelve upper division units in art.
Study of principles and fundamentals of art as related to strategies of presentation.
(Formerly numbered Art 585.)

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of units, no more than three units may be applicable to general education requirements.

497. Senior Investigation and Report (3) I, II
Nine hours for 497A; three hours for 497B.
Prerequisites: Six upper division units in art, and consent of the instructor.
Individual research into areas of studio and art history not covered by regular courses.
A. Studio Investigations.
B. History Investigations.

498. Senior Project (3) I, II
Nine hours for 498A; three hours for 498B.
Prerequisite: Consent of instructor.
Investigation in art. Formal presentation of project.
A. Studio project.
B. History project.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

500. Advanced Drawing (3) I, II
Six hours.
Prerequisites: Art 203 and 204.
Drawing emphasizing the qualitative aspect of visual subject matter. Maximum credit six units.

502. Inter-Media (1-3) I, II
Two hours for each unit of credit.
Prerequisites: Art 102 and 103.
Process and materials in plane and space. Maximum credit six units.

503. Life Drawing and Painting (3) I, II
Six hours.
Prerequisites: Art 203, 204.
Drawing and painting from nude and costumed models. Maximum credit six units.

504. Advanced Painting (3) I, II
Six hours.
Prerequisite: Art 404.
Pictorial composition and painterly process. Maximum credit six units.

505. Advanced Waterbase Media (3) I, II
Six hours.
Prerequisite: Art 405.
Composition in watercolor and related media.

506. Design and Composition (3) I, II
Six hours.
Prerequisite: Art 406.
Structure in picture making.

509. Intaglio Printmaking (3) I, II
Six hours.
Prerequisite: Art 203.
Advanced creative intaglio printmaking in color, including zinc and copper plate, etching, aquatint, engraving, embossing and color variations. Emphasis on fine print quality and technical development using mixed media processes. Maximum credit six units.

510. Intaglio Printmaking in Color (3)
Six hours.
Prerequisite: Art 410.
Advanced creative intaglio printmaking in color, including zinc and copper plate, etching, aquatint, engraving, embossing and color variations. Emphasis on fine print quality and technical development in the color process unique to this medium. Maximum credit six units.
511. Lithography Printmaking in Color (3)
Six hours.
Prerequisite: Art 411.
Advanced creative lithography printmaking in color. Emphasis on fine print quality in color process and color technology unique to this medium. Maximum credit six units.

512. Serigraphy (3)
Six hours.
Prerequisite: Art 203.
Techniques of reproducing original prints by means of the silkscreen process. Maximum credit six units.

516. Advanced Sculpture (3) I, II
Six hours.
Prerequisite: Art 416.
The influence of art media, tools, and materials on aesthetic organization in sculpture in relief and in the round. Maximum credit six units.

517. Advanced Figurative Sculpture (3) I, II
Six hours.
Prerequisites: Art 216 and 217.
Figurative study with emphasis on individual exploration. Maximum credit six units.

522. Design Crafts (3) Irregular
Six hours.
Prerequisite: Art 220.
Exploration of a variety of materials and techniques. Development of the aesthetic and technical abilities of the artist-craftsman. Maximum credit six units.

523. Advanced Furniture Design (3) I, II
Six hours.
Total credit in Art 323, 423 and 523 limited to twelve units.
Prerequisite: Art 423.
Advanced individual design; exploration of materials, process and function. Maximum credit six units.

525. Ceramics (3) I, II
Six hours.
Prerequisite: Art 425.
Study of ceramic design through creative projects of clay forms. Maximum credit six units.

526. Clay and Glaze Technology in Ceramic Design (3)
Six hours.
Prerequisite: Art 425.
Experimentation and application of research concerning the use of ceramic materials and techniques as an integral part of the design process. Maximum credit six units.

529. Design in Enamels (3) I, II
Six hours.
Prerequisite: Art 428.
Design and production of vitreous enamels. Maximum credit nine units; six units applicable on a master's degree.

531. Jewelry and Metalwork (3) I, II
Six hours.
Prerequisite: Art 431.
Advanced individual problems in jewelry. Maximum credit six units.

532. Metalworking (3) I, II
Six hours.
Prerequisite: Art 331.
Individual problems involving fabrication processes already studied in order to increase technical competence while exploring personal design statements. Individual and small-scale forging in iron and cut steel. Maximum credit six units.

534. Advanced Weaving (3) I, II
Six hours.
Total credit in Art 234, 334 and 534 limited to nine units.
Prerequisite: Art 334.
Advanced individual problems in weaving. Maximum credit six units.

535. Advanced Nonwoven Textile Construction (3)
Six hours.
Prerequisite: Art 435.
Advanced study in nonloom techniques. Techniques to include: looping, braiding, plaiting, and special fabricating techniques. Experimentation with new man-made fibers and with synthetic commercial dyes. Maximum credit six units.

541. Problems in Graphic Communication (3) I, II
Six hours.
Prerequisite: Art 411.
Refinement of personally developed design concepts for visual communication with emphasis on individually directed solutions. The development of a portfolio of professional quality. Maximum credit six units.

543. Drawing and Illustration for Graphic Communication (3)
Six hours.
Prerequisite: Art 443.
The disciplines of realistic descriptive illustration including problems in imaginative, aesthetically refined painterly illustration. Media to include gouache, watercolor, scratchboard, mixed media, and pen and ink.

544. Visual Communication Media (3) I, II
Six hours.
Prerequisite: Art 444.
Experimental, creative and practical exploration of contemporary communication as related to magazine and editorial layout. Production of a student designed limited edition.

547. Environmental Theory (3)
Prerequisite: Art 247 or 347.
Survey of alternative solutions to the problem of design of the physical environment.

550. Environmental Prototypes (3)
Two lectures and four hours of laboratory.
Prerequisite: Art 450.
Research and development of creative architectural concepts with emphasis in space enclosure systems and cybernetics.

552. Professional Methods of Interior Design (3) Irregular
Two lectures and two hours of activity.
Prerequisite: Art 451.
Techniques and analyses of specification writing, estimating, contractual agreements, budget studies and supervision of professional interior design projects.

553. Contract Interior Design (3) Irregular
Six hours.
Prerequisite: Art 451.
Projects in nonresidential architectural interiors involving space planning systems analysis, specification writing, equipment and materials appropriate to commercial function. Maximum credit six units.

554. Proxemics and Interior Design (3) Irregular
Prerequisites: Art 249, 251, and consent of instructor.
Lectures in proxemics and study of literature pertaining to relevant controlled experiments involving use and perception of enclosed spaces. Application of theories to field problems.

557. Art of the Nineteenth Century (3) I, II
Prerequisites: Art 258 and 259.
Major movements in sculpture, painting, graphics and architecture from the beginning of this century to the present.
560. History of American Art (3) Irregular
Prerequisites: Art 258 and 259.
Development of painting, sculpture, and architecture from the Native American Art and Colonial Period to the present.

561. Arts of the Pre-Hispanic Americas (3) I
Prerequisite: Art 158.
Arts of ancient Meso-America, Central America, Caribbean and South America from earliest times until contact with Europe.

562. Colonial Art of Latin America (3) II
Prerequisites: Art 258 and 259.
The art and architecture of Latin America from the colonial period to the present. Field trips included.

565. The Art of India and Southeast Asia (3) II
Prerequisites: Art 258 and 259.
Painting, architecture and sculpture of India and Southeast Asia viewed through their cultural history and aesthetic values. Field/museum trips.

566. The Art of Persia and the Islamic World (3) I
Prerequisites: Art 258 and 259.
Painting, architecture and sculpture and minor arts of Persia and the Islamic world which manifest cultural history and heritage. Field/museum trips.

567. Art of the Ancient Near East (3) I
Prerequisite: Art 258.
Development of painting, sculpture, architecture and crafts from prehistoric times to the fourth century B.C.

568. Art of Crete, Mycenae, Greece, and Rome (3) II
Prerequisite: Art 258.
Development of painting, sculpture, architecture, and crafts from prehistoric times to the fifth century A.D.

569. Art of Sub-Saharan Africa (3) I
Prerequisite: Art 158.
Form and content of the arts of Sub-Saharan Africa viewed within a cultural context.

570. Art of Oceania (3) II
Prerequisite: Art 158.
Form and content of the arts of Australia, Melanesia, Polynesia, and Micronesia viewed within a cultural context.

571. Medieval Art (3) II
Prerequisites: Art 258 and 259.
Development of painting, sculpture and architecture from the time of Constantine through the Gothic period.

572. Coptic and Byzantine Art (3) I
Prerequisites: Art 258 and 259.
The art of the Eastern Church from the reign of Justinian to the Russian Revolution.

573. Renaissance Art in Italy (3) I
Prerequisites: Art 258 and 259.
Architecture, painting and sculpture of the Renaissance period in Italy.

574. Northern Renaissance Art (3) II
Prerequisites: Art 258 and 259.
Architecture, sculpture, and painting north of the Alps during the Renaissance period.

575. Baroque and Rococo Art (3) II
Prerequisites: Art 258 and 259.
Architecture, sculpture, and painting of the Baroque and Rococo periods.

576. Arts of Native North America (3) Irregular
Prerequisite: Art 158 or American Indian Studies 265.
Form and content of the arts of Native North America viewed within a cultural context. Field trips.

577. History of Architecture (3) Irregular
Prerequisites: Art 157, or 258 and 259.
Architecture from primitive times to the present.

578. History of Printmaking (3) Irregular
Prerequisites: Art 258 and 259.
History of printmaking from its inception to the present.

579. Advanced History of Ceramics (4)
Three lectures and two hours of activity.
Prerequisite: Art 479.
Emphasis on 20th century international ceramics. Philosophical approaches to historical heritage. Field trips and activities to verify findings of research.

580. History of Costume (3) Irregular
Prerequisites: Art 258 and 259.
Historic origins of costume traced through aesthetic, social and political influences dominant during each period.

581. History and Theory of Environmental Design (3) Irregular
Prerequisites: Art 258 and 259.
Environmental arts in the 19th and 20th centuries.

582. The Decorative Arts (3)
Investigations into the arts of ceramics, enamelling, furniture, glass, jewelry, metalwork and textiles. Analyzing the aesthetic basis which determines their forms in various times and places. Field trips to museums and ateliers.

586. Art Practicum Seminar (3) Irregular
Prerequisites: Twenty upper division units in art and concurrent assignment to student teaching.
Discussion, readings, and research study related to art presentation strategies.

590. Principles and Elements of Visual Aesthetic Organization (3) Irregular
Three hours.
Prerequisites: Senior standing and Art 157.
Visual aesthetic materials and the psychological principles involved in aesthetic organization.

591. Gallery Exhibition Design (3) I, II
Six hours.
Prerequisite: Fifteen units of art.
Fundamental art elements and principles applied to the theories and techniques of gallery exhibition design.

592. Gallery Exhibition Design (3) I, II
Six hours.
Prerequisite: Art 591.
Advanced problems in the theories and techniques of gallery exhibition design.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Asian Studies

Faculty
Asian Studies is administered through the Center for Asian Studies, composed of faculty members from the departments of Anthropology, Art, Classical and Oriental Languages and Literatures, Economics, English and Comparative Literature, Geography, History, Linguistics, Philosophy, Political Science, Religious Studies, and Sociology, the Colleges of Business Administration and Education, and the Library. Professor Alvin D. Cook is student adviser.

Offered by Asian Studies

Master of Arts degree in Asian studies.

Asian Studies Major

With the A.B. Degree In liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

Preparation for the major. Six units in History 105A-105B, 120A-120B, or Philosophy 101 and 102, and two units in Economics 101 and 102, Geography 101 and 102, or Political Science 101 and 103, and Asian Studies 105A-105B (18 units). Art 254 and 258 is selected in the major. Art 565 is selected toward the major or minor in Asian studies.

Foreign Language Requirement. Competency (equivalent to that which is normally normal
Astronomy Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." Preparation for the major. Astronomy 101 or 103, 109; Physics 195, 195L, 196, 196L, 197, 197L (16 units).

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required for one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units to include Astronomy 304A-304B, 312A-312B, and Physics 350A, 354A, 400A, 460. Recommended: Astronomy 520, Physics 306, 311, 350A, 510, 592, and 103, and 12 upper division units selected from Astronomy 301, 304A, 304B, 305, 312A, 312B, 520, Natural Science 430. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Minor in Mathematics. Students majoring in astronomy must complete a minor in mathematics to include Mathematics 150, 151, 152, and either 340A-340B, or 530. Recommended: Mathematics 531, 541A, 550.

Astronomy Major

With the A.B. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." Preparation for the major. Astronomy 101 or 103, 109; Physics 195, 195L, 196, 196L, 197, 197L (16 units).

Major. A minimum of 24 upper division units to include Astronomy 304A-304B, 312A-312B, and Physics 350A, 354A, 400A, 460. Recommended: Astronomy 520, Physics 306, 311, 350A, 510, 592, and 103, and 12 upper division units selected from Astronomy 301, 304A, 304B, 305, 312A, 312B, 520, Natural Science 430. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Minor in Mathematics. Students majoring in astronomy must complete a minor in mathematics to include Mathematics 150, 151, 152, and either 340A-340B, or 530. Recommended: Mathematics 107, 541A, 541B, 550.

Astronomy Minor

The minor in astronomy consists of a minimum of 15 units to include Astronomy 101 or 103, and 12 upper division units selected from Astronomy 301, 304A*, 304B*, 305, 312A*, 520*, Natural Science 430. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

* Prerequisites for this minor include Physics 195, 195L, 196, 196L, 197, 197L, and Mathematics 150.
**UPPER DIVISION COURSES**

(Also Acceptable for Advanced Degrees)

520. Solar System Astronomy (3)

Prerequisites: Astronomy 101 or 103 and Physics 197, 197L.

Study of the structures of the planets, their atmospheres and satellite systems, asteroids, comets, and meteoroids, and the interplanetary medium, including the sun’s influence in the system.

596. Advanced Topics in Astronomy (2 or 3) I, II

Prerequisite: Consent of instructor.

Selected topics in theoretical astronomy or astrophysics. May be repeated with new content upon approval of instructor. See Class Schedule for specific content. Maximum credit six units.

**GRADUATE COURSES**

Refer to the Graduate Bulletin.

---

**Athletics**

In the College of Professional Studies

**Faculty**

Director: Dempsey

Professor: Karr

Assistant Professors: Gilbert, Templeton

Head Coaches: Dietz, Hill, R., Hill, M.

Coaches: Hall, Hammerschmidt, Kofler, Rea, Shafer, Sneed, Toerner

Coaching Specialists: Judd, La Plante, Le Winter, Plunkett, Spears, Suwara

**Offered by the Department**

Courses in athletics.

Major or minor work in athletics is not offered.

**LOWER DIVISION COURSE**

299. Experimental Topics (1-4) I, II

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor’s degree in courses under this number of which no more than three units may be applicable to general education requirements.

**UPPER DIVISION COURSES**

(Intended for Undergraduates)

380. Intercollegiate Sport Practicum (2-3)

Major sports meet more than nine hours for three units; minor sports meet more than six hours for two units.

Laboratory experience in field of interest, with emphasis on skill, rules, and organizational procedures for varsity team members. A sport may be taken only once for credit in either Athletics 380 or 381.

Subject fields of 380 are as follows:

- **Offered in the Fall**
  - A Basketball (3)
  - B Cross Country (2)
  - C Football (3)
  - D Gymnastics (3)
  - E Swimming (2)
  - F Water Polo (2)
  - G Wrestling (3)

- **Offered in the Spring**
  - H Baseball (3)
  - I Golf (2)
  - J Rowing (2)
  - K Tennis (2)
  - L Track (3)
  - M Volleyball (2)
  - N Soccer (2)

381. Competitive Sport Practicum (2-3)

Major sports meet more than nine hours for three units; minor sports meet more than six hours for two units.

Laboratory experience in field of interest, with emphasis on skill, rules, and organizational procedures. A sport may be taken only once for credit in either Athletics 380 or 381.

Subject fields of 381 are as follows:

- **Offered in the Fall**
  - A Basketball (3)
  - B Cross Country (2)
  - C Football (3)
  - D Gymnastics (3)
  - E Swimming (2)
  - F Water Polo (2)
  - G Wrestling (3)

- **Offered in the Spring**
  - H Baseball (3)
  - I Golf (2)
  - J Rowing (2)
  - K Tennis (2)
  - L Track (3)
  - M Volleyball (2)
  - N Soccer (2)
496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

Biology
In the College of Sciences

Faculty
Emeritus: Taylor
Chair: Collier
Professors: Baer, Brandt, Clark, Collier, Cooper, Cox, Ebert, Farris, Ford, Hazen, Hurlburt, Johnson, A., Kristians, McBlair, Miller, Neel, Paolini, Parsons, Ratty, Rinehart, Schapiro, Shepard, D., Sloan, Zedler, P.
Associate Professors: Awbrey, Daugherty, Diehl, Fulch, Johnson, G., Thwaites, Zedler, J.
Assistant Professors: Barnett, Davis, C., Hanscom, McClanahan, Sabbadini

Offered by the Department
Doctor of Philosophy degree in genetics and in ecology.
Master of Arts degree in biology.
Master of Science degree in biology.
Major in biology with the A.B. degree in liberal arts and sciences.
Major in biology with the A.B. degree in applied arts and sciences.
Major in biology with the B.S. degree in applied arts and sciences.
Minor in biology.
Curricula which prepare for the fields of dentistry, conservation, fisheries, marine biology, medicine, veterinary medicine, and wildlife management.

Biology Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A total of 46 upper division units must be taken, of which 24 must be selected from the General Biology Degree requirements and the list of courses acceptable for electives.
A minor is not required with this major.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language. Students must choose French, German, or Russian to meet this requirement. Refer to section of catalog on "Graduation Requirements."

Biology Major
With the A.B. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A total of 40 upper division units must be taken, of which 24 must be selected from the General Biology Degree requirements and the list of courses acceptable for electives. In addition, students must complete 12 units of a single foreign language (chosen from French, German, or Russian), or demonstrate equivalent knowledge by a test of reading knowledge administered by the foreign language department concerned in consultation with the Department of Biology.
A minor is not required with this major.

Biology Major
With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A total of 36 upper division units must be selected from the General Biology Degree requirements and the list of courses acceptable for electives.
A minor is not required with this major.
General Biology Degree Requirements

Preparation for the Major: Botany 200; Biology 215; Chemistry 200, 200L, 201, 201L, and 230, 230L or 231, 231L; Mathematics 121 and 122 or 150; Physics 125A-125B and 194A-194B; Zoology 200. (38 or 39 units)

Major: A minimum of 24 upper division units for the B.S. degree or 36 upper division units for the B.A. degree to include (1) Biology 411, 430 and 501, or (2) Biology 411, 502 and 503; one course for which Biology 411, 502 or 503 is prerequisite (exclusive of 501); and Biology 487E, 497G or 497P. Additional courses should be selected from the following elective courses: All 400 and 500 series biology, botany, chemistry, microbiology and zoology courses; Biology 300; Chemistry 310A-310B, 381A-381B; Microbiology 310, 320, 330. All courses not covered in this list must have prior approval by the Department Chair.

Biology Major

For the Single Subject Teaching Credential in Life Sciences

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. This major may be used as an undergraduate major for the B.S. degree in applied arts and sciences.

Preparation for the Major: Biology 215; Botany 200; Chemistry 200, 200L, 201, 201L, 194A-194B; Zoology 200. (38-39 units)

Major: A minimum of 36 upper division units in the biological sciences to include Biology 503 or 510 or 521 or 570; and ten units selected with the approval of the Teaching Credential Adviser.

Biology Minor

The minor in biology consists of a minimum of 20 units in biological sciences to include Botany 200, Zoology 200, and 12 upper division units in biological sciences. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

100. General Biology (3) I, II
Prerequisites: None; concurrent registration in Biology 100L recommended.

100L. General Biology Laboratory (1) I, II
Three hours of laboratory. Prerequisite: Credit or concurrent registration in Biology 100.

130. Ecosystems and Man (3) I, II
Prerequisite: A high school or college general biology course.

145. Introduction to Heredity (3) I, II
Heredity mechanisms and consideration of the social implications of recent and expected developments in the field of heredity. Not open to biology majors.

200. Natural History of Plants and Animals (3) I, II
An introduction to plants and animals, with emphasis on local forms and their habitats.

215. Introduction to Quantitative Biology (3) I, II
Two lectures and three hours of laboratory. Prerequisite: Mathematics 122 or 150.

261. Human Physiology (5) I, II
Three lectures and six hours of laboratory. Prerequisites: Chemistry 100, 100L; Zoology 108; credit or concurrent registration in Chemistry 130, 130L.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor’s degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Indicated for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

303-S. Contemporary Problems in Biology (1) S Cr/NC
A series of six weekly lectures on varied aspects of biology by scientists engaged in research. Reading and reports required of students enrolled for credit. These lectures are open to the public. Maximum credit three units.

320. Concepts of Ecology (4) I, II
Three lectures and three hours of laboratory. Prerequisite: Biology 100. Basic aspects of ecological theory relating to the organismal population, community and ecosystem levels of organization. Not open to biological sciences majors.

325. Ecology of Agrarian Societies (3) I
Prerequisite: Biology 100. Agricultural ecology of non-Western societies in the past and present: food and nutrition, disease, culture, energy relationships. Not open to biological sciences majors.

350. Human Heredity (3) I, II
Prerequisite: Biology 100. Selected principles of human inheritance with emphasis on relationships to other fields of human studies. Not open to students with credit in Biology 430, 503, or 544 or to biology majors.

351. Biology of Populations (3) I, II
Prerequisite: A college course in biology. The relation of modern concepts of genetics, ecology and physiology to natural populations with emphasis on the problems of human populations. Not open to majors in the biological sciences.

362. Principles of Human Physiology (3) I, II
Prerequisite: Biology 100 or Zoology 108. Principles of human physiology. Not open for credit to students with credit in Biology 261 or 572. Not acceptable for credit in Biological Sciences graduate or premedical curriculum programs; not recommended for Biological Sciences graduate or premedical curriculum programs.

380. Processes of Organic Evolution (3) I, II
Prerequisite: Biology 100. Modern theory of organic evolution with emphasis on processes involved as they relate to the fossil record, present, and future evolution of mankind. Not open to biological sciences majors.
390. Environment, Health and Disease (3) I, II
Prerequisite: Biology 100.
Features of man's physical, chemical, biological, emotional and cultural environment and
their relationship to specific problems of human pathology and disease. Not open to
biological sciences majors.

400. Bioscience Methodology (3) I
One lecture and six hours of laboratory.
Prerequisite: Consent of instructor.
Methods and techniques in the biological sciences, based on materials developed by the
biological sciences curriculum committee. (Formerly numbered Biology 410.)

411. Ecology (4) I, II
Three lectures and three hours of laboratory.
Prerequisites: Biology 215; Physics 125B and 194B; Chemistry 201, 201L.
Ecological concepts, considering all levels of organization from the individual to the
ecosystem. (Formerly numbered Biology 526.)

420. Conservation of Wildlife (3) I, II
Prerequisite: Biology 100 or Zoology 200.
Field and laboratory experiences in wildlife conservation. Includes procedures for
cell fractionation and analysis of marker enzymes and

430. Molecular Biology (4) I, II
Three lectures and three hours of laboratory.
Prerequisites: Biology 215; Chemistry 230, 230L, or 231, 231L.
Cell chemistry and metabolism, diploid and haploid inheritance, mutations, the genetic
material.

462L. Human Physiology Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Biology 362.
Laboratory work in human physiology. Not open to students with credit in Biology 261.

480. Analytical Procedures in Cellular Physiology (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Biology 502 or Chemistry 361A-361B or Chemistry 560A-560B.
Analytical course designed for undergraduates preparing for laboratory technician
and radiology careers. Includes procedures for cell fractionation and analysis of marker enzymes and
microelectrode recording of membrane potentials.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific
content. Limit of nine units applicable to a bachelor's degree in courses under this number of
which no more than three units may be applicable to general education requirements.

497E. Senior Investigation and Report in Ecology (2) I, II
Prerequisites: Biology 501, senior standing and consent of instructor.
Investigation and report on current ecological literature.

497G. Senior Investigation and Report in Genetics (2) I, II
Prerequisites: Biology 503, senior standing and consent of instructor.
Investigation and report on current genetic literature.

497P. Senior Investigation and Report in Physiology (2) I, II
Prerequisites: Biology 502, senior standing and consent of instructor.
Investigation and report on current physiological literature.

499. Special Study (1-3) I, II
Prerequisites: Fifteen units in biological sciences with grades of A or B and consent of
instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

501. Population Biology (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 411 and credit or concurrent registration in Biology 430.
Principles of population genetics and evolution, advanced topics in population and
community ecology.

502. Cellular Physiology (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 215; Chemistry 230, 230L or 231, 231L; Physics 125B and 194B.
Cellular structure, macromolecules, energetics, growth, division, transport, and response.
(Formerly numbered Biology 560.)

503. Genetics (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 215; Chemistry 230, 230L or 231, 231L.
Principles of transmission and molecular genetics, mutation, population genetics and
evolution. (Formerly numbered Biology 540.)

505. History of Biology (3) I, II
Prerequisite: A college course in biology.
Lectures and reports tracing scientific development of biology with emphasis on the
influence of personalities and trends of the times.

519. Statistical Methods in Biology (3) I
Two lectures and three hours of laboratory.
Prerequisite: Biology 411 or 430.
Application of statistical techniques to biological data. Not open to students with credit
for another upper division course in statistics except with written approval of the chairman of
the department offering the student's major to be filed with the Evaluations Office.

525. Agricultural Ecology (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Biology 320 or 411.
Mechanisms controlling fertility, productivity and regulation in agricultural ecosystems.
The ecological design and management of agroecosystems.

528. Ecology of Renewable Resources (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Biology 320, 411, or 420.
Ecological principles in exploitation and management of forest, range, watershed and
recreational lands for sustained human benefit.

530. Limnology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Biology 411.
Biological, chemical and physical considerations of inland waters.

531. Biological Oceanography (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Biology 411.
Ecological concepts as applied to pelagic and benthic marine organisms and their
environment. Field and laboratory experience in oceanographic techniques, particularly the
coastal environment.

532. Fisheries Biology (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Biology 411.
Fisheries of commercial importance. The dynamics of exploited populations.

535. Systems Ecology (4)
Three lectures and three hours of laboratory.
Prerequisites: Biology 411, Mathematics 122 or 150, and consent of instructor.
Theory and techniques of systems analysis and mathematical modeling as applied to
ecological problems.
537. Advanced Systems Ecology (4)
Three lectures and three hours of laboratory.
Prerequisites: Biology 535 and consent of instructor.
The study of interactions in the application of mathematical modeling and simulation techniques to analyses of ecological problems.

541. Developmental Biology (4), II
Two lectures and six hours of laboratory.
Prerequisites: Biology 430 or 503.
Analysis of development with emphasis on embryonic differentiation.

544. Human Genetics (4), II
Two lectures and six hours of laboratory.
Prerequisite: Biology 503.
Genetics as related to human biology, with consideration of the applied fields of medical genetics, genetic counseling, and population studies.

545. Cytogenetics (4)
Two lectures and six hours of laboratory.
Prerequisite: Biology 503.
The physical basis of heredity. Study of the chromosomes and chromosome behavior in relation to problems in heredity and evolution.

546. Mutagenesis (3)
Prerequisite: Biology 503.
Basic principles and applications of mutation induction, expression, and detection at all levels of biological organization. Emphasis on mutation induction by chemicals and ionizing radiations.

547. Microbial Genetics (3), I, II
Prerequisite: Biology 503.
Theory underlying microbial genetics.

548. Behavioral Genetics (3), I, II
Prerequisite: Biology 503.
The genetic involvement of single and multiple gene systems in animal behavior.

549. Evolution and Population Genetics (3), I, II
Prerequisite: Biology 503.
Theory of evolution and modeling of genetic systems.

550. Ecological Genetics (3), I, II
Prerequisites: Biology 501 or 411 and 503.
Theory of adaptations of natural populations to their environments.

559. Advanced Genetics (3), I, II
Prerequisite: Biology 503.
Current topics in molecular, organismal or population genetics. Maximum credit six units.

561. Advanced Topics in Cellular Physiology (3), I, II
Prerequisite: Biology 502.
Current topics in cellular physiology. May be repeated with new content. Maximum credit six units.

562. Topics in Comparative Physiology (3)
Prerequisite: Biology 502.
Selected topics from comparative aspects of endocrinology, feeding and digestion, blood and circulation, respiration, metabolism, excretion, osmoregulation, nerve conduction, transport and sensory reception. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

562L. Comparative Physiology Laboratory I (2)
Six hours of laboratory.
Prerequisites: Biology 502; credit or concurrent registration in Biology 562.
Directed laboratory projects emphasizing the design and implementation of experiments in physiological research. Emphasis on topics presented in Biology 562. (Formerly numbered Biology 562A)

566. Photobiology (3)
Prerequisite: Biology 502.
Principles underlying visible and ultraviolet radiation effects on plants and animals, including man. Topics include photosensitization, ultraviolet effects, environmental photobiology, photomedicine, chronobiology, extraretinal photoreception, vision, photomorphogenesis, photomovement, photosynthesis and bioluminescence.

568. Immunology (3), I, II
Prerequisite: Biology 502 or Microbiology 330.
Structure and function of the immunoglobulins and the chemical and physical nature of the antigen-antibody reaction.

570. Radiation Biology (3), I, II
Prerequisites: Physics 125B and 194B. Zoology 200. Recommended: Biology 502; Chemistry 200, 200L, 201, 201L; and Physics 303.
Principles underlying radiological reactions of ionizing radiations. Effects of ionizing radiations at the biochemical, cell, organ, and organism levels.

570L. Radiation Biology Laboratory (2), I, II
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Biology 570.
The laboratory determination of the effects of ionizing radiation on biological systems.

571. Radioisotope Techniques in Biology (3), I, II
One lecture and six hours of laboratory.
Prerequisites: Physics 125B and 194B. Recommended: Biology 502.
The principles and application of radioisotopes in biology. Radionuclide measurement, safe handling, tracer and radioautography techniques.

572. Physiology of Human Systems (3), I, II
Prerequisites: Physics 125B and 194B. Zoology 200.
Intended for students majoring in one of the natural sciences or engineering. Not open to students with credit in Biology 261 or 362.
Survey of basic themes in human physiology, presented at the cellular and organ system levels. Topics include membrane transport, nerve excitation, muscle contraction, hormone function, cardiovascular physiology, renal function, immunology, and sensory reception and integration.

580. Regional Field Studies in Biology (1-3)
One to three-week periods during vacations and summer sessions.
Prerequisites: At least twelve units in the biological sciences, including Zoology 200, and consent of instructor. Application for collecting permit must be made at least six weeks before class begins at the Center for Marine Studies (AS-111).
Extended field studies of the flora, fauna, and biotic communities of major natural regions of western North America. May be repeated with new content. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Botany
In the College of Sciences

Faculty
Emeritus: Harvey, Preston
Chair: Rayle
Professors: Gallup, Kummerow, Rayle, Wedberg
Associate Professors: Alexander, Johnson
Assistant Professors: Carmichael, Weiss

Offered by the Department
Master of Arts degree in biology with an emphasis in botany.
Major in botany with the A.B. degree in liberal arts and sciences.
Major in botany with the B.S. degree in applied arts and sciences.
Single subject teaching credential in life sciences in area of botany.
Minor in botany.

Botany Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.
Preparation for the major. Biology 215; Botany 200; Chemistry 200, 200L, 201, 201L, Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 200. (38-39 units.)

Foreign Language Requirement. Competency equivalent to that which is normally attained through three consecutive semesters of college study (is required in one foreign language as part of the preparation for the major. It is recommended that French, German, or Russian be chosen to meet this requirement. Refer to the section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units to include either Biology 411, 430, 501, or 490A, 490B in Botany, 502, 503; plus 12 units of 400- or 500-level botany courses, at least two of which must include a laboratory.

Botany Major
With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.
Preparation for the major. Biology 215; Botany 200; Chemistry 200, 200L, 201, 201L, and either 230, 230L, or 231, 231L; Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 200. (38-39 units.)

Major. A minimum of 36 upper division units in the biological sciences to include Biology 411, 430, 501, or Botany 501, or 502 or 503; Botany 490A, 490B. (20 units in the biological sciences must be applicable to general education requirements.)

Botany Major
For the Single Subject Teaching Credential in Life Sciences
All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. This major may be used as an undergraduate major for the B.S. degree in applied arts and sciences.
Candidates for the Single Subject Teaching Credential must be recommended for the Committee.

Preparation for the major. Biology 215; Botany 200; Chemistry 200, 200L, 201, 201L, Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 200. (38-39 units.)

Major. A minimum of 38 upper division units in 400- and 500-level courses in the biological sciences to include Botany 490A, 490B; and Botany 501 or 502 or 503; Botany 514 and 530; Biology 400, and either Biology 411, 430, 501, or Biology 411, 502, 503; Microbiology 310; and four units selected from a 400- or 500-level course in zoology.

Botany Minor
The minor in botany consists of a minimum of 20 units in the biological sciences to include Botany 200, Zoology 200, Biology 215, plus nine units in the biological sciences, six of which must be in 400- or 500-level botany courses.
Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES
100. Plants and Man (3) I, II, S
Basic structure and function of plants with emphasis on the interrelationships of plants and man.
200. Introduction to Botany (4)
Three lectures and three hours of laboratory.
Prerequisites: Chemistry 200 and 200L.
Basic botany for Life Sciences majors. Origin of life; evolution of basic metabolism; the plant cell, organelles and their function; plant structure and function: plant diversity and classification; basic concepts of genetics and plant ecology.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific selected topics. May be repeated with new content. See Class Schedule for specific selected topics. May be repeated with new content. See Class Schedule for specific selected topics. May be repeated with new content.
Limit of nine units applicable to a bachelor's degree in courses under this number.

UPPER DIVISION COURSES
(Declared for Undergraduates)
312. Cultivated Trees and Shrubs (3) I, II
One lecture and six hours of laboratory, field trips. Identification of the common cultivated trees and shrubs of the San Diego region. Trips to local parks and private gardens.

319. Field Botany (4) (Offered at Imperial Valley Campus only)
Two lectures and six hours of laboratory.
Prerequisite: A course in college biological science.
Local native vegetation with emphasis on ecological units within floristic areas. Primarily for students not majoring in the College of Sciences.

490A. Senior Investigation and Report (1) I, II
One discussion period and two additional hours to be arranged.
Prerequisites: Botany 150 or 501 or 503; 24 units in the biological sciences.
Selection and design of individual project. Oral and written reports.

490B. Senior Investigation and Report (2) I, II
One discussion period and five additional hours to be arranged.
Prerequisite: Botany 490A.
Individual investigation, progress reports, oral and written final reports.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific selected topics. May be repeated with new content. See Class Schedule for specific selected topics. May be repeated with new content. See Class Schedule for specific selected topics. May be repeated with new content.
Limit of nine units applicable to a bachelor's degree in courses under this number.

499. Special Study (1-3) I, II
Prerequisite: Fifteen units in botany with grades of A or B or consent of instructor.
Individual study. Maximum credit six units.
UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

501. Phycology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Botany 200.
Morphology and phylogenetic relationships of the algae.

502. Mycology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Botany 200.
The structure, food relations, and classification of fungi.

503. Vascular Plants (4)
Two lectures and six hours of laboratory.
Prerequisite: Botany 200.
Structure, development and phylogenetic relationships of the bryophytes and vascular plants.

511. Advanced Phycology (3)
One lecture and six hours of laboratory.
Prerequisite: Botany 501.
Physiology, ecology, culture and economic aspects of the algae. Maximum credit six units with three units applicable on a master's degree.

514. Plant Taxonomy (4) II
Two lectures and six hours of laboratory, field trips.
Prerequisite: Botany 200.
The study of variation, primarily in flowering plants; classification, identification, nomenclature, distribution.

526. Plant Pathology (4)
Two lectures and six hours of laboratory.
Prerequisite: Botany 200. Recommended: Botany 502.
A practical course dealing with the principles of disease in plants, control measures, and quarantine procedures. Emphasis is placed on the determination and control measures of those pathogenic organisms which affect crops, trees and shrubs and nursery stock.

530. Plant Physiology (4)
Two lectures and six hours of laboratory.
Prerequisites: Botany 200, Chemistry 200, 200L, 201, 201L, and either 230, 230L, or 231.
The activities of plants, including food manufacture, absorption, conduction, transportation, respiration, growth and movement.

532. Plant Metabolism (3)
Prerequisite: Botany 530 or Biology 502.
An examination of metabolic pathways in plants and their regulation and control.

540. Plant Anatomy (4) II
Two lectures and six hours of laboratory.
Prerequisite: Botany 200.
The arrangement of structural elements within plant organs, with emphasis on cell and tissue types.

562. Agricultural Botany (2)
Field trips to be arranged.
Prerequisite: Botany 200.
California crop plants, their general identification, cultural methods, and regional distribution.

572. Palynology (3)
One lecture and six hours of laboratory.
Principles and methods of pollen and spore diagnosis, with reference to use in taxonomy, paleontology, archaeology, and medicine.

596. Selected Topics in Botany (2-3)
Prerequisite: Consent of instructor.
Selected topics in classical and modern botany. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units with three units applicable on a master's degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.
The Business Administration Program — Admission to Majors

The undergraduate business administration program at San Diego State University is structured such that students desiring a business administration major are admitted to the general business administration major for their first two years of university work. During these first two years students should complete general education courses and a common core of eight lower division preparation for the business major courses — Business Administration 140, Business Law; Business Administration 160, Principles of Information Systems; Business Administration 212, Accounting Fundamentals; Business Administration 260, Written Communications in Business; Economics 101, Principles of Economics (Macro); Economics 102, Principles of Economics (Micro); Mathematics 119, Elementary Statistics; and Mathematics 120, Mathematics for Business Analysis.

After students complete the preparation for the business major core courses listed above with no less than a grade of "C" for any course, they must present evidence of completion of these courses in the form of college or university transcripts or official grade sheets to the Undergraduate Planning and Advising Center in the College of Business Administration. Subsequent to verification of completion of these courses, students must declare a specific business administration major — accounting, finance, information systems, insurance, business administration major — accounting, finance, information systems, insurance, business administration major — accounting, finance, information systems, marketing, or real estate. Students are eligible to take upper division business courses after they have declared a specific area major in business.

Graduation Requirements

The student must complete the requirements listed below for the bachelor's degree. (Refer to the section of this catalog on Graduation Requirements for specific information.)

1. A minimum of 128 semester units for the B.S. degree. No less than 40 percent of these units must be in business and economics, and no less than 40 percent must be in the areas of business administration and economics. Courses outside of these areas may be earned in upper division courses and shall include at least one-half of the major.
2. A minimum of 30 units in residence. Twenty-four of these shall be earned in upper division courses and shall include at least one-half of the major.
3. A scholastic grade point average of 2.0 grade of C on a five-point scale) or better in courses outside of the areas of business administration and economics.
4. At least 36 upper division units for the B.S. degree.
5. One major.
6. Satisfactory completion of competency tests in mathematics and writing, or completion of appropriate courses designated in lieu thereof.
7. All regulations established by the university.
8. American institutions, to include competence in American history, institutions and ideals; U.S. Constitution; and California state and local government.
9. Forty units in general education exclusive of courses in the major.
10. Application for graduation.

The Major

Each major in business administration consists of a pattern of prescribed upper division courses. The minimum number of units required is stated in the description of each major course. Also required as preparation for the major is the lower division prerequisite courses.

For information on general education and other degree requirements, refer to the section of this catalog on Graduation Requirements.

Any student majoring in Business Administration must make sure that 40 percent of the units counting toward graduation are taken outside of the fields of business and economics.
Majors

Accounting Major

With the B.S. Degree in Business Administration

Preparation for the major. Business Administration 140, 180, 210A-210B or 212, 290; Economics 101 and 102; Mathematics 119 and 120 or 150.

Major. A minimum of 43 upper division units to include Business Administration 301 or 302, 310, 311, 312, 323, 335, 370, 405, 410; Economics 320 or 321; and nine units selected from the following (must include two or more of listed accounting courses): Business Administration 314, 340, 411, 412, 414, 415, 417; and all upper division courses except those listed above in the Departments of Finance, Information Systems, Management, and Marketing. A minimum of 40 percent (52 units) must be in course work outside Business Administration and Economics; twelve of these units must be at the upper division level and may be used to meet general education requirements.

Finance Major

With the B.S. Degree in Business Administration

Preparation for the major. Business Administration 140, 180, 210A-210B or 212, 290; Economics 101 and 102; Mathematics 120 or 150; and Economics 201 or Mathematics 119.

Major. A minimum of 40 upper division units to include Business Administration 301 or 302, 310, 321, 323, 325, 327, 350, 370, 405, 423. Economics 490; at least three units from Business Administration 329 and 425; and three units of electives selected from Business Administration and Economics.

Information Systems Major

With the B.S. Degree in Business Administration

Preparation for the major. Business Administration 140, 180, 210A-210B or 212, 280; Business Administration 119; and Mathematics 119 or 120 or 150.


- Personnel and Industrial Relations: Business Administration 452, 453, 460.
- Production and Operations Management: Business Administration 461, 462.
- Organizational Behavior: Business Administration 451, 454.
- Statistics and Management Science: Business Administration 366, 463, 484.

(3) Pattern Requirements Outside the Department of Economics and the College of Business Administration

A minimum of 12 units must be taken in upper division courses outside of the Department of Economics and the College of Business Administration. Acceptable courses at the lower division level are Mathematics 151 or higher and units in a foreign language. These courses must be taken at an accredited college or university.

Marketing Major

With the B.S. Degree in Business Administration

Preparation for the major. Business Administration 140, 180, 210A-210B or 212, 290; Economics 101 and 102; Mathematics 119, 120 or 150, and either Economics 201 or 202.


- Professional Curriculum Within the Major Field: Business Administration 401, 402.

- Pattern Requirements Outside the Department of Economics and the College of Business Administration

A minimum of 12 units must be taken in upper division courses outside of the Department of Economics and the College of Business Administration. Acceptable courses at the lower division level are Mathematics 151 or higher and units in a foreign language. These courses must be taken at an accredited college or university.

Real Estate Major

With the B.S. Degree in Business Administration

Preparation for the major. Business Administration 140, 180, 210A-210B or 212, 290; Economics 101 and 102; Mathematics 119, and Mathematics 120 or 150.

Business Major

For the Single Subject Teaching Credential

All candidates for the single subject teaching credential in business must complete all requirements for the applicable specialization as outlined in this section of the catalog. Students must complete the requirements of a major in one of the five departments within the College of Business Administration. In consultation with the Coordinator of Teacher Education in the College of Business Administration, undergraduate students shall develop programs which fulfill the State credential requirements.

Minors

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Accounting: A minimum of 16 units to include Business Administration 212, 310, 312 and 410.

Business Management: A minimum of 22 units to include Economics 101 and 102, Business Administration 210A-210B or 212, 350; and nine units selected from Business Administration 351 or 352, 356, 380, 459.

Employee Relations: A minimum of 22 units to include Economics 101 and 102, Business Administration 210A-210B or 212, 350, 352; and six units selected from Business Administration 351, 452, 453, 460.

Finance: A minimum of 19 units to include Business Administration 210A-210B or 212, 321, 323, 327, and 329; Mathematics 119.

Information Systems: Twenty-one units required, including Business Administration 140, 342, 348, 441 or 443, and three additional upper division units in business administration with consent of insurance adviser.

Marketing: A minimum of 20 units to include Business Administration 210A, 210B, 370; Economics 101, 102, and 12 units selected from Business Administration 301, 371, 372, 373, 374, 375, 376, 470, 472, 473, 474, 475, and 476.

Production and Operations Management: A minimum of 22 units to include Business Administration 210A-210B or 212, 301 or 302, 350, 360, Business Economics 180, 280, 351, 352, 356, and three units selected from Business Administration 366, 461, 462.

Real Estate: A minimum of 18 units to include Economics 102, Business Administration 140, 331, 335, 433, and three units selected from Business Administration 333, 431, and 437.

Certificate in Business Administration

(Imperial Valley Campus)

This certificate is designed primarily for persons who want to gain an increased understanding of essential principles through upper division business courses, and for finance, accounting, marketing, information systems, insurance, or real estate at the San Diego campus. For those not seeking the B.S. degree it provides a program designed to give upward mobility only in the job.

All students seeking admission to the program must have successfully completed 56 of the lower division units with a grade point average of 2.0. This includes completion Business Administration 140, 180, 210A-210B or 212, 290, Economics 101 and 102, Business Administration 366, 461, 462.

The Certificate will be awarded upon successful completion of the following courses: Business Administration 301 or 302, 323, 350, 370; and three units selected from Business Administration 315, 321, 329, 341, 356, or 389. (15 units.)

LOWER DIVISION COURSES

140. Business Law (3) I, II
Introduction to legal institutions; nature and sources of law; the judicial system; legal concepts and cases involving contracts, agency, and sales.

141. Business Law (3) I, II
Prerequisite: Business Administration 140. Legal concepts and cases to be selected from business organization, negotiable instruments, property, security devices, creditors' rights and bankruptcy, trade regulation, and labor law. Students preparing for public accounting should take Business Administration 340 instead of 141.

150. The Business Enterprise (3) I, II
The business enterprise and its function in society; interrelations of ownership, entrepreneurship, and administration; interactions within the firm and within and among industries.

180. Principles of Information Systems (3)
Introduction to business data processing applications. Basic concepts of computer organization. Flowcharting and programming in a computer language to solve typical business problems.

190. Beginning Typewriting (2)
Four hours. Fundamentals of typewriting. Development of personal-use skills. Not open to students with credit for high school typewriting.

191. Advanced Typewriting (2)
Four hours. Application of typewriting skills in solution of typical business problems.

192. Computational Machines Laboratory (1) I, II
Two hours of laboratory. Laboratory course in figuring and calculating machine principles and operation.

193. Communicative Machines Laboratory (2) I, II
Four hours of laboratory. Laboratory course in communication and duplicating machine principles and operation.

194A-194B. Shorthand (3-3)
Five hours of lecture and activity. Prerequisite: Business Administration 190. Gregg shorthand theory; dictation and transcription.

210A-210B. (2-2) or 212. (4 Accounting Fundamentals I, II
Prerequisite: Business Administration 210A is prerequisite to 210B. Organizing, recording, and communicating economic information relating to business entity.

231. Real Estate Principles and Practices (3) I, II
Functions and regulation of the real estate market; transfers of property including escrows, mortgages, deeds, title insurance; appraisal techniques; financing methods; leases; subdivision development; property management. Prerequisite for major in Real Estate.

280. COBOL Programming (3)
Prerequisite: Business Administration 180. Introduction to COBOL programming. Emphasis on coding techniques, file organization, and report preparation.

290. Written Communications in Business (3) I, II
Principles of effective writing applied to business and industrial situations and to the organization and presentation of reports.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of content.
UPPER DIVISION COURSES
(>ntended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

301. Statistical Analysis for Business (3) I, II
Prerequisites: Mathematics 120; Economics 201 or Mathematics 119.
Statistical methods applied to business decision making.

302. Quantitative Methods (3)
Prerequisites: Mathematics 120; Economics 201 or Mathematics 119.
A study of various management science techniques such as simulation, transportation
and simple linear programming and queuing theory.

305. Scope and Function of Business Education (3) I
Philosophy, scope, and functions of business education; analysis and development of
curricula; instructional foundations of basic business subjects.

310. Intermediate Accounting (4) I, II
Prerequisite: Minimum grade of C in Business Administration 210A-210B or 212.
Theories and principles underlying financial statements and determination of income of
profit-seeking enterprises. Emphasizes asset and liability accounting.

311. Financial Accounting Theory (4) I, II
Prerequisite: Business Administration 310 with minimum grade of C.
Equity accounting issues; theory construction; various income concepts; contemporary
financial accounting issues; statement analyses.

312. Managerial Cost Accounting (4) I, II
Prerequisite: Minimum grade of C in Business Administration 210A-210B or 212.
Management use of accounting data for planning and control; theories and practices of
cost accounting, standard cost systems, distribution analysis, and capital budgeting.

314. Specialized Accounting Problems (4) I, II
Prerequisite: Credit or concurrent registration in Business Administration 311.
Problems involved in partnerships, consignments, consolidations, receivables, foreign
exchange, fund accounting, and other specialized areas.

315. Accounting for Managers (4) I, II
Prerequisite: Business Administration 212 and credit or concurrent registration in
Business Administration 350.
Managerial accounting and financial accounting for nonaccountants. Not open to
students with credit in Business Administration 310 or 312.

321. Managerial Economics (3) I, II
Prerequisite: Completion of lower division course requirements in major or minor.
Role of economic analysis in management decisions. Study of demand, cost, supply
theories from a business viewpoint. Emphasis on managerial decision making.

323. Fundamentals of Finance (3) I, II
Prerequisite: Completion of lower division course requirements in major or minor.
Objectives of financial management. Financing the business enterprise. Introduction
to the cost of capital, valuation, dividend policy, leverage and the
financial techniques of present value and its applications. Sources of capital.

325. Planning of Capital Expenditures (3) I, II
Prerequisite: Business Administration 323 and credit or concurrent registration in 301 or
302.
The capital expenditure decision process. Measuring and evaluating benefits and costs.
Uncertainty in the decision process. Emphasis on quantitative and computer methods in the
decision-making process.

327. Investments (3) I, II
Prerequisite: Business Administration 323.
Investment principles and practices with emphasis on problems of the small investor,
such as tests of a good investment, sources of information, types of stocks and bonds,
and the like. Mechanics of purchase and sale, investment trusts, real estate mortgages, and the like.

329. International Business Finance (3) I, II
Prerequisite: Business Administration 323.
The financing of international business transactions; international payments and their
environment; international financial institutions.

331. Real Estate Development (3) I, II
Prerequisites: Economics 101 and 102, or 303 and 304.
The real estate market; principles of valuation, financing, leasing and property
management. Not open to students with credit for Business Administration 231.

333. Law of Real Property (3) I, II
Prerequisite: Business Administration 231 or 331.
Problems involved in partnerships, consignments, consolidations, receiverships, foreign
exchange, fund accounting, and other specialized areas.

335. Real Estate Institutions and Urban Development (3) I, II
Prerequisite: Business Administration 231 or 331.
The nature of law as a process of resolving economic disputes and social conflicts.
The nature of law as a process of resolving economic disputes and social conflicts.

339. Consumer Law (3) I, II
Prerequisite: Business Administration 140.
Consumer law as it relates to corporate responsibility and consumer protection. Both from
the consumer's and the managerial point of view.

340. Advanced Business Law (3) I, II
Prerequisite: Business Administration 140 and a major in accounting with at least nine
upper division units in accounting.
Problems involving in partnerships, consignments, consolidations, receiverships, foreign
exchange, fund accounting, and other specialized areas.

341. Law in a Business Society (3) I, II
Prerequisite: Business Administration 140.
The nature of law as a process of resolving economic disputes and social conflicts.
The nature of law as a process of resolving economic disputes and social conflicts.

342. General Insurance (3) I, II
Prerequisite: Economics 102.
History of insurance; economic and social implications; principles of insurance
practices; policy making; insurance fields and contracts; theory of risk; law of large numbers.
Survey of all major insurance fields and contracts; theory of risk; law of large numbers.

344. Social Insurance (3) I, II
Prerequisite: Economics 102.
Public assistance; Old age, survivors' disability, and hospitalization insurance; workmen's
compensation; unemployment compensation and disability insurance; social security
laws; Social Security Act; Social Security Administration.

346. Employee Benefit Plans (3) I, II
Prerequisite: Economics 102.
Theory of employee benefit plans and group technique. Group life and health insurance.
Group life and health insurance.

348. Life Insurance Principles and Practices (3) I, II
Prerequisite: Business Administration 342.
Principles of life insurance and annuities; theory of probabilities; premiums, reserves, and
management.
350. Management and Organization (3) I, II
Prerequisite: Completion of lower division courses required in the major or minor.
Concepts of organizing activities to achieve goals. Effects of environment, technology, and human behavior on organization design. Managerial processes including planning, decision making, influence and control required to operate and change organizations.

351. Organizational Behavior (3) I, II
Prerequisite: Business Administration 350.
Human behavior in organizations at the individual, interpersonal and group level including the effect of organization structure on behavior. Emphasis on managerial behavior as it relates to human motivation, influence, leadership, communication, group dynamics and control resolution.

352. Personnel and Industrial Relations (3) I, II
Prerequisite: Business Administration 350.
Management of human resources including manpower planning and staffing, training and development, performance appraisal, compensation and union-management relations.

355. The Corporation in Modern Society (3)
Prerequisite: Upper division standing.
Impact of the corporation in contemporary American life. Emphasis on examining major social issues of corporate-society interaction, and on the social responsibilities of corporations.

360. Fundamentals of Production and Operations Management (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Business Administration 350.
Role of the operations function in the organization. Study of production and operations organizations. Systems analysis, facilities planning, competitive bidding, methods and scheduling and control models.

365. Statistical Methodology for Business Research (3)
Prerequisite: Business Administration 301.
Design and application of quantitative methods related to business research, with an emphasis on factorial analysis of variance, covariance, experimental design, multiple regression, research reporting, and analysis of methodology appearing in business literature.

370. Marketing Principles (3) I, II
Prerequisite: Completion of all lower division course requirements in the major or minor.
Marketing functions, activities of producers, wholesalers, retailers and other middlemen; channels of distribution; integration of marketing activities; price policies; government regulation.

371. Consumer Behavior (3) I, II
Prerequisite: Business Administration 370.
Examination of the nature of markets and of the factors influencing market development and change. Study of the individual consumer's behavior in relation to the selling-buying process.

372. Retailing Principles (3) I, II
Prerequisite: Business Administration 370.
Study of retail stores, emphasizing the problems of store managers and merchandising merchandise, inventory, turnover, and control methods. Problems of profitable operation of executive; store location, organization, personnel, sales promotion, buying and handling of under charges and conditions.

373. Marketing Communication and Promotion (3)
Prerequisite: Business Administration 370.
Management of the marketing communication function. Topics include advertising and publicity; consumer behavior and analysis; and consumer education and promotional technique.
410. Federal Income Tax (4), (I, II)
Prerequisite: Minimum grade of "C" in Business Administration 310 or 315.
Taxation of individuals, including income, deductions, credits, social security taxes, and property transactions.

411. Federal Income Tax II (3), (I, II)
Prerequisite: Business Administration 410.
Taxation of corporations, partnerships, estates, and trusts. Gift and estate tax.

412. Advanced Managerial Accounting (3), (I, II)
Prerequisite: Business Administration 302 and 312.
Use of accounting information systems for managerial decision making. Introduction to decision making situations which use accounting information for full or partial resolution. Consideration of uncertainty, decision theory and specific decision contexts.

414. Auditing (4), (I, II)
Prerequisite: Business Administration 311, 312 and 314.
Consideration of internal control in the design of accounting systems; flow-charting techniques; duties, ethics and responsibilities of the auditor; procedures for verification of financial statements; auditors reports.

415. Governmental Accounting (2), (I, II)
Prerequisite: Business Administration 310.
Principles of fund accounting useful in state and local governmental units, hospitals, colleges, and universities. Comparisons with commercial accounting emphasized. Includes study of budgetary accounting, appropriations, encumbrances, internal checks and auditing procedures.

417. Advanced Accounting Problems (3), (I, II)
Prerequisite: Business Administration 414.
An intensive review of the accounting principles and procedures covered in the accounting theory and accounting practice sections of the uniform C.P.A. examination prepared by the American Institute of Certified Public Accountants.

421. Security Analysis and Investment Strategies (3), (I, II)
Prerequisite: Business Administration 327.

423. Financial Analysis and Management (3), (I, II)
Prerequisite: Business Administration 352 and Economics 490.

425. Business Forecasting (3), (I, II)
Prerequisite: Business Administration 323, 370, and 301 or 302.
Business fluctuations, forecasting, and related problems confronting the business firm; forecasting techniques; specific forecasts. The use of forecasts in the firm.

431. Real Estate Finance (3), (I, II)
Prerequisite: Business Administration 231 or 331.
Methods of financing real estate; sources of real estate credit; loan servicing; governmental financial agencies; acquisition and sale of mortgages and trust deeds.

433. Theory of Real Property Valuation (3), (I, II)
Prerequisite: Business Administration 335.
Introduction to the theories of real property value. Techniques of value determination. Data analysis techniques.

435. Real Estate Appraisal Problems (3), (II)
Prerequisite: Business Administration 420.
Implementation of advanced value theory and appraisal technique in the solution of valuation problems involving condemnation, and industrial, commercial, land, and special purpose properties.

437. Housing, Renewal and Real Estate Dynamics (3)
Prerequisite: Business Administration 231 or 331.
Examination of residential behavior in the housing sector. Models of the housing market; Housing quality, social aspects of housing; Urban renewal and relocation. Low income housing. Public housing. Governmental involvement in the housing sector. Community and environmental factors.

441. Property Insurance (3)
Prerequisite: Business Administration 342.
Standard forms of property insurance including fire and allied lines, business interruption and consequential loss coverages, inland marine, and ocean marine. Other areas including marketing, underwriting, investment, rate making, loss adjusting, reinsurance, and government regulation.

443. Casualty Insurance (3), (II)
Prerequisite: Business Administration 342.
Basis for legal liability. Identification of personal business and professional liability situations, liability risk management. Analysis of major liability insurance contracts including automobile, malpractice, general liability, workers' compensation. Other areas including underwriting, rating, regulation, and reserves of casualty insurers.

445. Estate Planning (3), (I, II)
Prerequisite: Business Administration 414.
Program fundamentals with emphasis on economic, actuarial, and legal principles. Concepts, theories, and techniques of managerial innovation and implementation.

450. Venture Management (3)
Prerequisite: Senior standing.
Process of initiating, expanding, purchasing, and consolidating businesses. Concepts, theories, and techniques of managerial innovation and implementation.

451. Organization Theory and Analysis (3)
Prerequisite: Business Administration 351.
Organizations as systems. Analysis of the impact of technological, structural and administrative factors on management.

452. Wage and Salary Administration (3), (I, II)
Prerequisite: Business Administration 352.
Major problems in the determination and control of compensation from employment. Comparison of underlying theory to current practice.

453. Union-Management Relations (3), (I, II)
Prerequisite: Business Administration 352.
Relationships and interactions among unions, workers, and management. Emphasis on interpersonal perception, communication, group dynamics, influence from a managerial perspective.

454. Interpersonal Processes (3)
Prerequisite: Business Administration 354.
Interpersonal aspects of management: interpersonal perception, communication, group dynamics, influence from a managerial perspective.

455. American Business History (3)
Prerequisite: Senior standing.

456. Conceptual Foundations of Business (3), (I, II)
Prerequisite: Senior standing.

457. Applications in Management (1-3), (I, II)
Prerequisite: Business Administration 350 and concurrent registration in Business Administration 351, 352, 350 or 458.
Developing specific skills in areas of management.
469. Business Policy (3) I, II
Prerequisites: Senior standing and consent of instructor. Formula­tion and administration of policy; integration of the various specialties in business; development of overall management viewpoint.

470. Personnel Staffing and Development (3) I, II
Prerequisite: Business Administration 352. Design of personnel activities for matching people and jobs. Includes development of techniques for personnel planning, staffing, appraisal, and development. Environmental constraints including legal and market forces.

471. Systems and Methods Analysis (3) I, II
Two lectures and three hours of laboratory. Examination of systems approach as applied to methods analysis and work measurement. Modeling, analysis, synthesis, and management of systems. Analysis of case studies.

Prerequisites: Business Administration 301 or 302, and 360. Problems in the design of single- and multiple-product, integrated production and inventory control systems. Detailed and aggregate scheduling of operations under deterministic and stochastic demand conditions.

473. Advanced Quantitative Methods (3)
Prerequisite: Business Administration 302. The derivation and application of management science techniques to management decision making. Simulation of static and dynamic models. Development of advanced linear and nonlinear programs.

474. Management Science (3)
Prerequisite: Business Administration 302. Study of current applications of operations research techniques to the solution of business and industrial problems. Readings, projects, cases, and field work as appropriate.

475. Marketing Research (3) I, II
Prerequisites: Business Administration 301 and 370. Formal research techniques and analysis for marketing decisions; principles of decision making.

476. Marketing Research Laboratory (1)
Three hours of laboratory. Prerequisite: Business Administration 470. Applications of market research techniques to selected topics. Uses and limitations of various methods of analysis. Orientation and use of computer center is included.

477. Advertising Management (3)
Prerequisites: Business Administration 371 and 373. The management of the advertising and sales promotion function.

478. Sales Management (3) I, II
Prerequisite: Business Administration 370. Consideration of the structure of sales organization; sales policies; selection, training, compensation, evaluation and control of the sales force; sales analysis; sales quotas; sales costs and budgets; markets and product research and analysis; coordination of personal selling with other forms of sales effort.

479. Industrial Marketing (3) I, II
Prerequisites: Business Administration 350 and 370. Study of industrial products and services and how they are marketed; classifications of industrial products and customers; buying procedures; applications of marketing research; analysis of industrial product planning; industrial channels of distribution; industrial promotion applications and pricing practices.

480. Data Base Management Systems (3)
Prerequisite: Business Administration 380. Fundamentals of systems flow charting and computer programming; computer applications to typical automated data processing problems.

481. Data Processing Practicum (3) I, II
Prerequisites: Business Administration 301, 383, 480. Formal research techniques and analysis for marketing decisions; principles of decision making. Simulation of static and dynamic models. Development of advanced linear and nonlinear programs.

482. Investigation and Report (1-3) I, II
Prerequisite: Consent of instructor. Complex cases in marketing involving analysis of business situations. May be repeated with new content with consent of instructor. Maximum credit six units.

483. Selected Topics in Business Administration (1-4) I, II
Prerequisite: Consent of Dean of College of Business Administration. Selected areas of concern in business administration, see Class Schedule for specific content. May be repeated with new content with consent of Dean of College of Business Administration. Maximum credit six units.

484. Special Study (1-3) I, II
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.
Chemistry
In the College of Sciences

The department is on the approved list of the American Chemical Society.

Faculty
Emeritus: Harrington, Joseph, Robinson, Rowe, Wick
Chair: Jones
Professors: Abbott, Bennett, Cobble, Coffey, Grubbs, Hellberg, Isensee, Jensen, Jones, Landis, Malik, Malley, Mathewson, O'Neal, Richardson, Ring, Roeder, Sharts, Spangler, Steward, Wadsworth, Walba, Woodson
Associate Professors: Dahms, Leberher, Assistant Professor: Chatfield
Lecturer: Wall

Offered by the Department
Doctor of Philosophy degree in chemistry.
Master of Arts degree in chemistry.
Master of Science degree in chemistry.
Major in chemical physics with the B.S. degree in applied arts and sciences.
Major in chemistry with the B.S. degree in applied arts and sciences with the Certificate of the American Chemical Society.
Major in chemistry with the A.B. degree in applied arts and sciences, with or without the Certificate of the American Chemical Society.
Single subject teaching credential in physical sciences in the area of chemistry.

Chemical Physics Major
With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major. Chemistry 200*, 200L*. 201*, 201L*, 231, 231L and 251*; Mathematics 150, 151, and 152; Physics 195, 195L, 196, 196L, 197, 197L. (43 units)

Major. Thirty-nine upper division units to include Chemistry 407, 410A-410B, 431, 431L, 437, 457A-457B, 520A, 550, 560A, one unit of 498, and 11 units of upper division electives in chemistry. Six of the 11 units may be in related subjects with the approval of the department.

Chemistry Majors
In Applied Arts and Sciences
Three majors in chemistry are offered in applied arts and sciences, as follows:
(1) Chemistry major with the B.S. degree and Certificate of the American Chemical Society, a program designed to qualify graduates for many types of positions as chemists and for admission to graduate work in chemistry;
(2) Chemistry major with the A.B. degree and Certificate of the American Chemical Society, a program designed to prepare students for graduate work in chemistry; and
(3) Related Professions major, a program available only to students who are taking a premedical or preental curriculum.

Certificate of the American Chemical Society
The department of Chemistry is on the approved list of the American Chemical Society. Programs leading to a chemistry major with the B.S. degree or the A.B. degree are designed to meet the standards prescribed for the Certificate of the American Chemical Society. The program leading to the Related Professions major is not offered with the Certificate.

Chemistry Major
With the B.S. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

The curriculum outlined below for the B.S. degree in applied arts and sciences is based upon the recommendations of the Committee for Professional Training of Chemists of the American Chemical Society. It qualifies graduates for many types of positions as chemists and provides the training required by most universities for admission to graduate work in chemistry.

Preparation for the major. Chemistry 200*, 200L; 201*, 201L, 231, 231L, 251*; Mathematics 150, 151, and 152; and Physics 195, 195L, 196, 196L, 197, 197L. (44 units)

Major. A minimum of 36 upper division units to include Chemistry 407, 410A-410B, 431, 431L, 437, 457A-457B, 520A, 550, 560A, one unit of 498, and 11 units of upper division electives in chemistry. Six of the 11 units may be in related subjects with the approval of the department.

Chemistry 204A-204B replaces Chemistry 200, 200L, 201, 201L, and 251.

OUTLINE FOR THE B.S. DEGREE AND CERTIFICATE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 200, 200L</td>
<td>5</td>
<td>5</td>
<td>Chemistry 231, 231L</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Chemistry 201, 201L</td>
<td>5</td>
<td>5</td>
<td>Chemistry 237-457</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Mathematics 150, 151</td>
<td>5</td>
<td>5</td>
<td>Chemistry 251</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Physics 195, 195L</td>
<td>5</td>
<td>5</td>
<td>Chemistry 410A</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>General Education</td>
<td>6</td>
<td>3</td>
<td>Chemistry 431, 431L</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Physical Activities</td>
<td>1</td>
<td>1</td>
<td>Mathematics 152</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Chemistry 237-437</td>
<td>1</td>
<td>1</td>
<td>Physics 198, 198L</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Chemistry 251</td>
<td>1</td>
<td>1</td>
<td>Physics 197, 197L</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>General Education</td>
<td>17</td>
<td>17</td>
<td>General Education</td>
<td>17</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 407</td>
<td>3</td>
<td>3</td>
<td>Chemistry 457A-457B</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry 410B</td>
<td>3</td>
<td>3</td>
<td>Chemistry 498</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 550</td>
<td>2</td>
<td>2</td>
<td>Chemistry Electives</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 560A</td>
<td>3</td>
<td>3</td>
<td>General Education</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>6</td>
<td>6</td>
<td>General Education</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Electives</td>
<td>15</td>
<td>15</td>
<td>General Electives</td>
<td>17</td>
<td>15</td>
</tr>
</tbody>
</table>

* Chemistry 204A-204B replaces Chemistry 200, 200L, 201, 201L, and 251.

† Refer to catalog section on General Education requirements.
‡ Some students will be required to take Mathematics 104 or 140 or both in their first semester because of failure to qualify on the mathematics placement examination. The appropriate number of units should then be substituted from General Electives.
§ Students are advised to choose the appropriate course in the Humanities or Social Science sections of General Education to meet half of this six-unit requirement. If the requirement is met entirely by examination, add three units to General Education and these units to General Electives.

Student who must begin with Mathematics 140 or more failure to meet the standards prescribed for the Certificate of the American Chemical Society. The program leading to the Related Professions major is not offered with the Certificate.
Chemistry Major

With the A.B. Degree in Applied Arts and Sciences and Certificate of the American Chemical Society

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

A minor is not required with this major.

Preparation for the major. Chemistry 200*, 200L*, 201*, 201L*, 231, 231L, 237, and 251*; Mathematics 150, 151, and 152; and Physics 195, 195L, 196, 196L, 197, 197L (44 units).

Major. A minimum of 25 upper division units in chemistry to include Chemistry 407, 410A-410B, 431, 431L, 437, 457A-457B, 520A, 550; one unit of 498; and three units of upper division electives in chemistry to be selected from Chemistry 510, 520B, 530, 537, 560A.

*Chemistry 204A-204B replaces Chemistry 200, 200L, 201, 201L, and 251.

OUTLINE FOR THE A.B. DEGREE AND CERTIFICATE

<table>
<thead>
<tr>
<th>Units</th>
<th>1st Sem.</th>
<th>2nd Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 200, 200L</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mathematics 104, 140, 150</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physics 195, 195L</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>General Education</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Physical Activities</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Second year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 231, 231L</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Chemistry 237-437</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Third year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 407</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 410A-410B</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 550</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>American Institutions</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Fourth year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 457A-457B</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry 498</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Chemistry Electives</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>General Electives</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>General Education</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

1. Units in Physical Sciences as listed under the Natural Science requirement.
2. All candidates for a B.S. degree in Single Subject Teaching Credential in Physical Science as listed under the College of Education shall complete the graduation requirements as outlined in the section of the catalog under the College of Education.

Chemistry Major

For the Single Subject Teaching Credential in Physical Sciences

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. All candidates for a teaching credential must complete all requirements for a major for either the A.B. or the B.S. degree in Applied Arts and Sciences, and must satisfy the requirements for a Physical Science Major for the Single Subject Teaching Credential in Physical Science as listed under the Natural Science Department.

Chemistry Minor

The minor in chemistry consists of 24 units in chemistry to include Chemistry 200*, 407, 410A-410B, 431, 431L, 437, 457A-457B, 520A, 550; seven units of electives in chemistry. Chemistry 361A-361B or 560A-560B is recommended for all premedical students.

Minor. A minor in biology or zoology is expected for preprofessional students.

* Chemistry 204A-204B replaces Chemistry 200, 200L, 201, 201L, and 250.

** Additional prerequisites in mathematics and physics required for these courses.

Graduation with Distinction

A student desiring to graduate with Distinction in Chemistry must meet the university.

LOWER DIVISION COURSES

100. Introductory General Chemistry (3) I, II
Prerequisite: Concurrent registration in Chemistry 100L, 200L.
Elementary principles of chemistry. Not open to students with credit in Chemistry 200.

100L. Introductory General Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Concurrent registration in Chemistry 100.
Chemistry 100 and 100L are prerequisites.

107. Glass Blowing (1) I, II
Three hours of laboratory.
Prerequisite: Chemistry 201 and 201L.
Elementary training in the manipulation of glass.

130. Elementary Organic Chemistry (2) I, II
Prerequisites: Concurrent registration in Chemistry 130L; Chemistry 100, 100L, or 200.
Introduction to the compounds of carbon including both aliphatic and aromatic compounds. Not open to students with credit in Chemistry 201 or 201L.

108. Chemistry 100B. }
130L. Elementary Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Concurrent registration in Chemistry 130. Chemistry 130 and 130L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

160. Introductory Biochemistry (3) I, II
Prerequisite: Chemistry 130 and 130L.
Fundamental principles of the chemistry of living processes. This course intended primarily for majors in home economics, nursing, and related fields.

200. General Chemistry (3) I, II
Prerequisites: Concurrent registration in Chemistry 200L. High school chemistry or a grade of "C" or better in Chemistry 100, 100L; and two years of college preparatory mathematics.
General principles of chemistry with emphasis on inorganic materials. Duplicate credit will not be allowed for the corresponding course in Chemistry 204A. Students with credit for both Chemistry 100, 100L and 200, 200L will receive a total of 5 units of credit toward graduation. (Formerly numbered Chemistry 200A.)

200L. General Chemistry Laboratory (2) I, II
Six hours of laboratory.
Prerequisite: Concurrent registration in Chemistry 200. Chemistry 200 and 200L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

201. General Chemistry (3) I, II
Prerequisites: Chemistry 200, 200L, or 204A. Concurrent registration in Chemistry 201L.
Continuation of Chemistry 200. General principles of chemistry with emphasis on inorganic materials and quantitative analysis. Duplicate credit will not be allowed for the corresponding course in Chemistry 202 or 204B. (Formerly numbered Chemistry 200B.)

201L. General Chemistry Laboratory (2) I, II
Six hours of laboratory.
Prerequisite: Concurrent registration in Chemistry 201. Chemistry 201 and 201L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

202. General Chemistry for Engineers (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Chemistry 200 and 200L.
A continuation of the study of the principles of chemistry with emphasis on the relationships to the field of engineering. Open only to engineering majors. Not open to students with credit in Chemistry 201 and 201L. (Formerly numbered Chemistry 201.)

204A-204B. Chemical Principles and Techniques (Honors) (5-5)
Three lectures and six hours of laboratory.
Prerequisites: High school chemistry, physics, and mathematics, superior qualification on both the Chemistry and the Mathematics Placement Examinations and high ranking on the ACT or SAT tests. Permission card from the department is required for registration in this course.
The application of modern electronic theory to the study of general chemistry with emphasis in the laboratory on analytical methods. Qualitative and quantitative analysis is included. Chemistry 204A takes the place of Chemistry 200, 200L, 201, 201L, and 251.

230. Introductory Organic Chemistry (3) I, II
Prerequisite: Concurrent registration in 230L. Chemistry 201 and 201L.
Aliphatic and aromatic compounds including reaction mechanisms. For students needing 228 and 231.

230L. Introductory Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Concurrent registration in Chemistry 230. Chemistry 230 and 230L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

231. Organic Chemistry (3) I, II
Prerequisite: Concurrent registration in 231L. Chemistry 201 and 201L.
Properties and synthesis of organic compounds including reaction mechanisms. First half of a year course. Not open to students with credit in Chemistry 230 and 230L.

231L. Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Concurrent registration in Chemistry 231. Chemistry 231 and 231L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

237. Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisites: Concurrent registration in 231L. Chemistry 231 and 231L.
Properties and synthesis of organic compounds including reaction mechanisms. First half of a year course. Not open to students with credit in Chemistry 230 and 230L.

260. Analytical Chemistry (4) I, II
Three hours of laboratory.
Prerequisite: Chemistry 201, 201L, or 202.
Fundamentals of gravimetric, volumetric and instrumental methods of chemical analysis. Not applicable to B.S. and A.B. degrees and Certificate of the American Chemical Society for chemistry majors. Not open to students with credit in Chemistry 251.

261. Analytical Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisites: Concurrent registration in Chemistry 260. Chemistry 260 and 261L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

301. Chemical Principles in Environmental Protection (3) I, II
Three lectures and two hours of discussion.
Prerequisites: Completion of natural sciences requirements under the Foundations of Learning component of General Education.
Review of fundamental chemical concepts and their application to problems in environmental degradation and resource depletion. Not open to chemistry majors. (Formerly numbered Chemistry 101A.)

302. Chemistry and Society (3) I, II
Two lectures and two hours of discussion.
Prerequisites: Completion of natural sciences requirements under the Foundations of Learning component of General Education. Recommended: Chemistry 130.
Apprise students with an understanding of the field of chemistry and its potential for solving some of the world's pressing issues. (Formerly numbered Chemistry 101B.)

310A-310B. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 310A: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

310A. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 310A: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

311. Chemical Principles in Environmental Protection (3) I, II
Three lectures and two hours of discussion.
Prerequisites: Completion of natural sciences requirements under the Foundations of Learning component of General Education.
Review of fundamental chemical concepts and their application to problems in environmental degradation and resource depletion. Not open to chemistry majors. (Formerly numbered Chemistry 101A.)

312. Chemistry and Society (3) I, II
Two lectures and two hours of discussion.
Prerequisites: Completion of natural sciences requirements under the Foundations of Learning component of General Education. Recommended: Chemistry 130.
Apprise students with an understanding of the field of chemistry and its potential for solving some of the world's pressing issues. (Formerly numbered Chemistry 101B.)

313A. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 313A: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

313B. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 313B: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

314A. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 314A: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

314B. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 314B: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

315A. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 315A: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

315B. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 315B: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

316A. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 316A: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.

316B. Fundamentals of Physical Chemistry (3-3)
Prerequisites for 316B: Chemistry 260, Mathematics 122, and Physics 124A and 125B.
Not open to students with credit in Chemistry 410A.
Not open to students with credit in Chemistry 410B.
Theoretical and experimental study of the application of physical methods to the analysis of chemical systems. Not applicable to the A.B. and B.S. major in chemistry.
190 / Chemistry

361A-361B. Fundamentals of Biochemistry (3-3) I, II
Prerequisites: Chemistry 230, 230L, or 231, 231L, and 250 or 251.
The chemistry of intermediary metabolism and its regulation. Not open to students with credit in Chemistry 560A-560B.

407. Problem Solving in Chemistry (1) I, II
Three hours of laboratory.
Prerequisites: Chemistry 231, 231L and 251.
Acquisition and statistical analysis of data and experimental design. (Formerly numbered Chemistry 207.)

410A-410B. Physical Chemistry (3-3) I, II
Prerequisites: Chemistry 251, Mathematics 152, and credit or concurrent registration in Physics 197 and 197L. Not open to students with credit in Chemistry 310A or 310B.
Theoretical principles of chemistry with emphasis on mathematical relations.

431. Organic Chemistry (3) I, II
Prerequisites: Concurrent registration in 431L. Chemistry 231 and 231L.
A continuation of Chemistry 231.

431L. Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Concurrent registration in Chemistry 431. Chemistry 431 and 431L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

437. Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Open only to students enrolled concurrently in Chemistry 431 and 431L.
The theory and practice of laboratory operations.

457A-457B. Advanced Laboratory Techniques (2-2) I, II
Six hours of laboratory.
Prerequisite: For 457A: Credit or concurrent registration in Chemistry 407 and 550.
Chemistry 457A is prerequisite to 457B.
Instrumental methods and physical chemistry concepts applied to advanced projects in chemistry. Emphasis on maintenance of the laboratory notebook with some report writing.

467. Biochemistry Laboratory (2) I, II
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Chemistry 361A or 560A.
The theory and practice of laboratory procedures used in the study of intermediary metabolism. Includes the purification of enzymes, radioactivity tracer techniques, and the isolation of cell components.

468. Selected Topics in Chemistry (1-4)
Prerequisite: Consent of instructor.
Selected topics in modern chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

488. Senior Project (1-3) I, II Cr/NC
Prerequisites: Three one-year courses in chemistry and senior standing.
An individual investigation and report on a problem. Maximum credit six units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor. Open only to students who have shown ability to do A or B work in Chemistry.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

500A-500B. Principles of Chemical Engineering (3-3)
(Same course as Mechanical Engineering 584A-584B)
Prerequisite: Credit or concurrent registration in Mechanical Engineering 350 or Chemistry 310A or 410A.
Industrial stoichiometry, fluid flow and heat transfer as applied to unit operations such as evaporation, distillation, extraction, filtration, gas-phase mass transfer, drying, and others.

501. Chemical Oceanography (3)
Three lectures and occasional field trips.
Prerequisite: Credit or concurrent registration in Chemistry 310B or 410B.
The application of the fundamentals of chemistry to the study of oceans.

502. Chemical Literature (1)
Prerequisite: Upper division standing in chemistry.
An introduction to the availability, scope and use of the chemical literature.

510. Advanced Physical Chemistry (3)
Prerequisite: Chemistry 410B.
Mathematical tools essential to solving problems in chemical thermodynamics, statistical mechanics, chemical kinetics, quantum chemistry and molecular structure and spectroscopy, with applications.

520A. Inorganic Chemistry (3) I, II
Prerequisite: Credit or concurrent registration in Chemistry 310B or 410B.
The physical basis of the periodic system; complex inorganic compounds, and the nature of the chemical bond.

520B. Inorganic Chemistry (3) II
Prerequisite: Chemistry 520A.
An advanced systematic study of representative and transition elements and their compounds.

530. Theoretical Organic Chemistry (3) I, II
Prerequisites: Chemistry 310A or 410A, and 431 and 431L.
Advanced theory of chemical instrumentation.

531. Organic Qualitative Analysis (4)
Two lectures and six hours of laboratory.
Prerequisites: Chemistry 431, 431L, and credit or concurrent registration in Chemistry 310A or 410B. Recommended for advanced chemical analysts. Nucler magnetic resonance spectroscopy, infrared, ultraviolet and other instrumentation, application and interpretation of data.

532. Radiochemical Analysis (4)
Two lectures and six hours of laboratory.
Prerequisite: Chemistry 310A or 410A.
Principles and techniques of radioactivity applied to the various fields and problems of chemistry. Instrumentation, tracer application, activation analysis, nuclear reactions and radioactivity.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Chinese
In the College of Arts and Letters

Faculty
Associate Professor: Woo

Offered by the Department of Classical and Oriental Languages and Literatures
Courses in Chinese.
Major or minor work in Chinese is not offered.

LOWER DIVISION COURSES
Native speakers of Mandarin Chinese will not receive credit for taking lower division courses except with advance approval from the department.
No credit will be given for Chinese 101, 202, 303, 304 taken out of sequence.

101. Elementary (4)
Four lectures and one hour of laboratory.
Prerequisites: Mandarin Chinese.
Essentials of oral practice, readings on Chinese culture and civilization, minimum essentials of grammar.

202. Elementary (4) II
Four lectures and one hour of laboratory.
Prerequisite: Chinese 101.
Continuation of Chinese 101.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Reserved for Undergraduates)

303. Readings in Contemporary Chinese (4)
Readings in contemporary authors: poetry, short stories, essays.
Prerequisite: Chinese 202.

304. Readings in Chinese (4) II
Prerequisite: Chinese 303.
Readings ranging from classical to contemporary sources.

450. Advanced Reading in Chinese (3-4)
Prerequisite: Chinese 304.
Extended, intensive reading in Chinese with emphasis on style, content, interpretation. May be repeated with new content. See Class Schedule for specific content. Maximum credit nine units.

496. Topics in Chinese Studies (1-4)
Topics in Chinese language, literature, culture, and linguistics. May be repeated with new content. See Class Schedule for specific content. Maximum credit eight units.

499. Special Study (1-3) II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

Classical and Oriental Languages and Literatures
In the College of Arts and Letters

Faculty
Chair: Genovese
Professors: Genovese, Piffard, Schaber, Warren
Associate Professor: Eisner
Assistant Professor: Geller
Lecturers: Marsh, Rabson

Offered by the Department
Major in classics with the A.B. degree in liberal arts and sciences. (Refer to this section of the catalog under classics.)
Teaching major in classics (concentration in Latin) for the single subject teaching credential in foreign languages. (Refer to this section of the catalog under classics.)
Minor in classical humanities. (Refer to this section of the catalog under classics.)
Minor in classics. (Refer to this section of the catalog under classics.)
Courses in Chinese. (Refer to this section of the catalog under classics.)
Courses in classics. (Refer to this section of the catalog under classics.)
Courses in Greek. (Refer to this section of the catalog under classics.)
Courses in Hebrew. (Refer to this section of the catalog under classics.)
Courses in Japanese. (Refer to this section of the catalog under classics.)
Courses in Latin. (Refer to this section of the catalog under classics.)

Classics
In the College of Arts and Letters

Faculty
Emerita: Burnett
Professors: Genovese, Piffard, Schaber, Warren
Associate Professor: Eisner
Lecturer: Marsh

Offered by the Department of Classical and Oriental Languages and Literatures
Major in classics with the A.B. degree in liberal arts and sciences.
Teaching major in classics (concentration in Latin) for the single subject teaching credential in foreign languages.
Minor in classical humanities.
Minor in classics.

Classics is the discipline which embraces the study of all aspects of ancient Greek and Roman civilizations, especially literature. The foundation and basic tool for a fuller appreciation of classical culture is a familiarity with ancient Greek or Latin. Courses marked with the letters "G" or "L" are language courses in Greek or Latin and therefore satisfy foreign language requirements. Courses referred to as "classics" require no knowledge of Greek or Latin and are taught entirely in English.

High School Equivalents

High school foreign language courses may be used for purposes of placement in college courses and may be counted toward meeting the foreign language requirement in various majors. These high school courses will not count as college credit toward graduation.

The first two years of high school Latin may be counted as the equivalent of Classics 101L, three years the equivalent of Classics 202L. The last year-course taken by a student in 101L, three years the equivalent of Classics 202L. The last year-course taken by a student in 101L, three years the equivalent of Classics 202L. The last year-course taken by a student in 101L, three years the equivalent of Classics 202L. The last year-course taken by a student in 101L, three years the equivalent of Classics 202L. The last year-course taken by a student in 101L, three years the equivalent of Classics 202L.
Classics Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Concentration in Classical Humanities

Preparation for the major. Choice of Classics 101G and 202G, Classics 250G, Classics 101L and 202L, or Classics 250L. (8-10 units.) Students should note that a number of the upper division required and recommended courses listed below have lower division prerequisites, but these prerequisites do not constitute requirements per se for the completion of the major.

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major plus one language course in the upper division.

Major. A minimum of 30 upper division units to include Classics 320, 330, History 500A-500B, and Philosophy 301 (prerequisites are waived for students in this major); six upper division units from classics, Anthropology 478, Art 568, Religious Studies 310, or Speech Communication 350; six units of Greek or Latin; and nine units of Classics 499 as a directed senior project.

Minor. A minor in art (history), comparative literature, English, foreign language, history, philosophy, or religious studies is recommended with this major.

Concentration in Greek

Preparation for the major. Classics 101G-202G or Classics 250G. (8-10 units.)

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major plus one language course in the upper division.

Major. A minimum of 30 upper division units to include Classics 320 and History 500A-500B, nine additional units selected from classics, History 500A, or Philosophy 301; and 12-15 units of Greek.

Minor. A minor in art (history), comparative literature, English, foreign language, history, philosophy, or religious studies is recommended with this major.

Concentration in Latin

Preparation for the major. Classics 101L-202L, or Classics 250L. (8-10 units.)

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major plus one language course in the upper division.

Major. A minimum of 30 upper division units to include Classics 320 and History 500A-500B, nine additional units selected from classics, History 500A, or Philosophy 301; and 12-15 units of Latin.

Minor. A minor in art (history), comparative literature, English, foreign language, history, philosophy, or religious studies is recommended with this major.

Concentration in Greek and Latin

Preparation for the major. Classics 101L and 202L, or Classics 250L. (16-20 units.)

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major plus one language course in the upper division.

Major. A minimum of 30 upper division units to include Classics 320; nine additional units selected from classics, History 500A, 500B, or Philosophy 301; nine units of Greek; and nine units of Latin.

Minor. A minor in art (history), comparative literature, English, foreign language, history, philosophy, or religious studies is recommended with this major.

Classics Major (Concentration in Latin)

For the Single Subject Teaching Credential in Foreign Languages

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. This major may be used by students in teacher education as an undergraduate major for the A.B. degree in liberal arts and sciences.

Preparation for the major. Classics 101L and 202L. (10 units)

Major. A minimum of 30 upper division units to include Classics 320 and History 500B; nine additional units selected from classics, History 500A, or Philosophy 301; and 15 units in Latin to include three units of Classics 499L as a course in teaching techniques.

Classical Humanities Minor

The minor in classical humanities consists of a minimum of 15 units, 12 of which must be upper division. Lower division units may be selected from the following courses in classics: Classics 120, 130, 140, 299. Three to nine upper division units must be selected from courses in each of the following three subject areas:

Literature: Classics 310, 320, 330, 350, 496, 499.

Civilization: Classics 340, 486, 495, History 500A, 500B.

Related Disciplines: Anthropology 478; Art 568; Philosophy 301; Religious Studies 310; Speech Communication 350.

Students should note that some of these upper division courses have lower division prerequisites, but these prerequisites do not constitute requirements per se for completion of the minor.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Classics Minor

The minor in classics consists of a minimum of 15-22 units, 12 of which must be upper division and nine of which must be in Latin or in Greek. Lower division units may be selected from courses in one of the following two subject areas:

Greek Language: Classics 101G, 202G, 250G.

Latin Language: Classics 101L, 202L, 250L.

Three to nine upper division units may be selected from courses in one of the following two subject areas:


Latin Language: Classics 303L, 304L, 440L, 496L, 499L, 550L.

Three to nine upper division units may be selected from courses in each of the following two areas:

Literature: Classics 310, 320, 330, 350, 496, 499.


Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

No credit will be given for Classics 101G, 202G, 303G, 304G taken out of sequence.

No credit will be given for Classics 101L, 202L, 303L, 304L taken out of sequence.

101G. Elementary Greek I (5)1

Introduction to ancient Greek, emphasizing grammatical foundations of New Testament and Attic prose. Aimed toward rapid comprehension. (Formerly numbered Greek 101)

101L. Elementary Latin I (5)1

Introduction to Latin, emphasizing grammatical foundations of classical prose. Aimed toward rapid comprehension. Not open to students who have completed three years of high school Latin. (Formerly numbered Latin 101)

120. Latin and Greek Word Derivation (3)1, II

A general and elementary course in philology, emphasizing frequently occurring Latin and Greek bases and their English derivatives. (Formerly numbered Classics 220)
130. Scientific Terminology (3) I
   Etymological and grammatical analysis of scientific terminology of Greek and Latin
derivation. (Formerly numbered Classics 250)

140. The Heritage of Greece and Rome (3) I, II
   Greek and Roman art, literature, and institutions as reflected in the Western tradition.
   (Formerly numbered Classics 270)

202G. Elementary Greek II (5) II
   Prerequisite: Classics 101G.
   Continuation of Greek grammar with selections illustrating syntax and style. (Formerly
   numbered Greek 202)

202L. Elementary Latin II (5) II
   Prerequisite: Classics 101L.
   Continuation of Latin grammar with selections illustrating syntax and style. Not open to
   students who have completed four years of high school Latin. (Formerly numbered Latin
   202)

250G. Accelerated Elementary Greek (8) II
   Not open to students with credit in Classics 101G and 202G.
   Intensive one-semester introduction to ancient Greek, emphasizing basic grammar,
vocabulary, syntax. Preparation for Classics 303G. (Formerly numbered Greek 250)

250L. Accelerated Elementary Latin (8) II
   Not open to students with credit in Classics 101L and 202L; not open to students who
   have completed four years of high school Latin.
   Intensive one-semester introduction to Latin, emphasizing basic grammar, vocabulary,
syntax. Preparation for Classics 303L. (Formerly numbered Latin 250)

299. Experimental Topics (1-4)
   Selected topics. May be repeated with new content. See Class Schedule for specific
   content. Maximum nine units. (Formerly numbered Classics 102)

300G. Classical Drama (3) I, II
   Reading in translation of Greek and Roman tragedies and comedies. Plays selected from
   Aeschylus, Sophocles, Euripides, Aristophanes, Plautus, Seneca. Literary, dramatic, structural
   criticism.

301. Classical Civilization (3) I
   Greek and Roman civilization from Bronze Age to Late Empire. Integration of history,
   philosophy, literature, the arts, and society.

310. Greek and Roman Mythology (3) I, II
   Mythological elements in Greek and Roman art, literature, and religion.

320. Classical Literature (3) I
   Reading in translation of Greek and Latin masterpieces. Emphasis on epic and prose
   genres. Authors such as Homer, Herodotus, Plato, Vergil, Apuleius. Literary and historical
   criticism.
Comparative Literature

Faculty
Faculty assigned to teach courses in comparative literature are drawn from departments in the College of Arts and Letters.

Offered by Department of English and Comparative Literature
Major in comparative literature with the A.B. degree in liberal arts and sciences. Teaching major in comparative literature for single subject teaching credential in English Minor in comparative literature.

Comparative Literature Major

With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." No more than 48 units in comparative literature and English courses can apply to the degree. A minor is not required with this major.

Preparation for the major. Any two lower division courses in comparative literature.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units to include 18 units in comparative literature courses. With the approval of the adviser, six units in one of the following interest areas in work in comparative literature. Courses may be taken in literature of any foreign language.

(1) Foreign Language Literature. Recommended for students who expect to do graduate work in comparative literature. Courses may be taken in literature of any foreign language.

(2) English Language Literature. Courses may be taken in American and British literature, Afro-American Studies, Mexican-American Studies, Urban Studies, Women's Studies, Jewish Studies, and the like.

Comparative Literature Minor

For the Single Subject Teaching Credential in English
For a description of the single subject teaching credential in English with a major in comparative literature, refer to this section of the catalog under English.

Comparative Literature Minor

The minor in comparative literature consists of a minimum of 15 units in comparative literature, 12 units of which must be in upper division courses. The three lower division units in interest area. The 12 units of upper division work must be selected, with adviser's approval.

European: Comparative Literature 505, 510, 511, 512, 513, 514, 525, 526, 510. Medieval Literature (3) Cr/NC

Asian and Third World: Comparative Literature 526, 530, 535, 540, 545, 560.

Literature and Society: When appropriate, Comparative Literature 490, 495, 550, 561, 562, 563, 570, 571, 580.

In addition the following variable content courses may be used in any of the above categories when they are appropriate: Comparative Literature 490, 495, 550, 561, 562, 563.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

Since all reading assigned for classes in comparative literature is in English, knowledge of a foreign language is not required.

200. Topics in Comparative Literature (3) I, II
An introduction to the subject matter of comparative studies in literature. Focus on a specific movement, theme, figure, genre, etc. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

210. Introduction to Comparative Literature (3) Cr/NC
An introductory study of comparative literature. Its current status, its historical development, range of comparative approaches. Generally includes guest presentations by various members of the comparative literature faculty. Recommended for majors in comparative literature.

270A-270B. World Literature (3-3) I, II
Comparative study of selected major works from various continents and cultures, with emphasis on the way literature deals with enduring human problems and values. Semester I: prior to 1500; Semester II: since 1500. 270A is not a prerequisite to 270B, and either may be taken separately.

271A-271B. Asian Literature (3-3)
A survey of the literature of Asia. Semester I: traditional literature; Semester II: modern literature.

272A-272B. Third World Literature (3-3)
Modern literature from Third World cultures. Semester I: literature from Africa, Asia, and Latin America. Semester II: Literature by ethnic minorities in the U.S.

UPPER DIVISION COURSES (Intended for Undergraduates)

490. Literary Movements (3) Cr/NC
A movement or theme in world literature—such as symbolism, realism, existentialism, alienation, or revolution. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

495. Literature and Other Disciplines (3) Cr/NC
Comparative study of relationship between literature and another field, such as philosophy, psychology, political science, or sociology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

499. Special Study (1-3) I, II Cr/NC
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES (Also Acceptable for Advanced Degrees)

505. The Bible as Literature (3) I, II
Same course as English 505. Prose and poetry of the King James version.

510. Medieval Literature (3)
Representative selections from authors of the Middle Ages.

511. Continental Renaissance (3)
Representative selections from authors of the Renaissance period in continental Europe.

512. Seventeenth and Eighteenth Century European Literature (3)
Selected works by European writers prior to 1800.

513. Nineteenth Century European Literature (3)
Selected works by European writers between 1800 and 1900.

514. Modern European Literature (3)
Selected works by European writers of the 20th Century.

525. Yiddish Literature (3-3) I, II
Selected works from the Jewish communities of Central Europe.

526. Modern Hebrew Literature (3-3) I, II
Selected works by Jewish authors from the last half of the nineteenth century to the present, with emphasis on the United States and Israel.
530. Asian Literature (3)

Selections from the literature of Asia: Chinese, Japanese, Indian, etc. Topic to be announced in class schedule. May be repeated with new content. Maximum credit six units.

535. Near Eastern Literature (3) I, II

Selections from the literature of the Near East: Persian, Arabic, Turkish, etc. Specific topic to be announced in class schedule. May be repeated with new content. Maximum credit six units.

540. African Literature (3)

Comparative study of African literature as well as Black literature of North and South America and the Caribbean; intercontinental influences and the theme of Black identity.

545. Modern Latin American Literature (3) I, II

Reading selections from major Latin American authors.

550. Seminar (3)

An intensive study of a topic to be selected by the instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

560. The Epic (3)

Selected epic poems from world literature; emphasizes the Western epic tradition from Homer to the present. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

561. Fiction (3)

A comparative approach to themes and forms in fiction (novel and short story). Focus of course to be set by instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

562. Drama (3)

Forms and themes in drama. Focus of course to be set by instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

563. Poetry (3)

A comparative approach to themes and forms in poetry. Focus of course to be set by instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

570. Folk Literature (3)

Studies in the ballad, bardic poetry, oral and popular literature and folklore. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

571. Literary Use of Legend (3)

Literary treatment of such legendary figures as Don Juan, Faust, and Ulysses, in a wide range of literature and genres.

577. Major Individual Authors (3)

In-depth study of the works of a major author, such as Sophocles, Dante, Cervantes, etc., specific content. Maximum credit six units.

580. Concepts in Comparative Studies (3)

Basic concepts in comparative studies in literature (e.g., influence, movement, figure, genre, etc.); their validity, usefulness and limitations. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

581. Literary Uses of Languages (3)

Study of the functions of language in literary works. May take the form of translation with specific content. Maximum credit six units.

595. Literature and Other Arts (3)

Prerequisite: Six lower division units in English, comparative literature or the arts. Comparative study of literature and such arts as painting, sculpture, architecture, music. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.
310. Law Enforcement Administration (3)  
Prerequisite: Sociology 101.  
Administrative relationships within the criminal justice process with special reference to problems of courts and police and probation agencies.

320. The Administration of Criminal Law (3)  
Constitutional law principles as implemented in criminal courts with emphasis on critical analysis of factual situations and the arguments of legal issues in criminal cases from both defense and prosecution perspectives.

321. Juvenile Justice Administration (3)  
Prerequisite: Criminal Justice Administration 301.  
Assessment of the structure and functions of agencies and institutions which comprise the juvenile justice system in America; evolution of policies and programs for prevention of delinquency and treatment of the juvenile offender.

330. Contemporary Correctional Administration (3) II  
Prerequisite: Criminal Justice Administration 301.  
Contemporary policies and practices of local, state and federal correctional agencies; the influence of reform movements, and the interrelationship of corrections with other criminal justice system components. (Formerly numbered Criminal Justice Administration 530.)

333. Judicial Administration (3)  
Prerequisites: Credit or concurrent registration in Criminal Justice Administration 301 and Public Administration 301.  
Review of significant developments at the state and federal levels, including court unification and financing, leadership, congestion, training, selection, tenure, discipline, removal and retirement of court-related personnel, and technological applications.

495. Selected Topics in Criminal Justice Administration (3)  
Selected current topics in criminal justice administration. See Class Schedule for specific content. Maximum credit six units.

497. Investigation and Report (3) I, II  
Prerequisite: Consent of instructor.  
Analysis of special topics.

498. Internship in Criminal Justice Administration (2-6) I, II  
Prerequisite: Consent of instructor.  
Students are assigned to various government agencies and work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences.

499. Special Study (1-3) I, II  
Prerequisites: Twelve units of upper division criminal justice administration and consent of instructor.  
Individual study. Maximum credit six units.

UPPER DIVISION COURSES  
(Also Acceptable for Advanced Degrees)

502. Juvenile Deviance and the Administration Process (3)  
Prerequisite: Criminal Justice Administration 321.  
Problems of implementing and evaluating policies and programs for prevention of juvenile delinquency and treatment of juvenile offenders; an assessment of the proposed standards and goals for juvenile justice administration.

510. Contemporary Issues in Law Enforcement Administration (3)  
Prerequisite: Criminal Justice Administration 310.  
Assessment of problems confronting administrators of law enforcement agencies and of recent efforts to enhance the capability of agencies to control criminal activity while guarding individual liberties.

520. Prosecutorial Function in Administration of Justice (3)  
Prerequisite: Criminal Justice Administration 301.  
Analysis of prosecutors' function at local, state and federal levels and in selected foreign nations, including appraisal of proposed national standards and goals for prosecutors.

531. Probation and Parole (3) I  
Prerequisite: Criminal Justice Administration 301 or 330.  
Basic concepts, history, legislation, and practices used in work with juveniles and adults who have been placed on probation or parole; criteria of selection, methods of supervision, and elements of case reporting.

540. Applied Planning, Research and Program Evaluation in Criminal Justice Administration (3)  
Prerequisite: Criminal Justice Administration 301.  
Application of planning, research and program development and evaluation principles to the field of criminal justice.

543. Community Resources in Criminal Justice Administration (3)  
Prerequisite: Criminal Justice Administration 301.  
Exploration of present and probable roles of public and private agencies and volunteers in criminal justice administration.

550. Crime Prevention Administration and Social Control (3)  
Prerequisite: Criminal Justice Administration 200 and 301.  
Examination of policies and probable consequences of both public and private crime prevention efforts from a social control perspective.

GRADUATE COURSES  
Refer to the Graduate Bulletin.
Drama

In the College of Professional Studies

The Department of Drama is a Member of the National Association of Schools of Theatre.

Faculty

Emeritus: Povenmire, Sellman
Chair: Powell
Professors: Amble, Harvey, Howard, Owen, Powell, Stephenson
Associate Professors: Annas, Lessley, McKerrow
Assistant Professor: Bellinghere
Lecturer: Gregory

Offered by the Department

Master of Arts degree in drama.
Master of Fine Arts degree in drama.
Major in drama with the A.B. degree in applied arts and sciences.
Teaching major in drama for the single subject teaching credential in English.
Minor in drama.

Drama Major

With the A.B. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Preparation for the major. Drama 105, 110, 120, 130, 231, 240, and 250. (21 units)

Major. A minimum of 24-25 upper division units in drama to include Drama 420, 440, 457, selected with the approval of the major.
In addition to course requirements the student must participate in a total of five Major Theatre performances and three Experimental Theatre activities.

Emphasis in Design for Drama

Preparation for the major. Drama 105, 110, 120, 130, 231, 240, and 250. (21 units)

Major. A minimum of 32-33 upper division units in drama to include Drama 420, 440, 457, 458 or 459, 460A-460B, 552, 540, 545A, and 545B or 448 or 548. (21 units)
In addition to course requirements the student must participate in a total of five Major Theatre performances and three Experimental Theatre activities.

Emphasis in Acting

Preparation for the major. Drama 105, 110, 120, 130, 231, 240, and 250. (24 units)

Major. A minimum of 32-33 upper division units in drama to include Drama 420, 432, 440, 457, 458 or 459, 460A-460B, 552, 540, 545A, and 545B or 448 or 548. (24 units)
In addition to course requirements the student must participate in a total of five Major Theatre performances and three Experimental Theatre activities.

Emphasis in Directing

Preparation for the major. Drama 105, 110, 120, 130, 231, 240, and 250. (21 units)

Major. A minimum of 39 upper division units in drama to include Drama 420, 431, 432, 440, 452, 457, 458, 460A-460B, 552, 540, 545A, and 545B or 448 or 548. (21 units)
In addition to course requirements the student must participate in a total of five Major Theatre performances and three Experimental Theatre activities.

Emphasis in Design for Television

Preparation for the major. Drama 105, 240, 250, Telecommunications and Film 100, 110, 120, 121, 122, 123 and 250. (30 units)

Major. A minimum of 25 upper division units to include Drama 410, 440, 448, 457, 460A-460B, 480, 541A, and three units in English selected from English 527, 541A and 541B. (21 units)

Credentiai requirements. A minimum of three lower division units in English selected from English 100, 101; three upper division units in linguistics selected from Linguistics 510, 520, 524, and three upper division units in English selected from English 533, 546. (9 units)

Drama Minor

The minor in drama consists of a minimum of 27 units in drama to include Drama 105, 130, 231, 240, 250, 420, 440, 457, 460A-460B. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

105. Introduction to the Theatre (3) I, II
Two lectures and two hours of activity.

110. Voice and Diction for the Theatre (3) I, II
Prerequisite: Drama 105.
Two lectures and two hours of activity.

120. Dramatic Heritage (3) I
Three lectures and attendance at selected performances.

130. Elementary Acting (3) I, II
Two lectures and two hours of activity.

147. Sound in the Theatre (3) I
Two lectures and three hours of laboratory.

231. Intermediate Acting (3) I, II
Two lectures and two hours of activity.

Emphasis in Design for Television

Preparation for the major. Drama 105, 240, 250, Telecommunications and Film 100, 110, 120, 121, 122, 123 and 250. (30 units)

Major. A minimum of 25 upper division units to include Drama 440, 448, 452, 540, Telecommunications and Film 520, 550, 581; and three units of Drama 499 or Telecommunications and Film 499.

Drama Major

For the Single Subject Teaching Credential in English

All candidates for a teaching credential must complete all requirements as outlined in the section of this catalog on the College of Education. This major may be used by students in teacher education as an undergraduate major for the A.B. degree in applied arts and sciences.

Preparation for the major. Drama 105, 110, 120, 130, 231, 240, 250. (21 units)

Major. A minimum of 26 upper division units to include Drama 310, 420, 440, 457, 460A-460B, 480, 541A, and three units in English selected from English 527, 541A and 541B.

Creditentiai requirements. A minimum of three lower division units in English selected from English 100, 101; three upper division units in linguistics selected from Linguistics 510, 520, 524; and three upper division units in English selected from English 533, 546. (9 units)

Drama Minor

The minor in drama consists of a minimum of 27 units in drama to include Drama 105, 130, 231, 240, 250, 420, 440, 457, 460A-460B. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

105. Introduction to the Theatre (3) I, II
A survey of theory and practice in the contemporary theatre, including its literary, critical, and technical aspects viewed against historical backgrounds.

110. Voice and Diction for the Theatre (3) I, II
Prerequisite: Drama 105.
Exercises and drills to improve the quality, flexibility and effectiveness of the speaking voice leading to good usage in standard American speech. Preparatory to further courses in drama.

120. Dramatic Heritage (3) I
Three lectures and attendance at selected performances.
Survey of dramatic literature from classical to the modern period, including classical, medieval, Renaissance, Restoration, neoclassical, romantic, realistic and modern plays.

130. Elementary Acting (3) I, II
Two lectures and two hours of activity.
Prerequisite: Drama 105.
Development of the individual's ability to express thought and emotion through the effective use of the voice and body. These fundamental skills may be applied to stage, radio, and television acting.

147. Sound in the Theatre (3) I
Two lectures and three hours of laboratory.
Techniques, theory, and procedures necessary to develop sound, music, and effects integrated into theatre production.

231. Intermediate Acting (3) I, II
Two lectures and two hours of activity.
Prerequisite: Drama 130.
Continuation of Drama 130, emphasizing the application of fundamental skills to the problems of emotion, timing, characterization, and ensemble acting.
232. Movement and Mime for the Theatre (3)
Two lectures and three hours of laboratory.
Prerequisite: Drama 105.
Basic disciplines of locomotor and axial body movement for the stage director and actor; introduction to mime. The relationship between body expression and character portrayal.

240. Dramatic Production (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Drama 105.
Technical practices and organization of production for theatre and television. Practice in drafting and construction of scenery for the college productions.

250. Elementary Stage Costume and Makeup (3) I
Two lecture-demonstrations and three hours of laboratory.
Prerequisite: Drama 105.
Basic techniques, techniques, and procedures of costume production and makeup application for stage, film, and television. Practical training in the construction of stage costumes and application of makeup for departmental productions. One building or running crew required.

251. Children's Theatre (3) I

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Intended for Undergraduates)

301. Management of Drama Activities (1) I, II
Planning, preparation, management and supervision of drama tournaments, festivals and other interscholastic and intrascholastic activities under the supervision of the drama staff. Maximum credit two units.

310. Creative Dramatics (3) I, II
Instruction and training in the principles and techniques of creative dramatization for work with children in the classroom and recreation. Emphasis on the development of the child emotionally and socially through dramatic improvisation.

320. Speaking the Classic Theatre (3) Cr/NC
Two lectures and three hours of laboratory.
Prerequisites: Drama 110, 231.
Techniques of vocal expression in the theatre, primarily in Shakespeare and classical drama. Emphasis on individualized instruction and vocal problem solving.

325. Dramatic Works: Production Laboratory (3) Cr/NC I, II
Nine hours of laboratory.
Staging of full-length plays in traditional and experimental productions. Maximum credit six units.

326. Theory of Production for the Musical Stage (3)
Prerequisites: Drama 231 and consent of instructor.
Theory and principles of production of modern musicals. (Formerly numbered Drama 526.)

329A-329B. Children's Theatre Workshop (3-3) Cr/NC
Prerequisites: Drama 255 and consent of instructor.
Production of plays for child audiences, with emphasis on elementary and junior high school levels. Practical experience through participation in university-sponsored productions.

330. Accents and Dialects for the Stage (3) II
Various accents and dialects most frequently occurring in stage productions.

420. Play Analysis (3) I, II
Prerequisites: Drama 105 and 120.
Representative dramas for the stage are read, discussed and analyzed in writing in terms of environment, structure, action, character and style. (Formerly numbered Drama 520.)

431. Workshop in Improvisational Acting (3) I
Prerequisite: Drama 231.
Theories and principles of improvisational acting. (Formerly numbered and entitled Drama 531, Advanced Acting Theory.)

432. Advanced Acting (3)
Prerequisite: Drama 231.
Problems in characterization in contemporary drama. (Formerly numbered Drama 532.)

440. Scenic Design (3) I
Prerequisite: Drama 240.
Theories, techniques and procedures in the application of principles of design, color and perspective in the designing and painting of scenery for various types of productions for stage, television and cinema. (Formerly numbered Drama 440A.)

442. Theatre Workshop (1-3) I, II (3-6) Cr/NC
Two hours of activity per unit.
A laboratory to give the student a variety of experience in the theatre including acting, lighting, scenery, costumes and stage management. Maximum credit six units.

448. Advanced Dramatic Production (3)
Two lectures and three hours of laboratory.
Prerequisite: Drama 240.
Scenery drafting and construction, with attention to the multiple-set play. Planning of scenery construction and rigging for stage and television productions. (Formerly numbered Drama 548.)

452. Costume History and Design for the Theatre (3) I
Two lectures and three hours of laboratory.
Prerequisite: Drama 250.
Chronic study of the various problems confronting a stage director. (Formerly numbered Drama 557.)

457. Stage Direction (3) I, II
Two lectures and three hours of laboratory; attendance of one-act plays and selected performances.
Prerequisites: Drama 231, 420, and consent of instructor. A planned for prospective directors of plays in schools, colleges, and community theatres. A comprehensive study of the various problems confronting a stage director. (Formerly numbered Drama 559.)

458. Stage Direction: Scenes (2) I, II
One lecture and three hours of laboratory; attendance of one-act plays and selected performances.
Prerequisites: Drama 457 and consent of instructor.
Experience and group evaluation in directing scenes in acting classes. (Formerly numbered Drama 558.)

459. Stage Direction: One-act Plays (3) I, II
One lecture and six hours of laboratory; attendance of one-act plays and selected performances.
Prerequisites: Drama 457 and consent of instructor. (May be substituted for Drama 458 as requirement in directing.)
Experience and group evaluation in directing one-act plays before departmental or public audiences. (Formerly numbered Drama 559.)

460A-460B. History of the Theatre (3-3) I, II
Theatre from primitive times to the present. Special attention will be given to the theatre of the various countries and periods in which it is studied. Drama 460A may be taken without 460B. (Formerly numbered Drama 560A-560B.)
475. Theatre Management and Promotion (3) II
Two lectures and three hours of laboratory.
A practical and correlated study of the college, university, high school and children's theatre; principles of organization, programming, production, budgets, ticket office, and promotional procedures.

480. Methods and Materials of Instruction (2) I
Professional preparation emphasizing organization and practices in the teaching of Dramatic Arts.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Accepted for Advanced Degrees)

511. Styles in Creative Dramatics (3) I, II
Prerequisite: Drama 310.
Advanced techniques and procedures in the teaching of creative dramatics. Lectures and reading on the application of creative dramatics with emphasis on the different styles of creative dramatics available to the practitioner. Practical experience through work with children.

515. Directing for Children's Theatre (3) II
Prerequisite: Drama 255.
Staging and technical problems relative to the production of plays for children: casting procedures, blocking and characterization principles, rehearsal and scenic techniques. Practical experience through university-sponsored productions. (Formerly numbered Drama 315.)

533. Style in Acting and Directing (3)
Prerequisite: Drama 313.
Acting and directing problems related to the production of plays from the great periods in theatre history. Special attention to characterization, style, dramatic values, creative directing, and production approaches.

534. History of Acting Theory (3)
Prerequisite: Drama 313.
The major acting theories and theoreticians from Diderot, through Delaistre and Stanislavski, to Grotowski, and analysis of major actors who practiced these theories.

540. Styles in Scenic Design (3) II
Prerequisite: Drama 440.
History of scenic design and the application of contemporary styles to various types of dramatic productions for stage, television and cinema. (Formerly numbered Drama 440B.)

545A-545B. Stage Lighting (3-3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Drama 545A is prerequisite to 545B.
Light, color, lighting instruments, and control equipment, including the design and planning of lighting for plays.

546. Computer Systems and Special Effects Techniques in Stage and Television Lighting (3)
Two lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Drama 545B.
Functional study of computer systems in stage and television lighting with emphasis on realizing effective methods of using such systems in production.

551. Costume, Movement, and Manners (3) I
Prerequisite: Drama 250.
Interrelationship of period costumes on the movement and manners of the time and their application on the stage.

554. Costume Construction Techniques (3) I
Prerequisite: Drama 250.
Period pattern drafting, draping, cutting, construction. Wig, millinery, armour, mask, accessory construction. Costume paint and dye techniques.

598. Selected Topics in Drama (1-3) I, II
Prerequisite: Twelve units in drama.
A specialized study of selected topics from the areas of drama. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Economics
In the College of Arts and Letters

Faculty
Emeritus: Anderson, Chadwick, McClintic, Turner
Chair: Popp
Professors: Babilot, Barckley, Bridenstone, Clement, Flagg, Gifford, Hardesty, Jencks, Karmann, Marus, Madhavan, Nam, Neuner, Poroy, Sebold, Venieris
Associate Professors: Hamilton, Popp, Stewart
Assistant Professors: Green, Parti, Rotella, Vogt
Lecturers: Frantz, Manni

Offered by the Department
Master of Arts degree in economics.
Major in economics with the A.B. degree in liberal arts and sciences.
Minor in economics.

Economics Major
With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Preparation for the major. Economics 101 and 102 or 303 and 304, 201, 9 units. All students are advised to take Mathematics 107 and to begin the sequence Mathematics 141, 142.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language.

Major. A minimum of 24 upper division units, consisting of at least 18 units in economics (Economics Department), to include Economics 320 or 321 or 324, 325, 347 or 541, plus 12 division requirements in the major. Students are encouraged to complete the required courses during their junior year.

Although there are no formal emphases within this major and any upper division course is recommended to any student majoring in the discipline, the department strongly recommends that students select areas of concentration or courses in areas not included in the major. Students are encouraged to select the required courses during their junior year.

Theoretical Economics: Students are advised to take courses in alternative economic theories. These courses include Economics 311, 313, 330, 332, 335.


Pre-Law: Students interested in preparing for law school are strongly recommended to Economics 380, 401, 490, and 500. Also recommended are Economics 330, 353, 354, 454, 474, 476 and 477.

General Economics: Students seeking a general background in the discipline are encouraged to take at least one course in each of the following: Statistics, Social Science, and International Economics.


Students considering graduate school should consult an adviser.

Economics Minor
The minor in economics consists of a minimum of 15 units in economics. 12 units of which must be in upper division courses. Economics 303 and 304 are not acceptable for upper division credit in the minor. Students must select their 12 upper division units from the economics courses in one of the four areas described in the major. In addition, students may include Economics 320, 321, 324, 325, 347 or 541, in their chosen area. If the student selects General Economics, he/she must concentrate in one of its four areas.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

100. Contemporary Economic Problems (3) I, II
Investigates economic bases for current problems as inflation, unemployment, economic power, consumer protection, poverty, discrimination, urban and environmental deterioration, and international domination. Examines such policies as fiscal-monetary policy, tax reform and government controls and provision of services. (Formerly numbered Economics 103.)

101. Principles of Economics (3) I, II
An introduction to principles of economic analysis, economic institutions, and issues of public policy. In this semester the emphasis is upon macroanalysis including national income analysis, money and banking, business cycles, and economic stabilization. Not open to students with credit in Economics 303. (Formerly numbered Economics 120.)

102. Principles of Economics (3) I, II
An introduction to principles of economic analysis, economic institutions, and issues of public policy. In this semester the emphasis is upon the direction of production, the allocation of resources, and the distribution of income, through the price system. (Formerly international economics. Not open to students with credit in Economics 304. (Formerly numbered Economics 121.)

201. Statistical Methods (3) I, II
Prerequisite: Mathematics 103 at this University or qualification on the Mathematics Placement Examination.
Introduction to descriptive statistics, statistical inference, correlation, index numbers, and time series. Not open to students with credit or concurrent enrollment in another course in statistics. (Formerly numbered Economics 142.)

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific topic. Limit of nine units applicable to a bachelor's degree in courses under this number of content. No more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(3) I, II
Upper division courses are designed for students majoring in economics. They are intended to provide a theoretical background in economic theory and to develop analytical skills that will enable students to deal with complex problems of economic analysis. Students are encouraged to take at least one course in each of the following: Economic History and Theory, Public Finance, International Economics, and Labor Economics.

Note: Wherever Economics 101 (303) is listed as a prerequisite, Economics 320 (324) satisfies the requirement; wherever Economics 102 (304) is listed as a prerequisite, Economics 321 (325) satisfies the requirement.

300. Honors Course (1-3)
Refer to Honors Program.
303. Economic Principles, Institutions, and Policies (3)  
Prerequisite: Six units in history, political science, or sociology.  
Income and employment theory and its applications. Not open to students with credit in Economics 101. May not be used to fulfill minimal upper division requirements in the economics major or minor or liberal studies major.

304. Economic Principles, Institutions, and Policies (3)  
Prerequisite: Six units in history, political science, or sociology.  
Price theory and its applications. Not open to students with credit in Economics 102. May not be used to fulfill minimal upper division requirements in the economics major or minor or special major.

311. History of Economic Thought (3)  
Prerequisites: Economics 101 (303) and 102 (304).  
The development of economics. Contributions of schools of thought and individual writers are examined with regard to their influence on economic theory and policy.

313. Marxist Economic Theory (3)  
Prerequisite: Six units in economics.  
Analysis of the theories of Marx, Engels, Lenin, Mao Tse-tung, Baran, Sweezy and others as they pertain to the periods in which they were conceived and to modern times.

320. Intermediate Economic Theory (3) I, II  
Prerequisite: Economics 101 (303), or Economics 100 with approval of department.  
Economic theory with special reference to national income analysis and the theory of investment. Credit will not be given for both 320 and 324.

321. Intermediate Economic Theory (3) I, II  
Prerequisite: Economics 102 (304), or Economics 100 with approval of department.  
Economic theory with special reference to the theory of the firm and the industry; value and distribution. Credit will not be given for both 321 and 325.

324. Macroeconomic Analysis (3)  
Prerequisites: Economics 101 (303), or Economics 100 with approval of department, and Mathematics 141 or 150.  
Mathematical interpretation of macroeconomic theory. Credit will not be given for both 320 and 324.

325. Microeconomic Analysis (3)  
Prerequisites: Economics 102 (304), or Economics 100 with approval of department, and Mathematics 141 or 150.  
Mathematical interpretation of microeconomic theory. Credit will not be given for both 321 and 325.

330. Comparative Economic Systems (3)  
Prerequisite: Economics 101 (303) or 102 (304) or 100.  
The economic aspects of laissez-faire and regulated capitalism, cooperatives, socialism, communism, nazism, fascism. Criteria for evaluating economic systems. The individual and government in each system. Planning in a liberal capitalist society.

332. Capitalist Economy (3)  
Prerequisite: Economics 101 (303) or 102 (304) or 100.  
The relationship between the dominant economic and political institutions of capitalist organization and the major social problems of modern capitalism.

335. Economic History of Europe (3)  
Prerequisite: Economics 101 (303) or 102 (304) or 100.  
Economic development from the Middle Ages to the present. Particular attention is given to the impact of the Industrial Revolution on national economies, especially on England's commerce and industry.

336. Economic History of Emerging Nations (3)  
Prerequisite: Economics 101 (303) or 100.  
Evolution of economic organization, institutions, and policies of Africa, Asia, and Latin America. Regional emphasis will vary. Maximum credit six units.

338A-338B. Economic History of the United States (3-3)  
Prerequisite: Economics 101 (303) or 100.  
American economic development and national legislation in the fields of agriculture, industry, and commerce. Semester I: 1600-1865. Semester II: 1865 to the present.

347. Research Design and Method (3)  
Prerequisite: Economics 201.  
Instruction in the practical application of the various techniques of economic research to a range of problems typically encountered in the economics profession, including the collection and analysis of basic data, survey research, industry studies, economic forecasting, national impact studies, area and regional studies.

360. International Economic Problems (3)  
Prerequisites: Economics 101 (303) and 102 (304). Not open to students with credit in Economics 561 or 592.  
International problems, economic communities, organizations, and other selected topics.

365. Economics of Underdeveloped Areas (3)  
Prerequisite: Economics 102 or 304.  
The nature and causes of economic underdevelopment. Problems of and policies for the economic development of underdeveloped areas of the world.

370. Government and Business (3)  
Prerequisite: Economics 100 or 102 (304).  
Governmental activities affecting business; the state as an entrepreneur and manager; governmental assistance to business; governmental regulation of business in its historical, legal and economic aspects, including recent developments in the United States and abroad; proposed policies.

380. Labor Problems (3)  
Prerequisite: Economics 100, 101 (303), or 102 (304).  
Labor organizations and their policies, wages, strikes, unemployment; social insurance, child labor; labor legislation; plans for industrial peace, and other labor problems.

385. Poverty in the United States (3)  
Prerequisite: Economics 102 (304) or 100.  
Economic aspects of poverty and racial discrimination. Relation of poverty to the general economic structure and to macroeconomic conditions such as unemployment and inflation. Possible solutions.

401. Public Finance (3)  
Prerequisites: Economics 101 (303) and 102 (304).  
Principles and practices of taxation and public expenditures. Economic effects of public spending, debts and taxation. Financing social security and other services. Fiscal policy and prosperity. Relation to inflation and deflation. Special emphasis on social problems involved.

422. Business Cycles (3)  
Prerequisites: Economics 101 (303) and 102 (304).  
Fundamental factors in economic fluctuations. Examination of business cycle theories, and various policy proposals for economic stabilization. A consideration of current economic conditions and an examination of methods employed in preparing national economic forecasts.

426. Policies for Macroeconomic Stabilization (3)  
Prerequisite: Economics 101 or 303.  
Alternative policies for macroeconomic stabilization, including neo-Keynesian, Chicago, radical, and ecological views. Topics include GNP forecasting, dynamic models, monetary vs. fiscal tools, economic surplus, and zero GNP growth.

447. Quantitative Economics (3)  
Prerequisites: Economics 101 (303), 102 (304), and Mathematics 141 or 150.  
The quantitative approach to economic problems. The use of mathematics in economic analysis.

452. Economics of Energy Resources (3)  
Prerequisite: Six units of economics.  
453. Economics and Ecology (3)
Prerequisites: Economics 101 (303) and 102 (304).
Relation of ecological problems to basic economic institutions. Examination of the apparent conflict between economic needs and ecological requirements. Economics of air, fresh water, ocean and land pollution, overpopulation and natural resource utilization. Investigation of possible solutions.

454. Economics of the Ocean (3)
Prerequisites: Economics 101 (303) and 102 (304).
Economic analysis of fisheries, seabed resources, shipping lanes, allocation of the coastal zone, and ocean pollution. Economic implications of alternative legal arrangements concerning the ocean.

455. Urban and Regional Economics (3)
Prerequisites: Economics 101 and 102, or 303 and 304.
Major influences on the economic conditions of urban and nonurban areas; specific urban problems including housing, land use, and growth. Discussion of San Diego problems.

456. Economic Problems of Latin America (3)
Prerequisite: Economics 101 (303) or 102 (304) or 100.
Economic development, institutions, and problems of Latin America.

457. Economic Problems of South and East Asia (3)
Prerequisite: Economics 101 (303) or 102 (304) or 100.
Economic development, institutions, and problems of China, India and Pakistan, Japan, and Southeast Asia.

468. The Economies of the Soviet Union and Eastern Europe (3)
Prerequisite: Economics 101 (303) or 102 (304) or 100.
The development, institutions, and problems of the Soviet and East European economies.

469. Economic Problems of Africa and the Middle East (3)
Prerequisite: Economics 101 (303) or 102 (304) or 100.
Economic development, institutions, and problems of Africa and the Middle East.

474. Economic Concentration and Monopoly Power (3)
Prerequisites: Economics 101 (303) and 102 (304).
The implications of economic concentration and monopoly. The evaluation of mergers, consolidations and other forms of monopoly power in terms of social and economic goals. Attempts to control monopoly power by antitrust laws, by policies regarding competitive practices and by other means.

475. Industry Studies (3)
Prerequisites: Economics 101 (303) and 102 (304).
Evaluation of the structure, conduct and performance of selected industries in terms of social and economic goals.

476. Transportation Economics (3)
Prerequisites: Economics 101 (303) and 102 (304).
Economic impact of the availability and cost of transportation service. Organization, rate, and current issues of national transportation policy.

477. Public Utilities (3)
Prerequisites: Economics 101 (303) and 102 (304).

482. Collective Bargaining (3)
Prerequisites: Economics 101 (303) and 102 (304).
Structures of labor relations; management and union problems; public policy and collective bargaining; simulation of collective bargaining experiences.

483. Comparative Labor Problems (3)
Prerequisites: Economics 101 (303) and 102 (304).
Comparative study of labor relations systems and labor movements in both advanced and developing nations. Individual study of a particular country of the student's choice.
562. International Economic Expansion and Dependence (3)
Prerequisite: Economics 313 or 365 or 464.
Explores various theories of imperialism and dependence, the behavior of multinational corporations, and role of state from Marxist and other perspectives. Theories examined in terms of experience of specific countries (e.g., Latin America).

592. International Monetary Theory and Policy (3)
Prerequisite: Economics 320 (324) or 490.
Balance of payments, international capital movements and foreign exchange in relation to current theories and policies.

598. Experimental Topics (3)
Prerequisite: Consent of instructor.
Intensive study in specific areas of economics. Topics to be announced in the Class Schedule. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Offered by the College of Education
Doctor of Philosophy degree in education.
Master of Arts degree in education with concentrations in twelve areas.
Master of Science degree in counseling.
B.V.E. degree.
Teaching credentials in all areas.
Minor in Educational Technology and Librarianship.

Teaching/Service Credentials
The College of Education offers programs which lead to basic teaching and specialist credentials. Students who desire to seek a credential should consult with departmental advisers in order to determine their status and needed requirements. Information on these new credentials is available in the offices of the several departments of the College of Education and in the Admissions Office, College of Education.

The College of Education has obtained approval and is seeking approval for programs leading to the following credentials:

Approved Credential Programs

1. Multiple subjects credential
   Teach in any self-contained classroom, kindergarten through twelfth grade.

2. Single subject credential
   Teach single subject area in grades kindergarten through twelve.

3. Community college instructor credential
   Teach in grades thirteen and fourteen, any course in an occupational or subject matter area which appears on the credential document.

4. Standard designated subjects - adult
   Teach subjects indicated on credential to adults in classes maintained by elementary or high school districts.

5. Health services credential
   Authorizing services as a school nurse.

Specialist Credentials

Administrative Services
Bilingual/Cross-Cultural
Clinical Rehabilitative Services (Department of Communicative Disorders)
Early Childhood
Library Services
Pupil Personnel Services
Reading Specialist
School Psychology
Special Education:
   Communication Handicapped (Department of Communicative Disorders)
   Physically Handicapped
   Learning Handicapped
   Severely Handicapped
   Gifted

Educational Technology and Librarianship Minor
The minor in educational technology and librarianship consists of a minimum of 15 units. 12 of which must be upper division selected from one of the following areas:

   Librarianship: Educational Technology and Librarianship 541, 546, 547*, 548*, 549, and 550 when applicable.
   Educational Technology: Educational Technology and Librarianship 400, 540, 541, 542, 544, 553, and 596 when applicable.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

* Prerequisite does not apply to students seeking the minor only.

Admission to Teacher Education

Application for Admission
Students who plan to enroll in a credential program must make application for admission to that program through the appropriate department. The Multiple Subjects Credential is to be completed through the Elementary Education Department; the Single Subject Credential through the Secondary Education Department.

Standards for Admission*

Multiple Subjects Credential (Elementary Education)

1. Formal application to the education program must be filed sometime after completing 45 units of college work.
2. Recommendations. Applicants will be required to provide names and addresses of persons not related to them who could supply character reference information.
3. Prior experience with children and youth groups. Applicants will provide evidence of having had experience with children and youth groups. Such evidence will consist of a signed (by supervisor) statement, and evaluation describing the experience and including the place and approximate dates of the experience. For applicants not having such experience working with children, a laboratory activity course providing such experiences will be required prior to admission into the professional preparation sequence.
4. Successful completion of the Reading Comprehension and Writing Competency tests. These tests are offered several times each year. Consult the Class Schedule or the bulletin board outside Education 151 for dates and time.
5. Health clearance. To meet the specific requirements for authorization for student teaching, a medical examination must be completed. This examination is in addition to the medical required for admission to the University.
6. Interview. Interview(s) with faculty members of the Department of Elementary Education should be scheduled during the weeks following the application period. (See application packet for specific dates.)
7. Student teaching application. Application for a student teaching assignment must be filed during the semester prior to beginning student teaching.
8. Grade point average. A 2.50 GPA on the last 60 units is required for admission to the program. Once admitted, a 2.50 GPA must be maintained.
9. Planned program appointment. After completion of 45 college units, each applicant should sign up for an appointment with a faculty adviser to work out a planned program which will help determine an appropriate semester to begin student teaching.
10. Prerequisite courses. The following courses are required for admission to the program. Admissions priority will be given to students who have completed all of the prerequisites.
    - Health Science and Safety 101, "Health and Lifestyle," or Physical Education 141, "Physical Education of Children"
    - Science 101, "Health Education for Elementary Teachers"
    - Music 102, "Basic Musicianship for Non-Music Majors"

11. Major. The Liberal Studies Major may be selected for the teaching credential.

New Students Who Seek to Complete a Credential

Teachers with a provisional credential or partial fulfillment of requirements who are working toward a clear credential may have a program designed to fit their background. are required to pass the National Academic major section of the Liberal Studies Option 2. are required to pass the Teacher Examination. Common Knowledge Section. Students are urged to take the

* Admissions procedures and requirements are currently under review. Please consult the Advising Brochure for additional information.
Advanced Standing in Teacher Education

A student transferring into San Diego State University with advanced standing must complete a minimum of six units of professional education work in residence at this university in order to obtain a recommendation for a credential, regardless of the extent of education work completed elsewhere.

Evaluation of Credits

After an interval of five years, prerequisites and courses in education are reevaluated in light of new requirements and changes in educational procedures. All courses taken either at this university or elsewhere must be approved by an official adviser in order to be credited toward meeting credential requirements or pattern requirements for a degree.

Standards for Admission

Single Subject Credential (Secondary Education)

Admission to the Department of Secondary Education is accomplished in three stages:

1. Admission to Stage I (Secondary Education 400: The Secondary School).

This is an introductory course which serves as orientation to secondary education. Typically, priority will be given to graduate and senior students. Application must be made early in the semester preceding anticipated enrollment in the course. For Spring Semester 1980, applications will be accepted between October 8 and 26, 1979, up to 4:30 p.m. in Room ED-100E. For Fall Semester 1980, applications will be accepted between February 18 and March 7 up to 4:30 p.m. in Room ED-100E.

All applicants must:

- Complete application to Secondary Education 400, the semester previous to enrollment.
- Provide transcripts of all college work verifying an acceptable grade point average of 2.75 overall and 3.0 in the major. Unofficial student copies of transcripts are acceptable. Students who do not meet this requirement may petition for admission to the Department Admissions Committee in ED-100 (286-6119). Petition procedures will be available through that office.
- Have completed nine upper division units in an acceptable major.

NOTE: Accelerated Program — applicants with a minimum of one semester of full-time teaching in the U.S. or one year of TA experience at the secondary level, and with demonstrated excellent performance in their credential discipline (3.5 minimum grade point average) may apply by appropriate indication on the application for admission to Secondary Education 400 to enroll in a one-unit competency based module (SECED 598, Workshop on Teaching Rights and Responsibilities) concurrently with Stage II. This special module will take the place of SECED 400.

2. Admission to Stage II (Secondary Education 401, 402, 405, and preferably 403—except majors in Art, Music and P.E.—and Ed. Tech. 404).

Courses in Stage II comprise the first block of professional education courses and include an initial student teaching experience. Student must provide own transportation. Formal application for admission to these courses will be made at preregistration meetings held during the middle of the semester before the student plans to start the professional courses. Normally these meetings are held in the SECED 400 classes, but in any case, the following must be on file in ED-100E office at least one month before the end of the semester preceding enrollment in Stage II. Check deadline dates in ED-100E.

- Completed formal application to Secondary Education program Stage II.
- Recommendations from the Ryan adviser in the major department and the SECED 400 instructor.
- Satisfactory completion of San Diego State University health status survey form. This form may be obtained in ED-100E and may be completed through SDSU Health Services.
- Evidence of satisfactory completion of the English Proficiency Test. (If a satisfactory score is not achieved, the student must complete a remedial program BEFORE admission to Stage II Check with the ED-100E Secondary Office to determine the appropriate remediation.)

Priority for admission and placement in the section of choice for SECED 401, 402, 405 is based upon the date of clearance of ALL of the above requirements.

3. Admission to Stage III (Secondary Education 406-407).

These courses include a full-time daytime student teaching experience. Application must be made at least one month before the end of the semester prior to anticipated enrollment. Normally, this is done while the student is enrolled in SECED 401, 402, 405.

Admission is based upon:

- Satisfactory completion of SECED 401, 402, 405, plus Ed. Tech. 404, and preferably SECED 403 (except for Music, Art and P.E. majors).
- Application for enrollment in SECED 406 through submission of completed student teaching forms to the Student Teaching Office in ED-100E. Enrollment in SECED 407, teaching forms to the Student Teaching Office in ED-100E, Student Teaching Seminar, must be concurrent with enrollment in SECED 406, Student Teaching Seminar.
- A student must successfully complete coursework to pass U.S. Constitution requirement or successfully pass U.S. Constitution examination.
- A student must successfully complete Health Science & Safety 321 (2 units).

NOTE: DELAYED START OF STUDENT TEACHING will require filing of a request for Leave of Absence with the Secondary Office (Room ED-100E, 286-6119.)

New Students Who Seek to Complete a Credential

Teachers with a provisional credential or partial fulfillment of requirements credential who are working toward a regular credential may have a program designed through the Student Resource and Information Center of the College of Education, made through the Student Resource and Information Center of the College of Education, Room ED-100, 286-6116.

Advanced Standing in Teacher Education

A student transferring into San Diego State University with advanced standing must complete a minimum of six units of professional education work in residence at this university in order to obtain a recommendation for a credential, regardless of the extent of education work completed elsewhere.

Evaluation of Credits

After an interval of five years, courses in education are reevaluated in light of new requirements and changes in educational procedures. All courses taken either at this university or elsewhere must be approved by an official adviser in order to be credited toward meeting credential requirements or pattern requirements for a degree.

Multiple Subjects Teaching Credential

Multiple Subjects (Elementary) — Clear Credential

Persons interested in teaching in the elementary school will typically pursue the multiple subjects credential which authorizes the holder to teach in any self-contained classroom. This credential requires:

1. A bachelor's degree (or higher) with any major other than education.
2. Completion of a five year study (30 units of upper division or graduate units).
3. Completion of an approved program of professional education including 15 units of course work and 16 units of student teaching (see Department of Elementary Education for further information about the approved programs).
4. Passage of subject matter examination(s) or waiver thereof through Liberal Studies major.
5. Knowledge of methods of teaching reading.
8. Course workfieldwork and/or other to satisfy PS 94-142—"Mainstreaming."
Multiple Subjects (Elementary) — Preliminary Credential

An applicant may be granted a preliminary teaching credential if the applicant has met all the requirements listed above except for completion of the fifth year of study. Thus, a person whose program allows him to meet these requirements would be eligible for a preliminary credential at the same time he finishes his four-year college program. During the next five years, however, such persons must complete the 30 units (the fifth year of study) in order to become eligible for the “clear” credential.

Multiple Subjects (Elementary) — Bilingual Emphasis

Persons interested in the multiple subjects credential with a bilingual emphasis must meet the same requirements for admission as those for the regular multiple subjects credential. In addition, applicants must pass a test of fluency in oral and written Spanish and English. The Department of Elementary Education will advise students on the procedures for taking the test.

Students are advised to consult the Department of Elementary Education for information relative to bilingual emphasis courses which are available in the Liberal Studies major. In the professional program course requirements are the same, except that such courses are taught in a bilingual education setting, including teaching strategies and work in the philosophy of education and psychology of learning. A semester of student teaching in a bilingual setting is required.

Description of Interdepartmental Major for Elementary Teaching

Liberal Studies Major

With the A.B. Degree in Applied Arts and Sciences and in Liberal Arts and Sciences

Option 1. This program is available to all students but is not acceptable for the Multiple Subjects credential. Information regarding this option is presented in the Interdisciplinary Programs section of this catalog.

Option 2. Liberal Studies with the A.B. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on “Graduation Requirements.”

The Liberal Studies Major Option 2 meets all the requirements for the multiple subjects/subject area diversified major as specified in the Ryan Bill, and is recommended for prospective elementary teachers.

Refer to the section of the catalog on Interdisciplinary Programs for an outline of the requirements for this major.

Students planning to enter elementary education must consult and secure program approval from an advisor in the Department of Elementary Education. The following course requirements may be included in the Liberal Studies Major unless otherwise noted:

- Mathematics 210A-210B
- Health Science and Safety 101 or 320 or Biology 299
- Music 102
- Physical Education 141 (may be taken in lieu of one of the physical education units required for graduation)

Other students who wish to take this major must consult the Dean of the Undergraduate Division to secure program approval. General advising for Liberal Studies Option II is available at the University Advising Center.

Single Subject Teaching Credential

Single Subject (Secondary) — Preliminary

Persons interested in teaching in the secondary school will pursue the single subject credential which authorizes the holder to teach K-12 in the following subjects:
Single Subject (Secondary) — Clear

An applicant may be granted a CLEAR teaching credential if all of the requirements listed above have been met and the student has completed a fifth year of study (30 units of upper division or graduate level courses after completion of the baccalaureate degree).

NOTE: Undergraduate students in their final semester prior to obtaining a baccalaureate degree may sign up for concurrent postbaccalaureate credit as explained in the section of this catalog on "General Regulations."

Bilingual/Cross-Cultural Specialist Credential

Candidates in the credential program must possess a valid California Teaching Credential and must successfully complete 24 units of credit as follows:

1. Education 690: Procedures of Investigation and Report 3
2. Multicultural Education Core Curriculum 12
3. ED 550 Philosophy of Cultural Pluralism in Education 3
4. ED 553 Multicultural Oral Language Assessment Training 3
5. ED 650 Bilingual/Cross-Cultural Curriculum Development 3
6. ED 651 Bilingual/Cross-Cultural Teaching Strategies 3

Education courses: All students are required to enroll in special sections of Education 687, Workshop in Community Influences on Learning and Curriculum Planning 6
4. Electives: Selected from 500/600/700-numbered courses from academic disciplines or ethnic studies with approval of adviser on the basis of the student's interests, goals and needs 3

Candidates must notify the Credentials Office of their program of study.

Early Childhood Education Specialist Credential

This credential authorizes the holder to serve as an Early Childhood Education Specialist in one or more of the following capacities:

1. Teacher—lead teacher, demonstration teacher.
2. Coordinator of Early Childhood Education programs.
3. Instructor and/or coordinator of paraprofessionals.
4. Supervisor and/or director of Early Childhood Education programs.
5. Program developer.
6. Program evaluator.
7. Researcher.

Attainment of this credential requires the following:

1. A bachelor's degree (or higher).
2. Completion of requirements for the multiple subjects or other valid and appropriate California teaching credential.
3. Completion of an approved 30-unit graduate program for the Specialist Credential.
4. Verification of two years of successful teaching experience at the preschool or primary grade levels.

Health Services Credential

San Diego State University offers curricula leading to the Health Services Credential. This authorization the holder to serve as a School Nurse. For information concerning the credential, the student is referred to the Department of Secondary Education Office, ED-100E.

Standards for Admission

1. Baccalaureate degree.
2. Active registration as an R.N.

Program

The following program elements are required of all health services credential candidates:

<table>
<thead>
<tr>
<th>Program</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP ED 500 Exceptional Individuals</td>
<td>3</td>
</tr>
<tr>
<td>SECED 667 Guidance Problems in Education</td>
<td>2</td>
</tr>
<tr>
<td>SPA 105 Introduction to Audiology</td>
<td>3</td>
</tr>
<tr>
<td>SPA 340 Audiology Principles</td>
<td>1-3</td>
</tr>
<tr>
<td>SPA 341 Techniques of Audiology</td>
<td>3</td>
</tr>
<tr>
<td>HS&amp;S 406 Health Education Methodology</td>
<td>3</td>
</tr>
<tr>
<td>HS&amp;S 520 Administration of the School Health Program</td>
<td>3</td>
</tr>
<tr>
<td>NURS 480 School Nursing</td>
<td>1-6</td>
</tr>
<tr>
<td>ED 720B Internship (School Nursing)</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: Maximum credit nine units; subject to prior approval and dependent upon previous experience.

Library Services Credential

San Diego State University offers curricula leading to the Library Services Credential. This credential authorizes the holder to serve as a school library/media specialist in grades kindergarten through 12. For information concerning the credential, the student is referred to the Department of Educational Technology and Librarianship.

Requirements for Admission

1. Formal application to the Department of Educational Technology and Librarianship.
2. Admission to a basic teaching credential program.
3. Possession of a basic teaching credential.
4. Interview(s) with a faculty member in the Department of Educational Technology and Librarianship.

Program

The following program elements are required of all library credential candidates: (31 units)

<table>
<thead>
<tr>
<th>Program</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETL 445 School Library Media Programs</td>
<td>4</td>
</tr>
<tr>
<td>ETL 483 Directed Teaching—Library Practice</td>
<td>3</td>
</tr>
<tr>
<td>ETL 540 Educational Technology</td>
<td>3</td>
</tr>
<tr>
<td>ETL 541 Media Production Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ETL 546 Basic Reference Materials</td>
<td>3</td>
</tr>
<tr>
<td>ETL 547 Selection of Instructional Materials</td>
<td>3</td>
</tr>
<tr>
<td>ETL 548 Cataloging and Classification</td>
<td>3</td>
</tr>
<tr>
<td>ETL 675 Seminar in the Administration of Instructional Media Centers</td>
<td>3</td>
</tr>
<tr>
<td>ETL 678 Literature for Children</td>
<td>3</td>
</tr>
<tr>
<td>ETL 679 Literature for Adolescents</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units 31

Pupil Personnel Services Credential

San Diego State University offers programs leading to the Pupil Personnel Services Credential. This credential authorizes the holder to function as a counselor or other pupil personnel specialist in grades K through 12. For information concerning this credential, the student is referred to the Department of Counselor Education.
**Reading Specialist Credential**

San Diego State University offers a program leading to a Reading Specialist Credential. This credential authorizes the holder to function as a reading specialist in grades K through 12. For information concerning this credential, the student is referred to the Clinical Training Center.

**Requirements for Admission**

1. Admission to the University and to the Department of Counselor Education. Formal application also must be made to the Department of Counselor Education early in the semester prior to anticipated enrollment.

2. There are 44 competencies which must be satisfied for this credential. These competencies are met in the following courses: Education 690, Counselor Education 610A, 610B, 620, 640, 645, 650, 660, 667, 670, 710A, 710B, 730, and 740. Students who have had comparable course work outside the Department of Counselor Education and who desire to apply for the P.P.S. Credential through this department are required to provide evidence, in each case to the satisfaction of the relevant faculty member, that the designated competencies have been met.

3. Included as part of the above competencies is a field work requirement which involves cross-cultural field experiences with pupils of divergent age levels. The specific nature of the field work will vary according to the background of each student.

4. A master's degree is not a requirement for this credential; however, courses in the program described above may be acceptable also for the Master of Science degree in Counseling for which satisfactory completion of the Comprehensive Examination in Counseling Education and a minimum of 30 acceptable graduate units in residence are required.

**Program**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 611 Reading Diagnosis</td>
<td>3</td>
</tr>
<tr>
<td>Education 621 Advanced Diagnosis in Reading, to be taken concurrently with 625B, Interpersonal Interdisciplinary Comm. Skills</td>
<td>3</td>
</tr>
<tr>
<td>Education 631 Reading Clinic</td>
<td>3</td>
</tr>
<tr>
<td>Education 660 Procedures of Investigation and Report</td>
<td>3</td>
</tr>
<tr>
<td>Elem Educ 611 Seminar in Reading in Elementary Education /</td>
<td>3</td>
</tr>
<tr>
<td>Sec Educ 681 Seminar in Secondary School Reading</td>
<td>3</td>
</tr>
<tr>
<td>Education 652 Topics in Reading Education. Three required categories: 652A Linguistic/Cultural Differences and Reading, 652B Interpersonal/Interdisciplinary Communication Skills, 652C Children/Young Adult Literature; Oral and Creative Responses to Reading.</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

**Additional Requirements**

1. A minimum of one year of full-time teaching experience (or the equivalent) within the range of grades kindergarten to 12.

2. Satisfactory completion of a comprehensive examination covering the program course work.

A master's degree is not a requirement for this credential; however, courses in the program described above may be acceptable also for the Master of Arts in Education degree with a concentration in Reading Education. The 12 units of electives for this credential must be selected with the approval of a reading program advisor. Students who have had extensive experience teaching reading should take Education 701, Field Experience as a Reading Specialist. Education 795A and 795B may be taken as elective units for the credential, as may up to three additional units of Education 652, Topics in Reading.

---

**School Psychology Credential**

San Diego State University offers a program leading to the School Psychology Credential. The credential authorizes the holder to function as a school psychologist in grades K through 12. For information concerning this credential, the student is referred to the Coordinator of the School Psychology Program in the Department of Counselor Education.

**Requirements for Admission**

1. Admission to the University and to the Department of Counselor Education.

2. The School Psychology Credential program is built around developing certain competencies rather than the accumulation of a given number of course hours. However, these competencies can be developed by completing the approved program for the Pupil Personnel Services Credential, or equivalent, and taking the courses in the School Psychology Program which includes Counselor Education 621, 641A-641B, 720, 752, 760, Education 511, and Special Education 500, 501, 510, 420, or equivalent.

3. Included as part of the above competencies is a field work requirement which involves cross-cultural field experiences with pupils of divergent age levels. The specific nature of the field experiences will vary according to the background of each student.

**Special Education Specialist Credential**

San Diego State University offers curricula for the Special Education Specialist Credential in the five areas: Communication Handicapped, Learning Handicapped, Severely Handicapped, and Gifted. Persons interested in the Special Education Specialist Credential shall:

1. Admission to the Department of Special Education.

2. Complete one year of study in Special Education, including:
   - a. The generic course work: Special Education 600, 501, 502.
   - b. Advanced work in area of specialization:
      2. Special Education 420 series, 421, 422 and 423, or 480 series.
      3. Electives—6 to 12 units—on advice of adviser.

   *Applies only to specialization in Learning Handicapped, Severely Handicapped, Physically Handicapped, and Gifted. Those interested in the Communication Handicapped specialization are referred to the Department of Communicative Disorders.*
The Community College Instructor Credential

Specific Requirements
1. An associate degree in which the student can establish four years of occupational experience in a subject matter area plus 12 units in designated courses on the community college.
2. A baccalaureate degree in which the student can establish two years of occupational experience and a major or minor in a subject matter area related to this occupational experience plus six units in designated courses on the community college.
3. A master's degree in a subject matter area designated in Title 5, Section 5, #52210 (subjects commonly taught at a community college).

Baccalaureate Degree Candidates
Education 380, 381, 382 and 565 are offered to students who have had two to three years of occupational experience in courses taught in a community college. Students may also enroll if they presently hold a partial California credential in an occupational area. Early consultation with the Higher Education Programs Coordinator is recommended.

Master's Degree Candidates
No formal courses in education are required under the current interpretation of the Education Code. The program is elective and selective. It is strongly suggested, however, that graduate students enroll in the professional courses in teacher education in order to enhance employment possibilities as most community colleges require some professional preparation and/or experience. Students desiring further information are urged to consult the Higher Education Programs Coordinator, Room D2, Education Building. Admission to Education 700 is based upon successful completion of Education 666 (not required for psychology majors) and Education 680 and selection by the Community College Admission Committee. Most departments on the San Diego State University campus have developed programs permitting graduate students to obtain the master's degree and enroll in the education courses concurrently in as little as one year of full-time study. The courses in education are offered in late afternoon and evenings in regular semesters. The following courses are suggested to enhance employment in the community college:

Education 630 Instructional Methods and Materials: Community College (2)
Education 666 Educational Psychology: Community College (2)
Education 680 The Community College (3)
Education 688 Workshop in Community College Education (1-6)
Education 700 Directed Teaching Community College (4) Cr/NC

NOTE: Directed teaching can be accomplished only in a community college day assignment and not in summer session.

Bachelor of Vocational Education Degree
Instructors of Occupational Education are encouraged to complete the B.V.Ed. and to enroll in the program leading to the Master of Arts in Education with a concentration in curriculum and instruction, specializing in occupational education. For further information, students are advised to consult with the Higher Education Coordinator, School of Education.

The Bachelor of Vocational Education degree is designed primarily for instructors who are teaching in a vocational education program either in the secondary school or in the community college and qualify for an official evaluation (under provisions of the Swan Bill) through the State Board of Vocational Examiners in Sacramento. To qualify for the evaluation, the requirements of the State Education Code, Section 23956, must be met. The 1,620 clock hours in a full-time position or 1,000 clock hours in an approved trade technical extension class, amounting to a minimum of 90 units.

The individual desiring to secure the B.V.E. degree should follow the basic pattern set down in the following steps:
1. The individual must have a bachelor's degree in an occupational area. (This should include, if possible, the 40 units of general education required for the bachelor's degree from SDSU.)
2. The individual must have completed 40 units of advanced (junior and senior) coursework in the major or minor. (Maximum of 60 units accepted.)
3. The individual must take the professional occupational teacher education courses required for the Community College Credential (Title 5). The courses must be taken from an institution that will grant credit for the courses toward a bachelor's degree—Education 830, 831, 832 or 565. 6 - 12 units
4. The individual must receive credit for the required number of upper division courses to complete the Bachelor of Vocational Education degree graduation requirements. This includes those given in item 2 above. 40 units
5. The individual must see an advisor in the area of his major to arrange his program for completion of course work. A series of elective courses that support the professional responsibilities of the candidate will be recommended. Furthermore, 30 units must be in residency at SDSU.

Education

LOWER DIVISION COURSE

309. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES IN EDUCATION

(Required for Undergraduates)

375. Principles of Adult Education (2) I, II
History, philosophy, objectives and administration of adult education.

376. Methods and Materials in Adult Education (2) I, II
Identification, selection and utilization of teaching methods, techniques and materials appropriate for adults.

377. Psychological Foundations of Adult Education (2)
Educational psychology and developmental problems of adults.

390. Community College Occupational Education (3) I, II, S
Prerequisite: Two years of occupational experience in a community college subject matter area.

391. Community College Occupational Curriculum (3) II, S
Prerequisite: Education 380.

392. Directed Teaching (2 or 4) Cr/NC
Prerequisite: Education 380, 381 or 565.
Systematic observation, participation, and teaching under supervision in an occupational area in a community college.

393. History and Philosophy of Education (2) I, II, S
Historical and philosophical foundations upon which the public school system has been established. Meaning of education, educational aims and values, and democracy and education.

397. Problems in Education (Credit to be arranged) Extension
Offered only in Extension.
Prerequisite: Consent of instructor.
Class study of specially selected problems in education. Does not apply to pattern requirements for credentials.
435. Education for Minority Youth (3) I, II, S
Specific behavior patterns of minority youth and their effect upon the school learning process.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor. Open only to senior and graduate students in education who have shown ability to work independently. Individual study. Maximum credit six units.

UPPER DIVISION COURSES IN EDUCATION
(Also Acceptable for Advanced Degrees)

511. Reading Diagnosis (3)
Two lectures and three hours of laboratory. Prerequisites: Valid teaching credential and consent of instructor. Diagnosis of reading difficulties and exploration of remedial techniques.

565. Occupational Student (3) S
Prerequisite: Education 380 or 381. The learning process and individual differences, behavioral characteristics of youth, race and ethnic relations in the schools.

566. Human Relations and Counseling in Adult Education (1-3)
Prerequisite: Possession of a valid teaching credential. Principles, procedures and issues appropriate to human relations and counseling in adult education.

593. Workshop in Adult Education (1-3) II
Prerequisite: Possession of a valid teaching credential. Designed to meet the needs of individuals or groups of adult educators who wish to study special problems in adult education. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

Multicultural Education

550. Philosophy of Cultural Pluralism in Education (3)
Study of culture from a multidisciplinary and holistic perspective provides a thorough understanding of the interrelationship between education and cultural patterns and the roots of cultural pluralism; emphasis on establishing a theoretical framework for appreciating cultural and linguistic diversity in children.

553. Multicultural Oral Language Assessment Training (3)
Prerequisite: Education 350. Orientation to study of selected culture's linguistic characteristics; comparison with Standard American English for distinguishing problems of linguistic interference on oral language performance of pupils as a basis for prescribing individualized instruction; emphasis on home/community context of child language.

Counselor Education

UPPER DIVISION COURSE
(Intended for Undergraduates)

400. Counseling and the Helping Professions (3) I, II
Serves as an introduction to the field of counseling and introduces the student to those professions considered to be helping professions.

UPPER DIVISION COURSE IN COUNSELOR EDUCATION
(Also Acceptable for Advanced Degrees)

506. Guidance Conference (1-3) I, II
Prerequisite: Consent of conference director. A series of lecture and discussion sessions centering on current problems in counseling and guidance. Designed to serve the needs of any person desiring to keep informed of developments in this area. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

Educational Technology and Librarianship

LOWER DIVISION COURSE

201. Use of the Library (2) I, II
Resources and facilities of San Diego State University Library including interpretation and use of its principal information retrieval mechanisms. (Formerly numbered University Studies 201)

UPPER DIVISION COURSES IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP
(Intended for Undergraduates)

400. Technology and Lifelong Learning (3) I, II
Communication models and uses of technology as they impact on the many teaching-learning situations. Examination of role of educator as human communicator, technologist, and social change agent.

404. Instructional Media, Equipment and Production (1) I, II Cr/NC
Two hours of activity. Basic audiovisual equipment operation, production of inexpensive instructional materials, and applications of learning theory to the utilization of instructional materials. (Formerly numbered Secondary Education 404)

445. School Library Media Programs (3) I, II
Backgrounds of media centers in education. Objectives, standards and activities involved in planning, organizing, administering and integrating the school library media program with the instructional program of the school.

483. Directed Teaching: Educational Technology and Librarianship (2-4) I, II Cr/NC
Prerequisites: Admission to teacher education and concurrent completion of a teaching minor in educational technology and librarianship. Systematic observation and participation in library and audiovisual service under supervision in a school library and/or teaching materials center. A weekly seminar or conference is required.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP
(Also Acceptable for Advanced Degrees)

532. Design and Production of Instructional Materials (3)
Six hours of activity. Planning, preparing and using instructional materials with a wide variety of learners. Transparencies, lettering aids, color slides, audio cassettes, simulations, and portable video. Not open to students enrolled in Educational Technology and Librarianship Credential or M.A. program or with credit in Educational Technology and Librarianship 541.

540. Educational Technology (3) I, II, S
Six hours of activity. Applications of educational technology to instruction and learning individualization through the use of media. Includes film, TV, simulation, programmed instruction, computers and multi-media.
UPPER DIVISION COURSES IN ELEMENTARY EDUCATION
(intended for Undergraduates)

301. Basic Student Teaching Seminar (1-2) I, II Cr/NC
Prerequisites: Admission to elementary education and concurrent registration in Elementary Education 401.
Discussion of immediate problems in student teaching with emphasis on children’s growth and development.

303. Advanced Student Teaching Seminar (1-2) I, II Cr/NC
Prerequisites: Satisfactory completion of Elementary Education 301, 401; and concurrent registration in Elementary Education 403.
Discussion of immediate problems in student teaching with emphasis on the influence of philosophical, institutional, and cultural factors on learning.

307. Seminar in Student Teaching (3) I, II
Prerequisite: Concurrent registration in Elementary Education 407.
Diagnosing and remediating elementary school children’s difficulties in speech, spelling and handwriting, the individualization of instruction, professional self-evaluation, assessing learners’ achievement, and counseling with learners and parents.

308. SHARE: Practice in Community Service in Education (1-2) I, II
Three hours of supervised activity for one unit; one discussion and six hours of supervised activity for two units.
Prerequisite: Elementary Education 200.
Working on a tutorial basis with children in the community who have educational needs.

311. Child-Study Skills (2) I, II
Four hours of activity.
Prerequisites: Psychology 101 and provisional or complete admission to elementary education.
Skills in observing and interpreting the behavior of elementary school children as influenced by physical, emotional, social, and intellectual growth.

312. Community-Study Skills (2) I, II
Four hours of activity.
Prerequisite: Provisional or complete admission to elementary education.
Skills in observing and interpreting professional values and the diversity of social, cultural, economic, and educational values within elementary school communities.

313. Classroom Management Skills (1) I, II
Two hours of activity.
Prerequisite: Provisional or complete admission to elementary education.
Skills in organizing classroom organization and using instructional media and verbal stimuli to facilitate learning.

314. Field Experience in Classroom Management (1) I, II
Prerequisite: Provisional or complete admission to elementary education and concurrent enrollment in Elementary Education 313.
Field experience in assuming responsibility for managing an elementary classroom.

315. Skills in Applying Instructional Principles (2) I, II
Four hours of activity.
Prerequisite: Admission to elementary education.
Skills in applying principles of instruction related to readiness, motivation, efficiency of learning, and transfer of learning to organize an effective learning environment for children.

316. Skills in Teaching Critical Thinking (2) I
Four hours of activity.
Prerequisite: Admission to elementary education.
Skills in developing instructional strategies to guide children in concept development, exploration of creativity, and learning in the affective domain.

317. Skills in Curriculum Organization (2) I, II
Four hours of activity.
Prerequisite: Admission to elementary education.
Skills in planning, following and evaluating long-range instruction in the various school subjects.
361. Psychological Foundations of Education (1-3) I, II, S
Two hours of activity per unit.
Prerequisites: Psychology 101 and admission to elementary education.
Implementing the learning process through interactive skills, using instructional principles
to facilitate learning and changes in behavior and techniques used in assessing instruction
and pupil growth.

362. The Learning Process in the Elementary School (3) I, II
Prerequisite: Elementary Education 372.
Psychological principles for effective classroom teaching; techniques of measurement
and evaluation for the diagnosis and improvement of learning.

372. The Learner in the Elementary School (3) I, II
Prerequisites: Psychology 101 and admission to elementary education.
Emphasizing intellectual, emotional, social, and physical development during childhood and early
adolescence, including basic principles of child guidance and counseling. Directed
observation required. Not open to students with credit in Family Studies and Consumer
Sciences 270 and Psychology 330.

373. Kindergarten-Primary Practicum (3) I, II
The theory of early childhood education and the materials and teaching techniques used
in the kindergarten.

401. Basic Student Teaching (1-12) I, II Cr/NC
Prerequisites: Admission to elementary education and concurrent registration in
Elementary Education 301.
Day-to-day teaching experiences including selected instructional activities for which a
teacher in a classroom is normally responsible.

403. Advanced Student Teaching (1-12) I, II Cr/NC
Prerequisites: Satisfactory completion of Elementary Education 301, 401, and concurrent
registration in Elementary Education 303.
Teaching experiences including all the instructional activities for which a teacher in a
classroom is normally responsible.

405. Beginning Student Teaching (1-12) I, II Cr/NC
Prerequisite: Concurrent registration in Elementary Education 315 and 421.
Emphasis on day-to-day teaching with daily planning in the various school subjects,
particularly reading.

406. Intermediate Student Teaching (3) I, II Cr/NC
Prerequisites: Credit or concurrent registration in Elementary Education 405.
Emphasis on planning and teaching in accord with the needs of children.

407. Transitional Student Teaching (6) I, II Cr/NC
Prerequisites: Elementary Education 406 and concurrent registration in Elementary
Education 307.
Emphasis on making the transition from student teacher to the professional prepared to
assume complete responsibility for an elementary classroom.

411. Teaching Reading in the Elementary School (1-3) I, II, S
Two hours of activity per unit.
Prerequisite: Admission to elementary education or possession of a teaching credential.
The nature of reading as a human behavior, the various approaches and materials used in
teaching reading and coping with diversity among children as they learn to read.

412. Teaching Language Arts in the Elementary School (1-2) I, II, S
Two hours of activity per unit.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Selecting, designing, and evaluating appropriate learning experiences in handwriting,
spelling, oral and written composition, grammar and usage, and listening to assure children's
growth in language skills.

413. Teaching Mathematics in the Elementary School (1-2) I, II, S
Two hours of activity per unit.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Mathematics and program development to meet children's needs in understanding the
structure of mathematics.

414. Teaching Social Studies in the Elementary School (2) I, II
Four hours of activity.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Developing curriculum, principles and materials of instruction, including instructional
media and participation in elementary social studies education.

415. Teaching Science in the Elementary School (2) I, II
Four hours of activity.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Developing curriculum, principles and materials of instruction, including instructional
media and participation in elementary science education.

416. Teaching Art in the Elementary School (1-2) I, II, S
Two hours of activity per unit.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Developing curriculum, principles, and materials of instruction, including instructional
media and participation in elementary art education.

417. Teaching Music in the Elementary School (1-2) I, II, S
Two hours of activity per unit.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Developing curriculum, principles, and materials of instruction, including instructional
media and participation in elementary music education.

418. Teaching Science and Social Studies in the Elementary School (1-3) I, II, S
Two hours of activity per unit.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Developing and using instructional programs to facilitate growth in critical thinking and
using informational resources to learn and apply concepts and generalizations from the
various sciences and social sciences.

421. Skills in Teaching Reading (2) I, II
Four hours of activity.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Skills in teaching beginning reading, word analysis, comprehension, literary interpretation
and independent investigation.

431. Skills in Teaching Remedial Reading (1) I, II
Two hours of activity.
Prerequisites: Admission to elementary education and Elementary Education 421.
Skills in diagnosing and remediating children's reading difficulties.

UPPER DIVISION COURSES IN ELEMENTARY EDUCATION
(Also Acceptable for Advanced Degrees)

502. Field Experience in Early Childhood Education (1-6) I, II, S
Prerequisite: Elementary student teaching or approved full-time teaching experience.
Assignments made on an individual basis to fit the candidate's background, experience and career goals. Maximum
credit six units.

512. Children's Literature in Elementary Education (3) I, II
A survey of children's literature; the selection and use of material in the elementary
classroom.

514. Social Studies Unit Construction in Elementary Education (3) Irregular
Prerequisite: Elementary Education 414.
Selecting and organizing content, analyzing materials, and developing instructional units
in elementary social studies for classroom use.

523. Classroom Diagnosis and Remediation of Underachievers in Mathematics
(3) I, II
Six hours of activity.
Prerequisite: Teaching credential or teaching experience.
The assessment and remediation of underachievers in mathematics. Techniques in
determining difficulties in mathematics and prescribing remedial work; for use by elementary
and secondary classroom teachers and mathematics education specialists.
Secondary Education

UPPER DIVISION COURSES

(10r3)IIlCr/NC.407. Student Teaching Seminar (1 or 3) I, II Cr/NC
Prerequisites: Secondary Education 400, 401, 402, 403, 405. To be taken concurrently with Secondary Education 406. To plan and organize instruction in relation to all competencies acquired and to be implemented in an on-site, full-time student teaching assignment. Maximum credit three units.

412. Growth and Development of the Adolescent (3) Irregular
Adolescent physiological, psychological, social and emotional development, including principles of mental hygiene and guidance. Field work with adolescent groups in the community is required.

414. Methods and Materials of Instruction: Major (2) except Secondary Education 414K (3) Irregular
Lecture courses, except that Secondary Education 414K meets for one lecture and three hours of laboratory. Professional courses in specific teaching fields usually taken concurrently with directed teaching. Each course emphasizes the application of best practices with reference to each subject area named.

Offered in the Fall Semester
A. Methods in English
B. Methods in Home Economics
C. Methods in Foreign Languages
D. Methods in Mathematics
E. Methods in Speech Communication
F. Methods in Social Science

Offered in the Spring Semester
A. Methods in English
B. Methods in Home Economics
C. Methods in Foreign Languages
D. Methods in Mathematics
E. Methods in Social Science

422A-422B. Directed Teaching: Secondary (3-3) Irregular Cr/NC
Systematic observation, participation and teaching under supervision in a junior or senior high school. A weekly seminar or conference is required.

UPPER DIVISION COURSES IN SECONDARY EDUCATION

(Also Acceptable for Advanced Degrees)

515. Bilingual Teaching Strategies for Secondary Teachers (3)
Prerequisite: Teaching experience or enrollment in the Secondary Credential Program. Overview of legal and historical developments leading to bilingual teaching in the U.S. with attention to interactive and individualized techniques appropriate for bilingual students. Language assessment methods for grouping and evaluating bilingual students are discussed and practiced. Fieldwork required.

563. Measurement and Evaluation in Secondary Education (3) Irregular
Problems of evaluation in secondary education; construction of examinations, elements of statistics; selection and interpretation of standardized measures.

564. Quantitative Methods in Educational Research (3) I, II
Basic tests of statistical significance with special reference to the interpretation of educational data.

596. Workshop in Secondary Education (1-3 or 6) I, II
Workshop in Secondary Education: topics chosen to meet the needs of individuals or groups of teachers who wish to develop or continue the study of some problem with the consultation of the university staff and the San Diego County Curriculum staff. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.
Special Education

UPPER DIVISION COURSES

(Extended for Undergraduates)

420. Field Experiences in Special Education (1), II Cr/NC
Prerequisite: Concurrent registration in Special Education 510.
Directed field experience with exceptional individuals in public or private agencies.
Each field experience may be taken in each of the four areas:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted

421. Field Experiences in Special Education (1), II Cr/NC
Prerequisite: Concurrent registration in Special Education 511.
Directed field experience with exceptional individuals in public or private agencies.
Each field experience may be taken in each of the four areas:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted

422. Field Experiences in Special Education (1), II Cr/NC
Prerequisite: Concurrent registration in Special Education 512.
Directed field experience with exceptional individuals in public or private agencies.
Each field experience may be taken in each of the four areas:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted

423. Field Experiences in Special Education (1), II Cr/NC
Prerequisite: Concurrent registration in Special Education 513.
Directed field experience with exceptional individuals in public or private agencies.
Each field experience may be taken in each of the four areas:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted

471. Practicum in Special Education (2), II Cr/NC
One lecture and two hours of field work.
Prerequisites: Admission to Special Education; credit or concurrent registration in Special Education 500.
Supervised observation and participation in classroom related school activities for exceptional children. Course work includes discussion, analysis, and reports of observation.

480. Directed Internship: Special Education (1-4), I, II Cr/NC
Application to take course should be made during the preceding semester.
Extensive daily teaching in public schools of exceptional individuals in one of five areas:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted

UPPER DIVISION COURSES IN SPECIAL EDUCATION
(Also Acceptable for Advanced Degrees)

500. Exceptional Individuals (3), I, II, S
Two lectures and two hours of activity.
Behavioral commonalities among exceptional pupils, knowledge of principles, procedures, techniques and tests in identifying the learning and behavioral patterns of exceptional pupils; characteristics of exceptional pupils in terms of program and developmental needs. (Formerly numbered Special Education 567.)

501. Instructional Programs for Exceptional Individuals (2), I, II, S
Prerequisite: Credit or concurrent registration in Special Education 500.
Assessment of instructional needs, planning an effective individualized school program and developing procedures for evaluating pupil progress. Identify current programs and trends for planning effective individualized and group programs for exceptional individuals.

502. Interaction and Interpersonal Processes (2), I, II, S
Prerequisites: Credit or concurrent registration in Special Education 500.
Theories and processes of communication technology as they pertain to the functioning, individually and collectively, of parent, professionals, and community agencies in promoting personal, social, and vocational growth of individuals with exceptional needs.

510. Assessment and Evaluation of Exceptional Individuals (3), I, II
Prerequisites: Special Education 501 and 502.
Tests and procedures for assessing, evaluating and monitoring progress of exceptional individuals to meet their physical, intellectual, social, and emotional needs. Problems in the psycopedagogical diagnosis and appraisal. Utilization of assessment procedures for the educational and rehabilitation program. (Formerly numbered Special Education 561.)

511. Curriculum and Instruction for Exceptional Individuals (3), I, II
Prerequisite: Special Education 501 and 502.
Utilization of data for determining general and specific objectives to meet the needs unique to exceptional individuals. Developing and selecting materials and procedures for the achievement of these objectives. Establishing procedures for monitoring and evaluating pupil progress. (Formerly numbered Special Education 563, 568 and 573.)

512. Personal Adjustment of the Exceptional Individual (3), I, II
Prerequisites: Special Education 501 and 502.
Overlays of intellectual, emotional and physical problems which influence the success or failure patterns of individuals with exceptional needs. Strategies used to facilitate the adjustment of the exceptional individual to his environment including home, school and work. (Formerly numbered Special Education 572.)

513. Dynamics of Behavior Change and the Exceptional Individual (3), I, II
Prerequisites: Special Education 501 and 502.
Curriculum and methods of teaching in an area of exceptionality: observation of classroom, teaching in development of materials of instruction. May be repeated once in a demonstration class. (Formerly numbered Special Education 575.)

550. Workshop in Special Education (2-4), I, II
Prerequisites: Special Education 501 and 502.
Curriculum and methods of teaching in an area of exceptionality: observation of classroom, teaching in development of materials of instruction. May be repeated once in a demonstration class. (Formerly numbered Special Education 575.)

575. Curriculum for the Communicatively Handicapped (3)
Prerequisites: Speech Pathology and Audiology 326 or 356, and 552 and 553.
Application of cognitive processing theory to the development and evaluation of curricular materials, and procedures; selection of learning modalities and appropriate curriculum. (Formerly numbered Special Education 575.)

GRADUATE COURSES

College of Engineering

The undergraduate degrees in aerospace, civil, electrical, and mechanical engineering, are accredited by the Engineers' Council for Professional Development.

Faculty
Dean: Martin

Aerospace Engineering and Engineering Mechanics Department
Emeritus: Shutts
Chair: Conly
Professors: Conly, Dharamraj, McGhie, Narang

Civil Engineering Department
Emeritus: Capp
Chair: Chang
Professors: Chang, Chou, Johnson, Krishnamoorthy, Martin, Noorany, Quiet, Stone, Stratton
Assistant Professor: Banks

Electrical and Computer Engineering Department
Emeritus: Walling
Chair: Lin
Professors: Learned, Lin, Lodge, Skaar
Associate Professors: Brown, Haris, Iossupovic, Mann, Marino, Panos
Assistant Professors: Drake, Stuart

Mechanical Engineering Department
Emeritus: Bauer, Bitterman, Stone
Chair: Craig
Professors: Bedore, Craig, Fitz, Hussain, Morgan, Murphy, Ohnysty, Rao
Associate Professors: Mansfield, Pfleiderer

Offered by the College of Engineering
Master of Science degree in aerospace, civil, electrical and mechanical engineering.
Major in aerospace engineering with the B.S. degree.
Major in civil engineering with the B.S. degree.
Major in electrical engineering with the B.S. degree.
Major in mechanical engineering with the B.S. degree.
Major in engineering (a general engineering program) with the B.S. degree.
Minor in engineering.

Undergraduate Program
The objective of the engineering program at San Diego State University is to provide the intellectual and physical environment to encourage students to develop their capacities toward a successful career in the profession of engineering. The graduate of this program is able to assume personal responsibility for the development and application of engineering knowledge with wisdom and judgment for the benefit of mankind. He is qualified to take the Engineer-in-Training examination as a first step to professional registration, to enter industry, or to continue his formal education at the graduate level. Because the engineer's work is predominantly intellectual and varied, and not of a routine mental or physical character, this program places emphasis on the mastery of a strong core of subject matter in the physical sciences, mathematics, and the engineering sciences of broad facets of our civilization, because the engineering graduate must expect to find his best expression as a leader of men, conscious of the social and economic implications of his decisions.

Although the profession of engineering presents in practice a variety of specialties, the undergraduate student initially focuses his attention on a pattern of course work emphasizing engineering fundamentals. The student then is able to utilize this knowledge of fundamentals in developing special knowledge in his area of specific interest.

Graduation Requirements
1. A minimum of 132 semester units.
2. A minimum of 30 units in residence. Twenty-four of these shall be earned in upper division courses and shall include at least one-half of the major.
3. A scholastic grade point average of 2.0 (grade of C on a five-point scale) or better in (a) all units attempted, (b) all units in the major, and (c) all units attempted at this university.
4. At least 36 upper division units. (However, a typical program usually consists of at least 53 upper division units.)
5. Any student who does not wish to pursue the Bachelor of Science degree in aerospace, civil, electrical, or mechanical engineering must plan a course of study which must be approved by the Dean of the College of Engineering.
6. Satisfactory completion of competency tests in mathematics and writing, or completion of appropriate courses designated in lieu thereof.
7. All regulations established by the university.
8. American institutions, to include competence in American history, institutions and ideals; U.S. Constitution, and California state and local government.
9. Forty units in general education courses in addition to the major, distributed as prescribed in the section of this catalog on Graduation Requirements.
10. Application for graduation.

Majors

Aerospace Engineering Major
With the B.S. Degree
Each student in Aerospace Engineering includes in his program a basic sequence of courses in fundamental engineering sciences and aerospace engineering. In his junior and senior years, he has the opportunity to select a pattern of courses designed to develop proficiency in an area of specialization. This pattern of courses may be selected from those courses listed below. The student's choice of electives is in consultation with his department chairman. The student courses must be approved by his adviser and the department chairman.

The requirements for the major in aerospace engineering are described as follows:

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>Units</td>
</tr>
<tr>
<td>Freshman Year</td>
<td></td>
</tr>
<tr>
<td>Chem. 200, 200L General</td>
<td>Chem. 203, Chem. for Engrs.</td>
</tr>
<tr>
<td>Math. 150, Single Variable Calc.</td>
<td>Math. 151, Calc. and Linear Alg.</td>
</tr>
<tr>
<td>General Education</td>
<td>ME 190 or ME 191</td>
</tr>
<tr>
<td>P.E. Activity</td>
<td>General Education</td>
</tr>
<tr>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>
### Engineering Major

#### With the B.S. Degree

All students in Mechanical Engineering pursue a common program of basic sciences, engineering, and mechanical engineering fundamentals. In addition, the student is provided with the opportunity to select a pattern of study to satisfy his areas of interest. This pattern of study is indicated in the courses below as "professional electives" and may be selected from upper division courses in control systems, energy conversion, gas dynamics, heat transfer, machine design, materials, thermodynamics, vibrations, and other areas. The student's choice of elective courses must be in consultation with his advisor and documented by the filing of an approved master plan during the first semester of his junior year.

The requirements for the major in mechanical engineering are described as follows:

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 200, 200L, General</td>
<td>Chem. 202, 202L, General</td>
<td>5</td>
</tr>
<tr>
<td>Math. 150, Single Variable Calc</td>
<td>Math. 151, Calculus</td>
<td>5</td>
</tr>
<tr>
<td>EE 210, Electric Circuits</td>
<td>EE 210, Electric Circuits</td>
<td>3</td>
</tr>
<tr>
<td>EE 221, Mech. of Rigid Bodies</td>
<td>EE 221, Mech. of Rigid Bodies</td>
<td>3</td>
</tr>
<tr>
<td>American Institutions</td>
<td>American Institutions</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>General Education</td>
<td>3</td>
</tr>
<tr>
<td>P.E. Activity</td>
<td>P.E. Activity</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

#### Junior Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 340, Elect. and Mag. Fields</td>
<td>Elect. and Mag. Fields</td>
<td>3</td>
</tr>
<tr>
<td>EE 370, Logic Des. &amp; Sw. Circ.</td>
<td>Logic Des. &amp; Sw. Circ.</td>
<td>3</td>
</tr>
<tr>
<td>Professional Electives</td>
<td>Professional Electives</td>
<td>6-9</td>
</tr>
<tr>
<td>Basic Engineering Elective</td>
<td>Basic Engineering Elective</td>
<td>3</td>
</tr>
<tr>
<td>Upper Division Electives</td>
<td>Upper Division Electives</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>General Education</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

#### Senior Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 303, Electronics, instrum.</td>
<td>EE 303, Electronics, instrum.</td>
<td>3</td>
</tr>
<tr>
<td>EE 470, Heat Transfer</td>
<td>EE 470, Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>Professional Electives</td>
<td>Professional Electives</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>General Education</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

---

### Mechanical Engineering Major

#### Minor in Engineering

The minor in engineering, intended for students in other academic areas of the university, consists of 15 units in engineering, 12 units of which must be in upper division courses. The courses must be approved by the Dean of the College of Engineering.
Engineering

**LOWER DIVISION COURSES**

100. Introduction to the Engineering Profession (2), I, II Cr/NC
   - Prerequisite: Not available for credit to engineering majors with 15 or more units in engineering courses.
   - An overall view of engineering education and professional practice. An introduction to basic skills useful in acquiring engineering problem-solving capabilities.

120. Engineering Problem Analysis (2), I, II
   - One lecture and three hours of laboratory.
   - Analysis of engineering problems and solutions using the digital computer. Fundamentals of programming and programming language commands.

140. Engineering Measurement Analysis (2), I, II
   - Prerequisite: Mathematics 140.

150. Control of the Human Environment (3)
   - Man's interaction with the land, water and air environment; environmental pollution; role of engineering in controlling man's environment.

299. Experimental Topics (1-4)
   - Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

**UPPER DIVISION COURSES**

(2) I, II

### 310. Methods of Analysis (3)
   - Prerequisite: Mathematics 152.
   - Selected topics from ordinary differential equations, the Laplace transform, Fourier series, and linear algebra, with engineering applications.

### 360. Energy Issues and Ideas (3)
   - Prerequisites: Completion of Basic Subjects and Foundations of Learning sections of General Education.
   - A complete picture of today's energy issues. Development of awareness of energy demands. Consideration of socioeconomic issues resulting from the interaction between technology and society. Not open to engineering majors.

### 420. Intermediate Engineering Problem Analysis (3)
   - Prerequisite: Engineering 120.
   - Advanced use of Fortran and other computer programming languages for engineering problem analysis.

### 430. Principles of Engineering Economy (3)
   - Application of the mathematics of finance to engineering and managerial decision making.

### 452. Water Environment (2)
   - Man's interaction with the water environment; water quality criteria, water pollution and water reuse. Not open to students in civil engineering.

### 496. Advanced Engineering Topics (1-3)
   - Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering.
   - Modern developments in engineering. See Class Schedule for specific content. Maximum credit six units for any combination of Engineering 496, 499 and 596.

### 499. Special Study (1-3)
   - Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering.
   - Individual study. Maximum credit six units for any combination of Engineering 496, 499 and 596.

**Aerospace Engineering**

(Also Acceptable for Advanced Degrees)

301. Low Speed Aerodynamics (3)
   - Prerequisites: Credit or concurrent registration in Engineering Mechanics 340 and 341. Subsonic flow, airfoil and wing theory, experimental characteristics of wing sections, high lift devices.

302. High Speed Aerodynamics (3)
   - Prerequisites: Aerospace Engineering 301. Supersonic flow, two- and three-dimensional compressible flow, wings in compressible flow, two- and three-dimensional method of characteristics, transonic flow.

303. Experimental Aerodynamics (2)
   - One lecture and three hours of laboratory.
   - Prerequisites: Credit or concurrent registration in Aerospace Engineering 301. Operating characteristics of subsonic and supersonic wind tunnels. Aerodynamic characteristics of wings and bodies. Flow visualization techniques. Force, moment and pressure distribution measurement. Use of hot-wire anemometer and schlieren equipment.

310A-310B. Aerospace Structural Analysis (3-3)
   - Prerequisite: Engineering Mechanics 301. Aerospace Engineering 310A is prerequisite to 310B. Methods of structural analysis including both the static and dynamic aspects of problems encountered in the flight of aerospace vehicles.

320. Aerospace Flight Mechanics (3)
   - Prerequisites: Engineering Mechanics 220 or 221, and Engineering 310 or Mathematics 340A. Aerodynamics and dynamics of ballistic missiles; guidance systems; orbits and space trajectories; effects of aerodynamics, mass, rotation and shape of the earth on ballistic and space trajectories. Computer programming and problem solutions will be emphasized.
1. dimensional frameworks. Group led to analysis of beams, trusses, and statically indeterminate structures using matrix methods.

2. Aerodynamics (3) I, II
Prerequisites: Aerospace Engineering 310B. Study of principles of flight, lift, drag, and stability of aircraft and other vehicles.

3. Intermediate Fluid Mechanics (3) I
Prerequisites: Aerospace Engineering 320. Continuation of principles of fluid mechanics, with emphasis on aerodynamics and propulsion.

4. Aircraft Propulsion Systems (3) I
Prerequisites: Aerospace Engineering 301 or Mechanical Engineering 450. Study of aircraft propulsion systems, including reciprocating engines, turbojets, and ramjets.

5. Aircraft Stability and Control (3)
Prerequisites: Aerospace Engineering 303, and credit or concurrent registration in Engineering 510. Study of static stability and control, general equations of unsteady motion, stability, derivatives, and response of aircraft to actuation of controls.

6. Aerospace Engineering Applications (2-2) I, II
Six hours of laboratory. Prerequisites for 460A: Aerospace Engineering 302, 303, and 310A. Introduction to plastic theory and limited line analysis of aerospace structures.

7. Special Study (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering. Advanced study in aerospace engineering.

8. Advanced Aerospace Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering. Advanced topics in aerospace engineering.

9. Surveying for Civil Engineers (3) I, II
Prerequisites: Engineering 140. Study of surveying principles and applications in civil engineering.

10. Structural Analysis I (4) I, II
Prerequisites: Engineering Mechanics 301. Study of statics and structural analysis of beams and trusses.

11. Reinforced Concrete Design (3) II
Prerequisites: Civil Engineering 321. Study of reinforced concrete design and limit state design.

12. Water Resources Engineering I (2) I
Prerequisites: Credit or concurrent registration in Engineering Mechanics 340. Study of open channel and pressure conduit flow, pumps and turbines, and river hydraulics.

13. Water Resources Engineering II (2) II
Prerequisites: Civil Engineering 444. Study of hydrographs and frequency analysis as applied to flood flow determination.

14. Civil Engineering Environmental Studies (2) II
Prerequisites: Chemistry 201, 201L, or 202; and credit or concurrent registration in Engineering Mechanics 340. Study of civil engineering methodology to solve environmental problems.

15. Soil Mechanics (3) I
Prerequisites: Engineering Mechanics 301. Study of soil mechanics and properties.

16. Construction Project Planning (3) I
Prerequisites: Credit or concurrent registration in Engineering 430. Study of project planning and control parameters.

17. Hydrology (3) I
Prerequisites: Civil Engineering 218 and credit or concurrent registration in Civil Engineering 444. Study of hydrology in engineering.

18. Construction Project Planning (3) I
Prerequisites: Credit or concurrent registration in Engineering 430. Study of project planning and control parameters.

19. Advanced Civil Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering. Advanced topics in civil engineering.

20. Construction Project Planning (3) I
Prerequisites: Credit or concurrent registration in Engineering 430. Study of project planning and control parameters.

21. Advanced Surveying and Photogrammetry (3) I
Prerequisites: Civil Engineering 218 with minimum grade of C. Study of surveying principles and application of precise control surveys.
251. Structural Analysis II (3) I
Prerequisites: Civil Engineering 321 with minimum grade of C. Analysis of statically indeterminate structures by virtual work. Advanced treatment of slope deflection, moment distribution. Arch analysis, secondary stresses in trusses. Advanced treatment of influence lines.

523. Timber Design (3) I
Prerequisite: Civil Engineering 321. Structure and characteristics of wood; strength properties; loads and stresses; fasteners; working stress design of structural connections and members.

525. Design of Steel Structures (3) II
One lecture and six hours of laboratory.
Prerequisite: Civil Engineering 321. Behavior of structural steel components under load. Design of steel beams, girders, columns, rigid frames and industrial building. Design of various types of connections of steel structures.

555. Water and Wastewater Engineering (2) I
Prerequisite: Civil Engineering 455 with minimum grade of C. Examination of water and wastewater. Physical, chemical and biological methods of treatment. Advanced waste treatment processes. Water reclamation.

562. Applied Soil Mechanics and Foundation Engineering (3) II
Prerequisite: Civil Engineering 462. Soil mechanics theories applied to the design of shallow and deep foundations, lateral pressure of soils, design of retaining walls.

579. Highway Materials (3) II
Two lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Civil Engineering 482 or 482. Selection, design, and control of mixes of various materials used in highway construction practice. Emphasis on strength and properties of plain concrete and asphalts.

585B. Advanced Civil Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average 1.2, and/or approval of the Academic and Ethical Standards Committee of the College of Engineering. Modern developments in civil engineering. See Class Schedule for specific content. Maximum credit six units for any combination of Civil Engineering 496, 499, and 596.

Electrical Engineering

LOWER DIVISION COURSE

210. Electric Circuits (3) I, II
Prerequisites: Credit or concurrent registration in Physics 196, 196L, and Mathematics 151. Circuit analysis by reduction methods, source transformations, loop and nodal analyses; alternating current circuits, impedance, power and phasor diagrams.

UPPER DIVISION COURSES IN ELECTRICAL ENGINEERING

(Interested for Undergraduates)

303. Electronics, Instrumentation, and Electrical Energy Conversion (3) I, II

303L. Electrical Engineering Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Electrical Engineering 303. A laboratory course to include selected experiments in electrical circuits, electronics, and electrical machinery.

310. Network Analysis (3) I, II
Prerequisites: Electrical Engineering 210 and Mathematics 152. Loop and nodal analysis using general network equations; network theorems; frequency and time response using poles and zeros. Two-port parameters.

330. Fundamentals of Engineering Electronics (3) I, II
Prerequisite: Electrical Engineering 210. Application of diodes, transistors, electron tubes, and thyristors, in typical electronic circuits. Analysis and design of rectifiers and filters, and elementary amplifiers. Emphasis on their utilization in engineering equipment and systems.

330L. Engineering Electronics Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Electrical Engineering 330. Experimental study of laboratory instruments; diodes, rectifier circuits, filters, silicon controlled rectifiers, tubes, transistors, and amplifiers.

340. Electric and Magnetic Fields (3) I, II
Prerequisites: Engineering Mechanics 220 or 221, and Electrical Engineering 210. Electrostatic and magnetostatic field theory using vector notation; Coulomb's Law, Gauss' Law and potential theory. Solutions to Poisson's and Laplace's equations; capacitance and inductance. Time-varying electric and magnetic fields; Maxwell's equations.

370. Logic Design and Switching Circuits (3) I, II

380. Electrical Energy Conversion (3) I, II

380L. Electrical Energy Conversion Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Electrical Engineering 380. Experimental study of DC, AC and polyphase AC circuits, transformers, and machines.

403. Biomedical Instrumentation (3) I
Prerequisite: Electrical Engineering 330 or 333. Instrumentation systems to monitor, control and record physiological functions.

410. Advanced Network Analysis (3) I, II
Prerequisites: Electrical Engineering 310 and Engineering Mathematics 340A. Transient analysis of circuits containing resistance, inductance, and capacitance with various input wave forms by means of the Laplace-transform method.

412. Interactive Computing (2) I, II
One lecture and three hours of laboratory.
Prerequisite: Electrical Engineering 430. Use of electronic calculators and timesharing terminals for circuit analysis computation and plotting.

420. Control Systems Components (3) II
Prerequisites: Electrical Engineering 310, 330 and 380. Control Systems Components Laboratory (1) I, II
Prerequisite: Credit or concurrent registration in Electrical Engineering 420. Experimental determination of transfer functions for control system components.

430. Analysis and Design of Electronic Circuits (3) I, II
Prerequisites: Electrical Engineering 310, 330 and Engineering Mathematics 340A. Graphical methods and equivalent circuits; feedback theory and tuned amplifiers.
430L. Electronic Circuits Laboratory (1), II  
Three hours of laboratory.  
Prerequisite: Credit or concurrent registration in Electrical Engineering 430.  
Vacuum-tube and transistor dynamic characteristics; single stage and multistage amplifier circuits including feedback and tuned amplifiers.

450. Communication Networks (3) I  
Prerequisites: Electrical Engineering 310, 340 and Engineering 310 or Mathematics 340A.  
Theory and application of transmission lines, including analysis by matrix notation; use of Smith chart and other transmission line charts; impedance-matching with transmission line stubs and lumped constants; theory and design of constant-k m-derived, and other types of filter networks.

470. Pulse and Digital Circuits (3) I, II  
Prerequisite: Electrical Engineering 430.  

472L. Switching Circuits Laboratory (1) I  
Prerequisites: Electrical Engineering 370 and 470.  
Switching diodes, bipolar transistors, FET's, and integrated circuits. Combination and sequential switching systems.

496. Advanced Electrical Engineering Topics (1-3), I, II  
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering.  
Modern developments in electrical engineering. See Class Schedule for specific content.  
Maximum credit six units for any combination of Electrical Engineering 496, 499 and 596.

499. Special Study (1-3), I, II  
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering.  
Individual study. Maximum credit six units for any combination of Electrical Engineering 498, 499 and 596.

UPPER DIVISION COURSES IN ELECTRICAL ENGINEERING  
(Also Acceptable for Advanced Degrees)

520. Feedback Control Systems (3) I  
Prerequisite: Electrical Engineering 420.  
Analysis of regulatory systems including servomechanisms by the Laplace transform method. System performance and stability; Nyquist, Bode, and root-locus diagrams; elementary synthesis techniques. Practical components and examples of typical designs.

521. Advanced Feedback Control Systems (3) II  
Prerequisite: Electrical Engineering 520.  
A continuation of Electrical Engineering 520 to include feedback compensation, advanced compensation techniques, signal flow theory, state-variable techniques, introduction to nonlinear and sampled-data control systems.

530. Transistor Circuit Analysis (3), I, II  
Prerequisite: Electrical Engineering 430.  
Analysis and design of transistor voltage and power amplifier circuits by use of duality and matrix methods. Feedback amplifiers, audio amplifiers, video amplifiers, power supplies and oscillators; transient analysis and noise considerations.

534. Solid-State Devices (3) I  
Prerequisite: Electrical Engineering 430.  
Conduction theory of solids. Characteristics of tunnel, backward, breakdown, multilayer and varactor diodes; silicon controlled rectifiers and switches, unipolar transistors, hot electron devices, Lasers and laser applications.

540. Microwave Communications (3) II  
Prerequisites: Electrical Engineering 430 and 450.  
Applications of Maxwell's equations to wave propagation; skin effect, circuit impedance elements; vector potential, and other time-varying electrical phenomena; waveguides and resonators, strip line circuits, electromagnetic radiation.

540L. Microwave Measurements Laboratory (1), II  
Three hours of laboratory.  
Prerequisites: Credit or concurrent registration in Electrical Engineering 430L and 540.  
Experimental study of microwave generation including klystrons, Gunn and IMPATT oscillators. TWT and microwave transistor amplifiers. Microwave modulation and detection. Microwave transmission and antennas.

553. Stochastic Signals (3) II  
Prerequisite: Engineering 310 or Mathematics 340A.  
Random signals, correlation functions, power spectral densities, the Gaussian process, narrow band processes. Applications to communication systems.

554. Communication Principles and Circuits (3) I, II  
Prerequisite: Electrical Engineering 430.  
Signal transmission in linear networks; modulators and detectors; amplitude and frequency modulation; transient response of amplifiers.

554L. Communication Circuits Laboratory (1) I  
Three hours of laboratory.  
Prerequisite: Electrical Engineering 430L.  
Regulated power supply systems; oscillator, modulator, detector, and switching circuits; superharmonic and television circuitry.

555. Modulation Theory (3) I  
Prerequisite: Electrical Engineering 410.  
Theory and performance characteristics of modulation and demodulation; spectral characteristics and noise performance of carrier systems; amplitude, frequency and phase, pulse coded, and non-coherent modulation.

570. Advanced Pulse and Digital Circuits (3) II  
Prerequisite: Electrical Engineering 470.  
Digital system design using linear elements. Microcircuit amplifiers, sweep circuits, JFETs and MOS devices, A/D and D/A converters.

571. Advanced Logic Design and Switching Circuits (3), I, II  
Prerequisite: Electrical Engineering 370.  
Detailed study of synchronous and asynchronous sequential circuits. Impact of microcircuit technology on practical logic design.

573. Computer Organization (3), I, II  
Prerequisite: Engineering 120 or Mathematics 107, and Electrical Engineering 370.  
Data structure, machine and assembly language programming, arithmetic and control units microprogramming, memory devices, input-output devices, channels and operating systems concepts.

575. Microprocessors (3), I, II  
Prerequisites: Electrical Engineering 470 and 573.  
Microprocessor organization and operation. Comparative analysis of commercially available microprocessors. Circuit design and programming of microprocessor-based computing and controller systems.

580. Modern Power Systems I (3) I  
Prerequisites: Engineering 310, Electrical Engineering 310 and 380.  
Modern power system elements: calculation of load flow, fault currents, and system stability.

581. Modern Power Systems II (3) II  
Prerequisite: Electrical Engineering 580.  
Transient response of modern power system elements; positive, negative and zero sequence impedances, subharmonic effects.

596. Advanced Electrical Engineering Topics (1-3), I, II  
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering.  
Modern developments in electrical engineering. See Class Schedule for specific content.  
Maximum credit six units for any combination of 496, 499 and 596.
Engineering Mechanics

UPPER DIVISION COURSES IN ENGINEERING MECHANICS
(Also Acceptable for Advanced Degrees)

520. Intermediate Dynamics (3)
Prerequisites: Engineering Mechanics 220 or 221, Electrical Engineering 210, and Engineering 310.
Kinematics and kinetics of systems of particles and rigid bodies. Dynamic analysis procedures for studying mechanical, electrical, and electromechanical systems. Variational methods.

540. Intermediate Fluid Mechanics (3)
Prerequisites: Credit or concurrent registration in Engineering Mechanics 340, and Engineering 510 or Mathematics 340B.

541. Hydrodynamics (3)
Prerequisites: Engineering Mechanics 220 or 221, and Engineering 310 or Mathematics 340A or 530 or 533.
Kinematics, equations of continuity, energy, and momentum of perfect fluids. Introduction to conformal transformations. Three-dimensional and two-dimensional irrotational motion, with applications to physical problems. Vector notation will be used.

596. Advanced Engineering Mechanics Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering. Modern developments in engineering mechanics. See Class Schedule for specific content. Maximum credit six units for any combination of Engineering Mechanics 496, 499 and 596.

Mechanical Engineering

LOWER DIVISION COURSES

301. Introduction to Solid Mechanics (3) I, II
Prerequisites: Engineering Mechanics 220 or 221, and credit or concurrent registration in Engineering 310.
Mechanics of solid deformable bodies involving analytical methods for determining strength, stiffness, and stability of load-carrying members.

302. Solid Mechanics Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Engineering Mechanics 301.
Laboratory studies in solid mechanics. Experimental stress analysis. Experimental confirmation of theory.

340. Fluid Mechanics (3) I, II
Prerequisites: Engineering Mechanics 220 or 221, and credit or concurrent registration in Engineering 310.
Fluid statics. Laminar and turbulent flow of liquids and gases in pipes, nozzles, and channels. Dimensional analysis and modeling. Drag forces on moving or immersed objects.

341. Fluid Mechanics Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Engineering Mechanics 340.

496. Advanced Engineering Mechanics Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the College of Engineering. Maximum credit six units for any combination of Engineering Mechanics 496, 499 and 596.

499. Special Study (1-3) I, II
Prerequisites: Credit or concurrent registration in Engineering Mechanics 496. Academic and Ethical Standards Committee of the College of Engineering. Maximum credit six units for any combination of Engineering Mechanics 496, 499 and 596.

UPPER DIVISION COURSES IN MECHANICAL ENGINEERING
(Also Acceptable for Advanced Degrees)

310. Engineering Design: Introduction (3) I, II
Two lectures and three hours of guided design activities.
Professional approach to engineering design problems. Problem definition, information gathering, feasibility studies, analysis, final design and communication. Several design studies are completed. Computer-aided design and/or computation. Design of machine elements. Student design projects.

340. Metallic Materials and Processes (4) I, II
Three lectures and three hours of laboratory.
Prerequisites: Engineering Mechanics 210 and Physics 197, 197L.
Physical metallurgy and properties of metals. Influence of processing on the properties of metals. Design criteria for selection of materials.
350. Thermodynamics (3) I, II
Prerequisite: Mathematics 152.
Development of the basic laws of thermodynamics and their application to engineering systems.

350L. Thermal Science Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Mechanical Engineering 350 or 352.
Laboratory studies of the basic concepts of thermal science.

352. Thermodynamics and Heat Transfer (3) I, II
Prerequisite: Mathematics 152.
First and second laws of thermodynamics; heat conduction, convection and radiation. Not acceptable for mechanical engineering majors.

410. Creativity in Design (3)
Methods to stimulate creativity in design. Investigation of hidden blocks to creative thought. Emphasis on placing students in a design situation requiring an inventive or creative solution.

450. Engineering Thermodynamics (4) I, II
Three lectures and three hours of laboratory.
Prerequisites: Mechanical Engineering 350 and credit or concurrent registration in Engineering Mechanics 340.
Further development of the laws of classical thermodynamics. Applications to the analysis and design of energy conversion systems.

470. Principles of Heat Transfer (3) I, II
Prerequisites: Engineering 310, and Mechanical Engineering 350 or 352.
Heat transfer by conduction, convection, radiation, and combinations thereof.

480. Internal Combustion Engines (3) I, II
Prerequisite: Mechanical Engineering 450.
Analysis of idealized and real internal combustion engine cycles; combustion problems; performance of reciprocating and rotary types of internal combustion engines. Principles of reaction motors.

490A-490B. Mechanical Engineering Applications (2-2) I, II
Six hours of laboratory.
Prerequisites for 490B: Mechanical Engineering 312, 314, 450 and 490A.
Applications of engineering principles to design of machinery and energy conversion systems. Individual student projects.

496. Advanced Mechanical Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in mechanical engineering or approval of the department chairman.
Modern developments in mechanical engineering. See Class Schedule for specific content. Maximum credit six units for any combination of Mechanical Engineering 496, 499 and 596.

499. Special Study (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in mechanical engineering or approval of the department chairman. Individual study. Maximum credit six units for any combination of Mechanical Engineering 496, 499 and 596.

**UPPER DIVISION COURSES IN MECHANICAL ENGINEERING**
(Also Acceptable for Advanced Degrees)

510. Advanced Machine Design (3) I, II
Prerequisite: Mechanical Engineering 314.
Application of advanced topics in strength of materials to the design of mechanical elements. Energy methods, stress concentrations, curved beams, and thick-walled cylinders. Practical application of principles through case studies or design projects.
596. Advanced Mechanical Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in mechanical engineering or approval of the department chairman.
Modern developments in mechanical engineering. See Class Schedule for specific content. Maximum credit six units for any combination of Mechanical Engineering 496, 499 and 596.

GRADUATE COURSES
For graduate courses in Engineering, Aerospace Engineering, Civil Engineering, Electrical Engineering, Engineering Mechanics, and Mechanical Engineering, refer to the Graduate Bulletin.

259 / Engineering/ME

English
In the College of Arts and Letters

Faculty
Emeritus: Adams, J., Burnett, Chaten, Gulick, Haskell, Kennedy, Marchand, Phillips; Shouse, Theobald
Chair: McLeod
Associate Professors: Borkat, Brown, Farber, Hinkle, Keifer, D., Kohler, Nichols, Patterson, Redding, M., Redding, D., Rogers, Rush, Sheres, Shoial, Taylor, Thrane, Tunberg, Wall
Assistant Professors: Aninger, Boe, Butler, Forche, Foster, Gervais, Kanath, Keifer, D., McCaffery, O'Reilly, Sullivan, Wheeler
Lecturer: Mazzaro

Offered by the Department of English and Comparative Literature
Master of Arts degree in English.
Major in English with the A.B. degree in liberal arts and sciences.
Teaching major in English for the single subject teaching credential.
Minor in English.
Courses in comparative literature. (Refer to this section of the catalog under Comparative Literature.)

English Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." No more than 48 units in English and comparative literature courses can apply to the degree. To satisfy the requirement in foreign language, students may not use courses in conversation.
A minor is not required with this major.


Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in English, selected with the approval of the adviser, to include (a) English 533, (b) at least nine units in one of the areas of study listed below, and (c) at least three units in British Literature before 1800, three units in British Literature after 1800, and three units in American Literature. Students who have not taken 260A as part of the preparation for the major must take 560A. Students who have not taken 260B must take 560B. The same course may be used to satisfy requirements under both (b) and (c), except that 560A or 560B may not be used to satisfy requirement (c) without special permission from the Department Chair. No more than six units of courses in comparative literature may be included as part of the major in English.

Areas of Study:

American Literature: English 521, 522, 523, 524, 525, 526, 527, 528.


Literary Types, Theory, and Criticism: English 507, 508, 570, 571A-571B, 572, and 573.

Comparative Literature 512, 513, 514, 560, 562, and 563.

Creative Writing: English 570, 571A-571B, 572, 579, 580, 581, 582, and 589.

NOTE: In addition to the courses listed above, appropriate sections of English 496, 499, 549, and American Studies 580 may be used to satisfy the requirements for the major if approved by the departmental adviser.
Selection of Courses

Prospective majors of sophomore standing may, with the consent of the course instructor and subject to general university regulations (see "Credit for Upper Division Courses" in the section of this catalog on General Regulations), substitute six units of upper division electives for six units of lower division work. These courses must be in the same field as those which replace, and must be approved by the departmental adviser.

Students of junior or senior standing may substitute for any deficiencies in lower division requirements in English (except English 101) an equivalent number of units of upper division courses selected with the approval of the departmental adviser.

English Major

For the Single Subject Teaching Credential

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. This major may be used by students in teacher education as an undergraduate major for the A.B. degree in liberal arts and sciences.

The requirements for the Secondary Waiver Credential in English are as follows:

I. A major in English, comparative literature, or linguistics for the A.B. degree

II. Satisfactory completion of 39-41 units selected from courses in the following categories:

A. Courses in Literature (total 15 units)

1. Lower division survey: 6 units
   (American, British, or World)
   a. Particularly appropriate: English 250, 260A, Comparative Literature 270A
   b. Appropriate: English 260B, Comparative Literature 270B

2. Shakespeare or The Bible as Literature: 3 units
   a. Particularly appropriate: English 533 (Shakespeare)
   b. Appropriate: Comparative Literature or English 505 (The Bible as Literature)

3. Modern Literature: 3 units
   a. Particularly appropriate: English 525*, 526*, 544A-544B, Comparative Literature 514
   b. Appropriate: English 527, 546, Comparative Literature 526, 530, 540
   c. The following courses are also applicable when the topic deals with the Twentieth Century: English 496, 521, 522, 524, 528, 549, Comparative Literature 490, 550, 577

4. A Course in Genre, Myth, or Literature and Other Disciplines: 3 units
   a. Particularly appropriate: English 570, 571A, 579, Comparative Literature 495, 561, 570
   b. Appropriate: English 572, Comparative Literature 560, 562, 563, 571
   c. The following courses are also applicable when the topic deals with a genre or literature and other disciplines: English 496, 524, 544, Comparative Literature 490, 550

B. Courses in Writing (total 12 units)
   a. Particularly appropriate: English 280, 500, 580, 581
   b. Appropriate: English 100, 101 (Composition), 200, 281, 582

C. Courses in Linguistics (total 9 units)
   a. Particularly appropriate: Linguistics 510 (History of English), 520 (Modern English), 524 (American Dialectology)
   b. Appropriate: Linguistics 101 (Language Study), 580 (Theory and Practice of English as a Second Language), 581 (Sociolinguistics), 552 (Psycholinguistics), Comparative Literature 581 (Literary Uses of Languages)

D. Speech (total 3 units)
   a. Particularly appropriate: Speech Communication 103 (Oral Communication), 105 (Intro. to Speech Com.), 111A (Fund of Interp.)
   b. Appropriate: Speech Communication 391 (Group Com.)
220. Introduction to Literature (3) I, II
An inquiry into the basic nature of literature: what prompts humankind to the creation of imaginative literature, what purposes does literature serve in the cultural life of humanity, what are its social, philosophical, spiritual, and aesthetic values. Some consideration may be given to major critical theories, but the focus will be on practical criticism for the nonspecialist. Specific works studied will be representative of several genres, cultures, and periods of literature.

259. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

260. Topics in American Literature (3) I, II
An introductory course, using a broad topic in American literature to interrelate works intensively. Techniques of literary expression and the values of literature will be identified through such connective topics as American Self-Reliance, Man/Woman and Nature, American Innocence and Experience. See Class Schedule for specific content. Maximum credit six units.

260A-260B. English Literature (3-3) I, II
English literature from the Anglo-Saxon period to the present, with emphasis on the major works in the literary tradition. Semester I: Begins with the neoclassical period. Semester II: Ends with Romantic writers.

261. Topics in English Literature (3) I, II
An introductory course, using a broad topic in English literature to interrelate works intensively. Techniques of literary expression and the values of literature will be identified through such connective topics as Comedy and Tragedy from Chaucer to Pinter, Hero and Quest in English Literature, Nature and Supernature. See Class Schedule for specific content. Maximum credit six units.

Comparative Literature
(See this section of catalog under Comparative Literature)

280. Creative Writing (3) I, II
Prerequisite: African-American Studies 120A or English 100 or 101 or Mexican-American Studies 111B. Introduction to the theory and practice of writing in the major genres, with emphasis on basic concepts and techniques.

281. Creative Writing: Selected Genres (3) I, II
Prerequisite: English 280. Guidance and extensive practice in writing in one or more of the major genres: poetry, drama, fiction, or the essay. See Class Schedule for specific content.

UPPER DIVISION COURSES
(Intended for Undergraduates)

General

300. Honors Course (1-3) I, II
Refer to Honors Program.

301. The Psychological Novel (3)
Psychological novel from its inception to present, including major works from a variety of cultures. Readings designed to aid students in discovering insights which great novelists have unearthed in their explorations of the human psyche.

American Literature

496. Selected Topics in English (1-4) I, II
Specialized study of a selected topic in literature. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

497. Individual Reading (1) I, II
Selected works by a major author. May be repeated with new content. Maximum credit two units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

All 500-level courses—Prerequisite: Six lower division units in English.

500. Advanced Composition (3) I, II
The theory and practice of expository writing, including the contributions of semantics, rhetoric, and logic.

505. The Bible as Literature (3) I, II
(Same course as Comparative Literature 505) Prose and poetry of the King James version.

507. The History of Literary Criticism (3) I
Principles and practices of literary criticism from Greek times to the nineteenth century.

508. Modern Criticism (3) II
The theory and practice of selected nineteenth and twentieth century critics, with emphasis on the distinctive features of their approaches to literature.

American Literature

521. Major and Minor Periods in American Literature (3) I, II
American literary history treated chronologically, such as a survey of early American literature, the literature of the American Renaissance, literature of the period of Realism and Naturalism, American literature of the first half of this century, or smaller, more specific historical units. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

522. Individual American Author (3) I, II
In-depth study of a major American writer. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

523. Individual Movement in American Literature (3) I, II
Courses in the history of American literature from the beginning, in particular periods of American literary history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

524. Individual Issues in American Literature (3) I, II
Study of a particular issue in American literature; such as American women writers, the erotic in American literature, transatlantic literary relations, the American writer in exile, and smaller, more specific historical units. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

525. Studies in American Fiction (3) I, II
Courses in the history of American fiction from the beginning, in particular periods of American literature. May be fiction writing, in special groups of writers, and in contemporary American fiction. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

526. Studies in American Poetry (3) I, II
Courses in the history of American poetry from the beginning, in particular periods of American literature. May be poetry writing, in special groups of poets, and in contemporary American poetry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

527. Studies in American Drama (3) I, II
Courses in the history of American drama from the beginning, in particular periods of American literature. May be drama writing, and in contemporary American drama. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

528. History of American Literature (3) I, II
American literary history from the Colonial period to the present. Recommended for English majors.
British Literature

530. Chaucer (3) I, II
Chaucer's works, with emphasis on The Canterbury Tales and Troilus and Criseyde.

531. Renaissance Literature (3) I, II
English poetry and prose from 1455 to 1603.

533. Shakespeare (3) I, II
An introduction to the writings of Shakespeare.

534. Study of Shakespeare (3) II
Prerequisite: English 533. Advanced study of Shakespeare's achievement as a poet and playwright.

535. Seventeenth Century Literature (3) II
English poetry and prose from 1603 to 1660.

537. Milton (3) II
Milton's writings, with emphasis on Paradise Lost.

538. Restoration and Eighteenth Century Literature (3-3) I, II
English literature in the neoclassical era. Semester I: Dryden, Swift, Pope, and their contemporaries. Semester II: Writers of the middle and late eighteenth century.

540A-540B. English Fiction (3-3) I, II

541A-541B. English Drama (3-3) I, II
English dramatic literature from its beginnings to the nineteenth century. Semester I: The period from the beginning to 1642. Semester II: The period following reopening of the theatres in 1660.

542A-542B. Nineteenth Century British Poetry (3-3) I, II

543. Nineteenth Century British Prose (3) I, II
Nonfictional prose of the Romantic and Victorian periods.

544A-544B. Modern British Fiction (3-3) I, II
Semester I: English fiction from 1890 to World War II. Semester II: English fiction from 1939 to the present. (Formerly numbered English 544.)

545. Modern British Poetry (3) I, II
British poetry since 1890.

546. Modern British Drama (3) I, II
British drama since 1890.

549. Topics in English Literature (3) I, II

560A-560B. A History of English Literature (3-3) I, II
Survey of major English writers, with emphasis on reading of complete works. Semester I: From the beginning to the neo-classical period. Semester II: Begins with the Romantic writers. Especially appropriate for those students who have not satisfied the lower division survey requirements, for those who will teach English literature, and for those proceeding on to graduate study.

Comparative Literature

(See this section of catalog under Comparative Literature)

Creative Writing

570. Techniques of Poetry (3) I, II
A study of the critical and theoretical literature of poetry, from the creative writer's viewpoint, together with reading and discussion of appropriate examples.

571A-571B. Techniques of Fiction (3-3) I, II
A study of the critical and theoretical literature of fiction, from the creative writer's viewpoint, together with reading and discussion of appropriate examples. Semester I: Short Fiction. Semester II: The Novel.

572. Techniques of Drama (3) I
A study of the critical and theoretical literature of drama, from the creative writer's viewpoint, together with reading and discussion of appropriate examples.

579. Topics in Techniques of Writing (3) I, II
A study of the critical and theoretical literature of literary technique or topic such as satire, science fiction, myth and fantasy, children's literature, the long poem, the literary anatomy, etc. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

580. The Writing of Poetry (3) I, II
Prerequisite: English 280. A writing workshop in poetry. May be repeated with new content. Maximum credit six units.

581. The Writing of Fiction (3) I, II
Prerequisite: English 280. A writing workshop in fiction. May be repeated with new content. Maximum credit six units.

582. The Writing of Nonfiction (3) I
Prerequisite: English 280. A writing workshop in nonfiction prose. May be repeated with new content. Maximum credit six units.

588. Senior Workshop in Creative Writing (3) I, II
An advanced workshop intended only for students who have an extensive background in creative writing. Different sections of the course may treat advanced poetry writing, advanced fiction writing, or other special topics. See Class Schedule for specific content.

GRADUATE COURSES

Refer to the Graduate Bulletin.
European Studies
In the College of Arts and Letters

Faculty
European Studies is administered through the European Studies committee, composed of faculty members from the departments of Anthropology, Art, Classical and Oriental Languages and Literatures, English and Comparative Literature, French and Italian Languages and Literatures, Geography, Germanic and Slavic Languages and Literatures, History, Philosophy, Political Science, and Spanish and Portuguese Languages and Literatures; and the Library. Professor Leon Rosenberg is chair. Professor Jimenez-Vera is student adviser.

Offered by European Studies
Major in European studies with the A.B. degree in liberal arts and sciences.

European Studies Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

Preparation for the major. Art 258 or 259; Economics 101 and 102, or Geography 101 and 102, or Political Science 101 and 103; History 105A-105B. (15 units.)

Foreign Language Requirement. Twelve units in Latin or one of the major European languages (French, German, Italian, Russian, Spanish).

Major. A minimum of 30 upper division units to be chosen with approval of the adviser and distributed as follows: six units in humanities to include European Studies 401A-401B or 402A-402B; six units in a major European foreign language; nine units in economics, geography, history of political science; six units in arts, classics, comparative literature, music or philosophy; three units of electives. Majors in European studies must have their program for each semester approved by the adviser.

LOWER DIVISION COURSES
100. European Civilization (3) S
The civilization of Europe through a conducted travel tour. (Formerly numbered Humanities 48-52)

110. French Civilization (3) I
French culture from the earliest times to the Enlightenment, with emphasis on the people, their social and political institutions, their arts and letters. Not open to students with credit in French 421 or European Studies 310. (Formerly numbered Humanities 42.)

111. French Civilization (3) II
French culture from the Enlightenment to the present. Continuation of European Studies 110. Not open to students with credit in French 422 or European Studies 311. (Formerly numbered Humanities 43.)

120. German Civilization (3) I
The major currents and characteristics of German culture of the Middle Ages and the Renaissance as expressed in literature, art and philosophy. Not open to students with credit in European Studies 320. (Formerly numbered Humanities 44.)

121. German Civilization (3) II
The major currents and characteristics of German culture as expressed in literature, art and philosophy since the Renaissance. Not open to students with credit in European Studies 321. (Formerly numbered Humanities 45.)

130. Russian Civilization (3) I
The major currents and characteristics of Russian culture, as expressed through the centuries in literature, art, philosophy and music from the beginnings to early 19th century. Not open to students with credit in European Studies 330. (Formerly numbered Humanities 52.)

131. Russian Civilization (3) II
Modern Russia's cultural development from early 19th century (The Golden Age) to the present. Not open to students with credit in European Studies 331. (Formerly numbered Humanities 53.)

140. Italian Civilization (3) I
The major aspects of Italian civilization with emphasis on literature, art, philosophy, music and history from the earliest times to the Renaissance. Not open to students with credit in European Studies 340. (Formerly numbered Humanities 54.)

141. Italian Civilization (3) II
Continuation of European Studies 140 from the Renaissance to the present. Not open to students with credit in European Studies 341. (Formerly numbered Humanities 55.)

UPPER DIVISION COURSES
(Intended for Undergraduates)

310. French Civilization (3) I
French culture from the earliest times to the Enlightenment, with emphasis on the people, their social and political institutions, their arts and letters. Not open to students with credit in French 421 or European Studies 110. (Formerly numbered Humanities 142.)

311. French Civilization (3) II
French culture from the Enlightenment to the present. Continuation of European Studies 310. Not open to students with credit in French 422 or European Studies 111. (Formerly numbered Humanities 143.)

320. German Civilization (3) I
Investigation of the forces shaping German civilization in the Middle Ages and the Renaissance. Emphasis on history of ideas with reference to their manifestations in the arts and social institutions. Not open to students with credit in European Studies 120. (Formerly numbered Humanities 144.)

321. German Civilization (3) II
Investigation of the forces shaping German civilization since the Renaissance. Emphasis on history of ideas with reference to their manifestations in the arts and social institutions. Not open to students with credit in European Studies 121. (Formerly numbered Humanities 145.)

330. Russian Civilization (3) I
The major currents and characteristics of Russian culture, as expressed through the centuries in literature, art, philosophy and music from the beginnings to early 19th century. Not open to students with credit in European Studies 130. (Formerly numbered Humanities 152.)

331. Russian Civilization (3) II
Modern Russia's cultural development from early 19th century (The Golden Age) to the present. Not open to students with credit in European Studies 131. (Formerly numbered Humanities 153.)

340. Italian Civilization (3) I
The major aspects of Italian civilization with emphasis on literature, art, philosophy, music and history from the earliest times to the Renaissance. Not open to students with credit in European Studies 140. (Formerly numbered Humanities 154.)

341. Italian Civilization (3) II
Continuation of European Studies 340 from the Renaissance to the present. Not open to students with credit in European Studies 141. (Formerly numbered Humanities 155.)

350. Spanish Civilization (3)
The principal aspects of Spanish civilization with emphasis on literature, philosophy and the arts. Not open to students with credit in Spanish 440. (Formerly numbered Humanities 146.)

400. European Civilization (3)
The civilization of Europe through a conducted travel tour. (Formerly numbered Humanities 148-52)

401A-401B. The Cultural Heritage of Europe I, II (3-3) I, II
European civilization from the Middle Ages to the end of the 16th century with emphasis on major cultural movements. Semester I: Romanesque and Gothic; Semester II: Renaissance, Reformation, Mannerism. (Formerly numbered Humanities 150A-150B.)
402A-402B. The Cultural Heritage of Europe III, IV (3-3) I, II
European civilization from the 17th to the 20th century with emphasis on major cultural movements. Semester I: Baroque, Rococo, Neo-Classicism; Semester II: Romanticism, Realism, Naturalism, Symbolism, Expressionism, Existentialism, Structuralism. (Formerly numbered Humanities 151A-151B.)

498. Senior Seminar (3)
Advanced study of an aspect of European studies. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

580. Seminar: Topics (3)
Special topics appropriate to the interdisciplinary study of Europe. Reading, observation and evaluation of scholarly literature of topic under consideration. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

Family Studies and Consumer Sciences
In the College of Professional Studies
A member of the American Home Economics Association

Faculty
Emeritus: Boggs, Comin, Somerville, Stout, Thomas, Warmer
Director: Cooke
Professors: Cannon, Cooke, Dorris, Fulcomer, Gunning
Associate Professors: Flotman, Hawkins, Hewes, Josephson, Milne, Price, Ross
Assistant Professors: Dickerson, Jose, Kwalke, Martin, K.J., Martin, M., Miktika, Schupp, Spindler
Lecturers: Avery, Kripke, Phillips, Stiedemann, Warner

Offered by the School of Family Studies and Consumer Sciences

Master of Science degree in home economics.
Major in home economics with the A.B. degree in applied arts and sciences.
Major in child development with the B.S. degree in applied arts and sciences.
Teaching major in home economics for the single subject teaching credential.
Minor in home economics.

Home Economics Major
With the A.B. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements.
A minor is not required with this major.
Two plans are provided for the major in home economics: Plan A for students interested in the area of Foods and Nutrition; and Plan B for students interested in the area of Home Economics.

Plan A: Emphasis in Foods and Nutrition
This program is planned for students interested in qualifying professionally for diverse careers in the fields of dietetics, food service management, and food industries. Under faculty direction, students can select course sequences which best suit their career goals. Students can fulfill academic requirements for admission to dietetic internships or traineeships and/or graduate schools which further qualify them for membership in the American Dietetic Association and registration as a dietitian.
Professional careers in dietetics include administrative, therapeutic, teaching, research, and public service positions in hospitals, schools, clinics, and other institutions. Graduates may also qualify for careers as food service managers in private and public organizations and institutions or as technical specialists within food companies, private or governmental agencies and laboratories, military service, and the mass media.

Preparation for the major. Family Studies and Consumer Sciences 204, 205A, 205B, 151 or 240, 270; Biology 100, 100L; Business Administration 210A; Chemistry 100, 100L (or 200, 200L and 201, 201L), 130, 130L (or 230, 230L), 160 (except with 200 series): Economics 101, 201 (or Mathematics 119); Microbiology 210 (or 310); Physics 107, 107L; Psychology 101; Sociology 101 (51-55 units.)

Major. A minimum of 40 upper division units to include Family Studies and Consumer Sciences 401, 402A, 403, 404, 405, 406, 422; Biology 362; the remaining units selected with the approval of adviser from Family Studies and Consumer Sciences 480, 482, 507, 508, 510, Biology 462L, Business Administration 315, 350, 351 or 352; Chemistry 361A, 361B; and Health Science and Safety 470.
Plan B: Emphasis in Home Economics

This emphasis is for students interested in a comprehensive program in home economics. A lower division core provides experiences with child development and family relations, nutrition, family economics, home management, housing, clothing, textiles, and merchandising. At the upper division level, students may choose to continue with this comprehensive program or select one of the two core professional sequences — Clothing, Textiles and Merchandising; Consumer Services and Housing. Students choosing the comprehensive program follow the major for the single subject teaching credential in home economics.

Preparation for the major. Family Studies and Consumer Sciences 115 or competency examination, 119, 135, 151, 204, 240, 245, 270; Art 101; Biology 100, 100L; Chemistry 100, 100L, 130, 130L; Economics 100 or 102 or 304; Psychology 101; Sociology 101. (Business Administration 231 required for students interested in housing; Business Administration 210A and Family Studies and Consumer Sciences 217 and 260 required for students interested in fashion merchandising) (44-55 units.)

Major. A minimum of 36-39 upper division units selected from one of the core professional sequences.

Core Professional Sequences.

Clothing, Textiles and Merchandising: Family Studies and Consumer Sciences 315, 422, 419, 520, 522; Business Administration 350, 370, 372, 373; twelve units selected from Family Studies and Consumer Sciences 316, 323, 361, 440, 452, 481 or 483, 516, 521, 522.

Consumer Services and Housing: Family Studies and Consumer Sciences 343, 422, 440, 451, 541, 546. Twenty units selected from Family Studies and Consumer Sciences 345, 355, 446, 482, 536, 545, 553; Art 552; Business Administration 370, 437; Geography 354; Public Administration 320; Sociology 424. (The prerequisites for Art 552 and Geography 354 have been waived.) The prerequisite of Family Studies and Consumer Sciences 205B for Family Studies and Consumer Sciences 451 has been waived.

Child Development Major

With the B.S. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

A minor is not required with this major.

Preparation for the major. Anthropology 102, Biology 100, Family Studies and Consumer Sciences 107, 270 and 271; Health Sciences and Safety 101; Family Studies and Consumer Sciences 135 or Social Welfare 10; Family Studies and Consumer Sciences 151 or 240; Psychology 101, 260; Sociology 101; Sociology 201 or Psychology 270 (36 units).

Major. A minimum of 37 upper division units to include Biology 350; Family Studies and Consumer Sciences 335, 375, 375L (one unit) and 422; Psychology 350; Sociology 440 or Psychology 340; and 18 units selected with the approval of the adviser, at least 12 and not more than 15 units of which must be in an area in which the student wishes to concentrate. A master plan for each student must be filed with evaluations.

Home Economics Major

For the Single Subject Teaching Credential

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. The major may be used by students in teacher education as an undergraduate major for the A.B. degree in applied arts and sciences.

Preparation for the major. Family Studies and Consumer Sciences 119, 135, 151, 204, 205A-205B, 240, 245, 270; Art 101; Chemistry 100, 100L, 130, 130L; Economics 100 or 102; Psychology 101; Sociology 101 (45 units).

Major. A minimum of 36 upper division units in Family Studies and Consumer Sciences which include 315 or 518 (prerequisite waived with approval of adviser), plus three units in clothing and textiles, 335 or 536, 343, 375, 375L (prerequisite waived), 422, 440, 451, 483, 545 or 546, 584.

Child Development Minor

The minor in child development consists of a minimum of 18 units to include Family Studies and Consumer Sciences 270*, 271; and twelve units selected from Family Studies and Consumer Sciences 375, 375L, 476*, 478, 570*, 576, 577, 579; Psychology 432*; and Health Science and Safety 330.

Courses in the minor may not be counted toward the major; but may be used to satisfy preparation for the major and general education requirements, if applicable.

* Indicates course with prerequisites not included in list of courses acceptable for minor.

Home Economics Minor

The minor in home economics consists of a minimum of 18 to 21 units in family studies and consumer sciences, 12 units of which must be in upper division courses. The 18 to 21 units must be selected from one of the following areas:

* Foods and Nutrition: Family Studies and Consumer Sciences 204, 205A, 205B, and 12 units selected from 401*, 402A*, 402B*, 403, 404, 405, 406, 408, 507, 508, 510 (and/or 590 if appropriate).

Consumer Services: Family Studies and Consumer Sciences 240, 350, and 12 units selected from Family Studies and Consumer Sciences 343*, 355, 440, 541, 545* (and/or 590 if appropriate).

Child Development: Family Studies and Consumer Sciences 135, 270*, 271, and 12 units selected from Family Studies and Consumer Sciences 335, 375, 375L, 436*, 440*, 478, 536*, 570 (and/or 590 if appropriate).

** Clothing, Textiles and Fashion Merchandising: Family Studies and Consumer Sciences 119, 217, 260, 361, 462, 520 (and/or 590 if appropriate).

Housing: Family Studies and Consumer Sciences 119, 245, 343, 345, 446, 545, 546 (and/or 590 if appropriate).

* Prerequisites for required courses include: Biology 100, 100L, Chemistry 100, 100L, 130, 130L, 200L, 201, 201L.
** Prerequisites for required courses include: Art 101; Chemistry 100, 100L or 200L, 200L, and 130, 130L.

* Indicates course with prerequisites not included in requirements listed above.

LOWER DIVISION COURSES

107. Nutrition Today (3) I, II

Obtaining nutritional needs from a varied food supply. Not open to students with credit in Family Studies and Consumer Sciences 204.

115. Clothing and Textiles (3) I, II

One lecture and six hours of laboratory. Commercial patterns and their adaptation; fitting and construction; selection and care of textiles.

119. Textiles (3) I, II

One lecture and six hours of laboratory. Prerequisites: Chemistry 130, 130L, 131, 131L; Fibers. yarn, fabric construction, and finishes as related to selection, use, and care.

135. Marriage and Family (3) I, II

Love, maturity, dating, compatibility, conflict as they relate to preparation for successful marriage and family living. This course not open to students with credit in Social Welfare 130.

151. Home Management Decision Making (3) I, II

Examination of value systems and application of principles of decision making to individual, professional and family management in changing situations.
204. Fundamentals of Nutrition (3) I, II
Prerequisites: Biology 100, 100L; Chemistry 100, 100L, 130, 130L; or 200, 200L, 201, 201L.
Nutrition as applied to the stages of the normal life cycle.

205A. Foods I (3)
One hour lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 205A and credit or concurrent registration in Family Studies and Consumer Sciences 204.
Food legislation, additives, preservation, meal management and international/cultural foods are emphasized.

205B. Foods II (3)
One hour lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 205A and credit or concurrent registration in Family Studies and Consumer Sciences 204.

217. Fashion Analysis and Clothing Selection (3) I, II
Analysis of fashion as it relates to clothing selection. Emphasis on fashion trends, wardrobe planning, buying practices, and standards of quality. (Formerly numbered Family Studies and Consumer Sciences 317.)

240. Family Income Management (3) I, II
Financial problems involved in the effective management of the family resources.

245. Fundamentals of Housing and Interiors (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Art 101.
Architectural, functional and aesthetic factors of housing and interiors as related to family needs.

260. Fashion Merchandise Analysis (3) I, II
Contemporary problems of production and distribution of textiles and clothing. (Formerly numbered Family Studies and Consumer Sciences 360.)

270. Principles of Child Development (3) I, II
Prerequisites: Psychology 101 and Sociology 101.
Study of the child from conception through adolescence, with emphasis on principles of growth and development. Directed observations of children. Not open to students with credit in Psychology 330, or Elementary Education 372.

271. Human Development: Early Childhood (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 270 or Psychology 330.
Physical, social, emotional, and intellectual development of the young child. Emphasis on characteristics and standards of quality. (Formerly numbered Family Studies and Consumer Sciences 371.)

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Intended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

315. Advanced Clothing (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 115 or competency examination.
Fitting and construction processes applied to wool, silk, and synthetics, emphasizing fundamental principles of handling.

316. Tailoring (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 315.
Principles of tailoring: planning and construction of coats and suits.

323. Fabric Structure and Design Processes (3) II
One lecture and six hours of laboratory.
Prerequisite: Art 101.
A study of stitchery, knitting, crocheting, weaving, macrame, and textile decoration.

335. Family Interaction (3) I, II
Prerequisite: Family Studies and Consumer Sciences 135.
Marriage adjustment and family interaction throughout the life cycle.

343. Household Equipment and Processes (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Chemistry 130, 130L.
Study and laboratory experience to acquaint students with current research findings in relation to equipment and household supplies. Emphasis placed upon characteristics and composition of household materials, use and care.

345. Housing and Interiors: Historical Influences (3) I
Historical influences of structures, interiors and furnishings as they express cultural needs and values. Critical appraisal of aesthetic and functional qualities of historical and contemporary housing environments.

350. Principles of Home Management (3) I, II
Efficient management of the home, family cooperation, establishment of goals, and productive use of time, labor, and energy. Not open to home economics majors, or to students with credit in Family Studies and Consumer Sciences 451.

355. Time and Human Resource Management (3) I, II
Analysis of time and human resources with application to the environment.

361. Fashion Merchandise Practicum (3) I, II
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 217, 260 and consent of program advisor.
Supervised experience in apparel merchandising procedures through a cooperative program with a retail establishment.

375. The Nursery School Program (3)
Prerequisites: Family Studies and Consumer Sciences 271; concurrent registration in Family Studies and Consumer Sciences 375, one unit only.
Methods, materials, program development, and evaluation of current trends in working with young children. (Formerly numbered Family Studies and Consumer Sciences 575.)

375L. Laboratory Experiences in Nursery School (1-7)
Three hours of laboratory for each unit of credit.
Prerequisites: Family Studies and Consumer Sciences 271; first unit requires concurrent registration in Family Studies and Consumer Sciences 375. Application to take additional units requires prior consent of instructor.
Directed experiences in working with children in child development laboratory and other preschool situations. May be repeated with consent of instructor. Maximum credit seven units. (Formerly numbered Family Studies and Consumer Sciences 575L.)

401. Science of Foods (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 205B, Microbiology 210, Physics 107 and 107L.
The structure and physical, chemical and functional properties, and quality attributes of foods; food processing and processed induced changes in foods; food components: regulatory agencies and laws; group project studies; data interpretation.

402A. Advanced Nutrition (3) I, II
Prerequisites: Family Studies and Consumer Sciences 204; Biology 382, 462L; one course in biochemistry. Recommended Concurrent registration in Family Studies and Consumer Sciences 402B.
Integrated approach to nutrition principles and human nutrient requirements.
402B. Advanced Nutrition Laboratory (3) I, II
Six hours of laboratory.
Prerequisites: Credit or concurrent registration in Family Studies and Consumer Sciences 402A.
Experimental techniques used in nutrition studies.

403. Quantity Food Production (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 205B.
Application and evaluation of techniques and equipment utilized in food service operations for quality and financial control, production, distribution and service of food.

404. Food Systems Management (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 403.
Managerial functions in food service systems.

405. Experimental Food Science (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 401.
Application of principles and methods of physical and sensory evaluation and food component analysis to conventional and fabricated foods; effects of additives and ingredient variations; project studies; data interpretation and report writing.

406. Diet Therapy (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 402A.
Dietary management of pathological and debilitating diseases.

422. Contemporary Issues in Family Studies and Consumer Sciences (3)
Prerequisite: Six upper division units in Family Studies and Consumer Sciences
Analysis of current and emerging forces and issues having impact on individuals and families served by professionals and programs related to family studies and consumer sciences.

436. The Individual, Family, and Society (3) I, II
Prerequisites: Psychology 101, Sociology 101, Family Studies and Consumer Sciences 106.
Analysis of individual and family needs and the social institutions and agencies which satisfy these needs. Emphasis on relevant social issues. Includes eight to ten hours of field trips to community agencies.

439. Field Experience in Family Studies (3)
One lecture and six hours of fieldwork.
Prerequisites: All required courses for the Child Development Major and Family Studies and Consumer Sciences 436.
Field experience in family support agencies under joint supervision of agency staff and course instructor; participation in agency staff meetings, individual conferences and class meetings.

440. Family Financial Problems and Practices (3) I, II
Prerequisite: Family Studies and Consumer Sciences 240.
Financial problems and practices of families; decision making with respect to market goods and services; consumer protection programs.

446. Housing and Interiors: Contemporary Design (3) II
Two lectures and three hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 151 and 240.
Influence of contemporary designs on structure, interiors and furnishings used in planning the total housing environment.

451. Home Management Theory and Analysis (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 151 and 240.
Concepts of home management related to ethnic and socioeconomic needs of families.
Practical application in home management residence and field experience.
516. Human Development: Infancy (3)
Two lectures and three hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 270 or Psychology 330; Psychology 260, Biology 350 recommended.
Physiological, psychological, social and cultural development of the human organism from birth through age two with directed observation and laboratory demonstration with infants.

517. Supervised Experiences with Young Children (3) I, II
One lecture and six hours of field work.
Prerequisite: Nine units in child development.
Directed experiences in various community settings. Emphasis on application of child development principles in working with young children. May be repeated with new content. Maximum credit six units.

518. Clothing Design: Flat Pattern (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 315.
Problems involving principles and techniques of flat pattern construction. Development of basic sloper for purpose of interpreting new designs. Investigation of sources of inspiration and their relationship to significant trends in design.

519. Textile Analysis and Testing (3) II
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 119 and Chemistry 130, 130L.
Analysis based on physical and chemical tests for quality differences due to variation in fibers, content, structure, and finishes and their suitability for specified uses.

520. Clothing and Human Behavior (3)
Socioeconomic influences on consumer clothing behavior patterns.

521. Clothing Design: Draping (3)
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 315.
Experience in creative designing through fabric manipulation. Designer problems related to mass-production techniques.

522. Clothing Design: Historical Influences (3) I
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 315.
Chronological analysis of men's and women's fashions providing inspiration for original creations in clothing design.

523. Family Study (3)
Prerequisites: Family Studies and Consumer Sciences 136 and Sociology 101.
Dynamics of family living, attitudes, practices, social and psychological interaction and family life patterns in different cultures, social classes and ethnic groups.

524. Family Relationships in Literature (3)
Insights through creative literature into the variations in relationships between the sexes and between generations in various cultures and subcultures. Fiction viewed as social documents which reveal changing expectations and ways of coping with stress.

525. Consumer Interest (3) II
Prerequisite: Family Studies and Consumer Sciences 240 or 440.
Analysis of consumer legislation, consumer information and consumer protection programs.

526. Family Housing (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 245.
Advanced housing problems at various stages of the family life cycle and the different socioeconomic levels.

527. Environmental Factors of Housing (3) II
Prerequisite: Family Studies and Consumer Sciences 245.
Problems of developing effective housing for families in various cultural situations. Investigation of sociopsychological, economic and legislative factors of housing.

528. Supervised Field Work in Home Management (3)
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 271, 451, 536.
Management and social problems as they relate to the home and family. Supervised field work with various community agencies and selected families.

GRADUATE COURSES
Refer to the Graduate Bulletin.
French

In the College of Arts and Letters

Faculty
Chair: Jackson
Professors: Jackson, Max, Messier, Nelson, Pilliard
Associate Professors: Branan, Glasgow, Woodle
Assistant Professors: Cox, Gilbert, Palmer

Offered by the Department of French and Italian Languages and Literatures
Master of Arts degree in French.
Major in French with the A.B. degree in liberal arts and sciences.
Teaching major in French for the single subject teaching credential in foreign languages.
Minor in French.

French Major

With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." Students majoring in French must complete a minor in another field to be approved by the departmental adviser in French.
Preparation for the major, French 101, 102, 201, 202, 211, and 212. (20 units.)
Recommended: History 105A-105B.

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major.

Minor: A minimum of 24 upper division units in French to include French 301, 302, 305A-305B, 401 or 411 or 431, and nine units of upper division courses in the language.

French Major

For the Single Subject Teaching Credential in Foreign Languages
All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. This major may be used by students in teacher education as an undergraduate major for the A.B. degree in liberal arts and sciences. A minor in another field approved by the departmental adviser in French is required for the degree.

Preparation for the major, French 101, 102, 201, 202, 211, 212. (20 units.)
Minor: A minimum of 24 upper division units in French to include French 301, 302, 305A-305B, 401, 421, 422, 431.

French Minor

The minor in French consists of a minimum of 15 units in French, six units of which must be in upper division courses.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

High School Equivalents
High school foreign language courses may be used for purposes of placement in college courses and may be counted toward meeting the foreign language requirement in various majors. These high school courses will not count as college credit toward graduation.

The first two years of high school French may be counted as the equivalent of French 101; three years the equivalent of French 102; and four years the equivalent of French 201. The last year course taken by a student in the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work.

LOWER DIVISION COURSES
Native speakers of French will not receive credit for taking lower division courses except with advance approval from the department.
All lower division courses in French are taught in French.
No credit will be given for French 101, 102, 201, 202, 301, 302 taken out of sequence.

101. Elementary (4) I, II
Four lectures and one hour of laboratory.
Prerequisite: French 101 or two years of high school French.

102. Elementary (4) I, II
Four lectures and one hour of laboratory.
Prerequisite: French 101 or two years of high school French.

201. Intermediate (4) I, II
A practical application of the fundamental principles of grammar. Reading in French of cultural material, short stories, novels or plays: oral and written practice.
Prerequisite: French 102 or three years of high school French.
Continuation of French 101. Not open to students who have completed four years of high school French.

202. Intermediate (4) I, II
Prerequisite: French 201 or four years of high school French.
Continuation of French 201; outside reading with oral and written reports.

211. Conversation (2) I, II
Prerequisite: French 102 or three years of high school French.
Reading and conversation. Not applicable for the foreign language requirement for the A.B. degree in Liberal Arts and Sciences.

212. Conversation (2) I, II
Prerequisite: French 201 and 211, or four years of high school French.
Reading and conversation - advanced. Not applicable for the foreign language requirement for the A.B. degree in Liberal Arts and Sciences.

UPPER DIVISION COURSES
(Selected for Undergraduates)
All upper division courses in French are taught in French unless otherwise stated.

301. Advanced Grammar and Composition (3) I, II
Prerequisites: French 202 and 212.
Advanced grammar and stylistics, intensive writing practice; reports based on outside reading. (Formerly numbered French 311A)

302. Advanced Grammar and Composition (3) I, II
Prerequisites: French 202, 212, 301.
Advanced grammar and stylistics, intensive writing practice; reports based on outside reading. (Formerly numbered French 311B)

305A-305B. Survey of French Literature (3-3) I, II
Prerequisites: French 202 and 212.
Important movements, authors, and works in French literature from the Middle Ages to the present. (Formerly numbered French 321A-321B)

331. Masterpieces of French Literature (3)
French literary masterpieces from the Song of Roland to the present. Taught in English.

340. Intensive French for Reading (3) Cr/NC
Prerequisites: French 101 and 102.
Reading, translation and discussion of French texts (fiction, essays, articles, etc.) for upper division and graduate students. Taught in English. (Not applicable for graduation requirement in foreign language or for majors or minors.)
401. Advanced Phonetics and Diction (3)
Prerequisites: French 202 and 212.
For students and teachers of French wishing to perfect their pronunciation and diction. Current formation of French sounds in isolation and combination. Class exercises, individual drill, and use of special discs and tape recording.

411. Explication de Textes (3)
Prerequisites: French 202 and 212.
An introduction to the analytical approach to the detailed study of literature. Demonstrations by instructor and students.

421. French Civilization (3)
Prerequisites: French 202 and 212.
French culture from the earliest times to the Enlightenment, with emphasis on the people, their social and political institutions, their arts and letters. Not open to students with credit in European Studies 110 or 310.

422. French Civilization (3)
Prerequisites: French 202 and 212.
French culture from the Enlightenment to the present. Continuation of French 421. Not open to students with credit in European Studies 111 or 311.

431. Applied French Linguistics (3)
Prerequisites: French 301 and 302.
Phonemics, morphemics, syntax and semantics of present day French.

496. Topics in French Studies (1-4)
Topics in French literature, culture and linguistics. May be repeated with new content. Maximum credit nine units. Taught in English. See Class Schedule for specific content.

499. Special Study (1-3), I, II
Prerequisites: French 301, 302, and 305A-305B.
Individual study. Maximum credit six units. This course is intended only for students who are currently enrolled in or who already have credit for all upper division courses in French available in any given semester.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

503. History of French Language (3)
Prerequisites: French 301 and 302.
The history of the French language from the beginnings through the sixteenth century. (Formerly numbered French 611.)

521. Seventeenth Century French Literature (3)
Prerequisites: French 301 and 302.
Major seventeenth century dramatists with emphasis on Corneille, Moliere and Racine. (Formerly numbered French 521A-521B.)

531. Eighteenth Century French Literature (3)
Prerequisites: French 301 and 302.
Major eighteenth century writers of fiction, with emphasis on Voltaire, Diderot and Rousseau. (Formerly numbered French 531A-531B.)

541. Nineteenth Century French Novel (3)
Prerequisites: French 301 and 302.
Major novelists of the nineteenth century.

543. Modern French Theatre (3)
Prerequisites: French 301 and 302.
Major dramatists of modern France.

545. Modern French Poetry (3)
Prerequisites: French 301 and 302.
Representative French poets of the modern era. (Formerly numbered French 501A-501B.)

551. Twentieth Century French Novel (3)
Prerequisites: French 301 and 302.
Major novelists of twentieth century France.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Geography

In the College of Arts and Letters

Faculty

Emeritus: Richardson, Storm
Chair: Griffin
Professors: Edemiller, Finch, Ford, Greenwood, Griffin, Johnson, Keen, Kiewiet de Jonge, O'Brien, Pryde, Quastler, Stutz, Wright, Yah
Associate Professors: Blick, Fredrich, Heiges, McArthur
Assistant Professor: Colombo

Offered by the Department

Master of Arts degree in geography.
Major in geography with the A.B. degree in liberal arts and sciences.
Minor in geography.

Geography Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements.

Preparation for the major and the major consist of basic requirements in the lower and upper division for all students, plus additional requirements in one of the following areas of specialization: (a) General Geography, (b) Physical Geography, (c) Resource and Environmental Geography, (d) Transportation and Urban Geography, (e) Applied Geography.

Basic Requirements for All Students

Preparation for the major. Geography 101, 101L, 102. (7 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section on catalog "Graduation Requirements."

Major. A minimum of 24 to 33 upper division units to include Geography 305 (two units) and one unit of 498, or three units of 498.

In addition to the basic requirements, the student must complete the requirements in one of the following areas:

(a) General Geography

Students selecting this area must complete a minor in another department.

Additional preparation for the major. Geography 103, 103L, and 170 are recommended.

Major (continued). Three units from each of the following groups: (a) Geography 320-324, 331-339, 521-522; (b) 350-358, 557-566; (c) 370-378, 570-576; (d) 401, 501-506; (e) 507-509; (f) 380-381; (g) 382, 585-589. (24 units.)

(b) Physical Geography

Students selecting this area are not required to complete a minor in another department.

Additional preparation for the major. Geography 103, Mathematics 121 or higher numbered course; Chemistry 200-2001; Physics 124A, 125A.

Major (continued). Fifteen units from Geography 401, 501-509; nine units from 380-382, 585-589; and three units from each of the following groups: (a) 320-339, 521-522; (b) 350-371, 557-576. (33 units.)

(c) Resource and Environmental Geography

Students selecting this area are not required to complete a minor in another department.

Additional preparation for the major. Geography 103, 170. Geography 370 may be substituted for 170.

Major (continued). Twelve units from Geography 371, 378, 570-576; and three units from each of the following groups: (a) 320-339, 521-522; (b) 380-381; (c) 382, 585-589; (d) 401, 501-506; (e) 507-509; (f) 354-358. (33 units.)

(d) Transportation and Urban Geography

Students selecting this area are not required to complete a minor in another department.

Additional preparation for the major. Mathematics 107.

Major (continued). Twelve units from Geography 353-358, 557-570; six units from groups 378, 401, 501-509; and nine units from each of the following groups: (a) 320-339, 521-522; (b) 380-381; (c) 382, 585-589; (d) 370-371, 573-576. (33 units.)

(e) Applied Geography

Students selecting this area are not required to complete a minor in another department.

Additional preparation for the major. Industrial Arts 140; Mathematics 107; and a three-unit course in introductory statistics.

Major (continued). Eighteen units from Geography 380-382, 495, 581-589; and three units from each of the following groups: (a) 320-339, 521-522; (b) 350-378, 557-576; (c) 401, 501-506; (d) 507-509. (33 units.)

Geography Minor

The minor in geography consists of a minimum of 18 units in geography to include Geography 101, 102 and one of the following areas:

Physical: nine units selected from Geography 400 or 501-509, and three units selected from techniques courses Geography 380-382, 581-589.

Cultural: six units from Geography 310, 312A or 312B, 350, 351, 464, 566, and six units selected from regional courses Geography 320-382, 521-522.

Urban/Transportation: nine units selected from Geography 352-358, 554-559, and three units selected from either technique or regional courses Geography 320-339, 380-382, 581-589.

Conservation: nine units selected from Geography 370, 371, 400, 570-576, and three units selected from techniques courses Geography 380-382, 581-589.

Techniques: nine units selected from Geography 380-382, 581-589, and three units selected from any other upper division course.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. Introduction to Physical Geography (3) I, II

The nature of maps, weather and climates of the world; natural vegetation, land forms and their associated soils, with reference to their climatic relationships; the seas and their coasts. Related field observations.

101L. Physical Geography Laboratory (1) I, II

Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Geography 101.
Practical exercise and observation in map analysis, weather elements, climatic regions, and the earth's landform features. Designed to supplement Geography 101. (Formerly numbered Geography 105.)

102. Introduction to Cultural Geography (3) I, II

Introduction to cultural geography, covering the elements of culture, such as technology, race, language, religion, political organization, methods of livelihood, settlement patterns and the regional distribution of these elements over the earth. A maximum of six units will be allowed for Geography 102 and 312A or 312B. Occasional field trips may be arranged.
103. Introduction to Meteorology (3) I, II
The composition, structure, and circulation of the atmosphere, including elementary theory of storms and other weather disturbances. May be followed by, or taken with, Geography 103L.

103L. Introduction to Meteorology Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Geography 103.
Theory of meteorological instruments and observations. Practical exercise in surface and upper air observations, weather codes, and elementary weather map analysis. (Formerly numbered Geography 104.)

170. Man and the Environmental Problem (3) I, II
Man's impact upon and interaction with the natural environment, including suggested alternatives to existing abuses.

UPPER DIVISION COURSES

(Reserved for Undergraduates)

305. Concepts and Trends in American Geography (3)
Major trends, concepts and methods of American geography. Introduction to basic geographic literature and information sources. Emphasis on newly evolving aspects of geography and the dynamic nature of the discipline.

312A-312B. Culture Worlds (3-3)
The evolution, distinguishing cultural characteristics, and physical features of the major cultural regions of the world, with emphasis on the role man has played in the alteration of the natural landscape. Maximum credit of six units will be allowed for Geography 102 and 312A or 312B.

320. California (3) I, II
Prerequisite: Geography 101 or 102.
Systematic and regional analysis of the topography, climate, natural vegetation, and their relationships with the past and present activities of man and his use of the land. Offered in summer with a 10-day tour. Maximum credit three units.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

321. United States (3) I, II
Prerequisite: Geography 101 or 102.
The natural regions of the United States, their formation and economic and historical development.

322. Canada and Alaska (3) II
Prerequisite: Geography 101 or 102.
The physical and historical bases of Canadian and Alaskan regionalism; the economic and strategic importance of these two areas.

323. Middle America (3) I, II
Prerequisite: Geography 101 or 102.
The land and peoples of Mexico, Central America, and the islands of the Caribbean; a survey of the resources, economies, and trade of the region. Maximum credit three units.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

324. South America (3) I, II
Prerequisite: Geography 101 or 102.
The physical regions and human geography of South America, including the history of colonization and the exploitation of resources.

325. Geography of San Diego County (3) I, II
Prerequisite: Geography 101 and 102.
Analysis of the physical and cultural geography of San Diego County. Topics covered will include landforms, climate, population, industry, transportation, and the effects of human activities on the natural environment. Maximum credit three units.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

331. Eastern Asia Asia (3)
Prerequisite: Geography 101 or 102.
The geographic bases for the political heritage, economies, and peoples of Eastern Asia.

333. Southeastern Asia (3)
Prerequisite: Geography 101 or 102.
The geographic bases for the political heritage, economies, and peoples of Southeastern Asia.

334. Southern Asia (3)
Prerequisite: Geography 101 or 102.
The geographic bases for the political heritage, economies, and peoples of Southern Asia.

335. The Middle East and North Africa (3) I, II
Prerequisite: Geography 101 or 102.
The geographic base for the political heritage, economies, religious institutions, and peoples of North Africa and the Middle East.

336. Europe (3)
Prerequisite: Geography 101 or 102.
Systematic analysis of the geographic bases of modern European life. Regional investigation of countries of Europe except the Soviet Union.

337. Soviet Union (3)
Prerequisite: Geography 101 or 102.
Natural resources, agricultural production, industrial growth, and transportation.

339. Oceania (3)
Prerequisite: Geography 101 or 102.
The physical geography, peoples, economies, and trade of Oceania, Australia, and New Zealand.

350. Political Geography (3) I, II
Geography as it relates to the strength of nations and international relations.

351. Economic Geography: Primary Production (3)
Prerequisite: Geography 101 or 102.
The geography of agricultural production and the extractive industries in relation to world commerce. Occasional field trips may be arranged.

352. Location Analysis in Economic Geography (3)
Prerequisite: Geography 102 or 151.
Spatial arrangement and interrelationships of resources, production, exchange and consumption; principles and theory in industrial location. Occasional field trips may be arranged.

354. Geography of Cities (3) I, II
Prerequisite: Geography 102.
Survey of the location, function and spread of cities, the spatial and functional arrangement of activities in cities, leading to an analysis of current urban problems: sprawl, city decline, metropolitan transportation. Maximum credit three units.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

356. Social Geography (3)
Prerequisite: Geography 102.
Analysis of sociocultural distributions with emphasis on social regions, spatial behavior and cultural landscapes. Topics include landscape image and design, patterns of folk and ethnic culture and spatial diffusion processes (Formerly numbered Geography 484.)

357. Historical Geography (3) I, II
Prerequisite: Geography 101 or 102.
Transformation of the natural and cultural landscape with emphasis on the utilization and significance of resources, Exploration, migration, and settlement in relation to geographic phenomena. (Formerly numbered Geography 310)

358. Transportation Geography (3) I, II
Prerequisite: Geography 101 or 102.
The spatial distribution of transportation networks and commodity movement and their relationship to the distribution of economic activity.
### UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Special Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>498.</td>
<td>Directed Readings In Geographic Literature (1) I, II</td>
<td>Geography 101 or 102</td>
<td>Maximum credit six units.</td>
</tr>
<tr>
<td>497.</td>
<td>Investigation and Report (3) I, II</td>
<td>Geography 101 or 102, Sophomore standing</td>
<td>Occasional field trips may be arranged. Maximum credit three units.</td>
</tr>
<tr>
<td>499.</td>
<td>Special Study (1-3) I, II</td>
<td>Consent of instructor</td>
<td>Individual study. Maximum credit six units.</td>
</tr>
<tr>
<td>501.</td>
<td>Advanced Physiography (3)</td>
<td>Geography 401, 101 or 102</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
<tr>
<td>504.</td>
<td>Coastal and Submarine Physiography (3)</td>
<td>Geography 378 or 401</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
<tr>
<td>505.</td>
<td>Geography of Soils (3) II</td>
<td>Geography 101, 102, 103, 104</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
<tr>
<td>506.</td>
<td>Geography of Soils Laboratory (1)</td>
<td>Geography 505</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
<tr>
<td>508.</td>
<td>Physical Climatology (3) I</td>
<td>Geography 103, 101 or 102</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
<tr>
<td>521.</td>
<td>Urbanization and Modernization in Latin America (3)</td>
<td>Geography 102, 323 or 324</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
<tr>
<td>522.</td>
<td>Historical Geography of Latin America (3)</td>
<td>Geography 102, 323 or 324</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
<tr>
<td>556.</td>
<td>Location and Spatial Structure of Cities (3)</td>
<td>Geography 154 or 354 or 303</td>
<td>Prerequisite: Consent of instructor. Maximum credit six units.</td>
</tr>
</tbody>
</table>
557. Methods in Urban and Transportation Analysis (3)
Prerequisites: Geography 558 and six units of upper division urban or transportation course work in geography or related field.
Methods and techniques employed in transportation and urban analysis; spatial models of urban activities, land-use, population distribution and urban transportation systems. (Formerly numbered Geography 554.)

558. Advanced Transportation Geography (3)
Prerequisite: Geography 358 or 559.
Topics in the spatial analysis of transportation, e.g., spatial interaction patterns, diffusion process, models in traffic analysis. Occasional field trips may be arranged.

559. Urban Transportation Geography (3)
Prerequisite: Three units of upper division urban or transportation course work in geography or related field.
Urban transportation networks and their effects, past, present and future, on the economy and physical structure of the urban region. Occasional field trips may be arranged.

566. Environmental Perception and Spatial Behavior (3)
Prerequisite: Geography 102.
Effects of social and cultural factors on man's perception and cognitive structuring of his spatial and regional physical and social environment. Effect of perceived images on migration and travel behavior.

570. Land Use Analysis (3) II
Prerequisite: Geography 370.
Problems of maintaining environmental quality in the process of land conversion from rural to urban uses with emphasis on land capability and suitability studies. Occasional field trips may be arranged.

573. Geography as Human Ecology (3)
Prerequisite: Geography 170 or 370.
Human ecology related to resource geography. Occasional field trips may be arranged.

574. Water Resources (3) II
Prerequisites: Geography 101 or 102; and 170 or 370 or 371.
Occurrence and utilization of water resources and the problems of water resource development. Occasional field trips may be arranged.

575. Geography of Recreational Land Use (3) I, II
Prerequisite: Geography 170 or 370 or 371.
Importance of location and environment in the use, management, and quality of recreation areas. Maximum credit three units.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

576. Geography of Marine Resources (3)
Prerequisite: Geography 101 or 102.
Economic geography of use of marine biotic and mineral resources. Occasional field trips may be arranged.

581. Advanced Cartography (3)
Two lectures and three hours of laboratory.
Prerequisite: Geography 381.
Advanced laboratory instruction and practice in cartographic techniques.

582. Automated Cartography (3)
Two lectures and three hours of laboratory.
Prerequisite: Geography 380, 381, 382, 585, 587, or 589.
Computerized methods in presenting for comprehension spatially variable information of a quantitative nature; examination of existing automated mapping systems.

585. Quantitative Methods in Geographic Research (3) I, II
Prerequisite: Mathematics 119 or equivalent course in statistical methods.
Quantitative methods in geographic research, including computer solutions.

587. Remote Sensing of the Environment (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geography 101, 102 and consent of instructor.
Multiband spectral reconnaissance of the environment. Emphasis on multispectral photography, infrared, microwave scanning systems and multifrequency radar systems, and their uses in the study of cultural and biophysical phenomena.

589. Field Geography (3)
Two lectures and three hours of laboratory.
Prerequisites: Senior or graduate standing and the completion of at least 12 units in geography.
Geocoding systems and instrument and computer techniques used in the large scale mapping and evaluation of land use, land quality, and land capability in rural and urban environments. Occasional field trips may be arranged.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Geological Sciences
In the College of Sciences

Faculty
Emeritus: Brooks, Thomas
Chair: Berry
Professors: Abbott, Berry, Gastil, Kern, Krumenacher, McEuen, Peterson, Roberts, Threet
Associate Professors: Berline, Dorman, Plack, Walawender
Assistant Professors: Huntley, Marshall, Miller
Lecturers: Matthews, Nocita

Offered by the Department
Master of Science degree in geology.
Minor in geology.

Geology Major
With the B.S. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

Preparation for the major and the major consist of basic requirements in the lower and upper division for all students plus the requirements in one of the following options: (a) General Geology, (b) Engineering Geology, (c) Geochemistry, (d) Geophysics, (e) Marine Geology, (f) Paleontology.

Basic Requirements for all Students
Preparation for the major. Geological Sciences 100 and 101, 105, 221, 224; Biology 100 and 100L, or Zoology 100 and 100L; and Chemistry 200, 200L, 201, 201L (29 units.)

Major. A minimum of 36 upper division units in approved courses to include Geological Sciences 305, 308, 498A-498B, 506. (14 units) Other courses may be substituted for 506 in the geophysics and marine geology options by means of a petition approved by the department.

Options
In addition to the basic requirements, the student must complete the requirements in one of the following options:

(a) General Geology
Additional preparation for the major. Geological Sciences 230 (or Geological Sciences 530 may be taken in the major); Mathematics 119 and 150; Physics 125A-125B and 194A-194B, or Physics 195, 195L, 196, 196L, 197, 197L. Recommended: Chemistry 310A-310B or 410A-410B; Mathematics 107, 151, 152; Physics 195, 195L, 196, 196L, 197, 197L.

Major (continued). Geological Sciences 506, 507, 516, 520, 521, 530; Mathematics 530; Chemistry 410A-410B; either Geological Sciences 506 and 526, or Geological Sciences 524 and 525; six units of electives approved by the departmental adviser.

(b) Engineering Geology
Additional preparation for the major. Civil Engineering 218, Engineering Mechanics 201 and 221; Mathematics 150, 151, 152; Physics 195, 195L, 196, 196L, 197, 197L, (35 units.) Recommended: Engineering 140 and Mechanical Engineering 190 or 191.

Major (continued). Geological Sciences 510 or 512, 526, 550; Civil Engineering 444, 462, Engineering Mechanics 301; either Civil Engineering 445 or Geological Sciences 551.

Because of the preparation in mathematics, physics, and geology called for in this option the prerequisites specified for Civil Engineering 444, 462, and Engineering Mechanics 301. Courses to satisfy the requirement of 36 upper division units in the major may be selected from upper division geology courses not explicitly excluded. Students may petition the department to include courses from other disciplines to complete the upper division major requirement.

(c) Geochemistry
Additional preparation for the major. Chemistry 230, 230L or 231, 231L, and 251; Mathematics 150, 151, 152; Physics 195, 195L, 196, 196L, 197, 197L (33 units.) Recommended: Mathematics 107.

Major (continued). Geological Sciences 530; Chemistry 410A-410B; either Geological Sciences 506 and 526, or Geological Sciences 524 and 525; six units of electives approved by the departmental adviser.

(d) Geophysics
Additional preparation for the major. Mathematics 107, 150, 151, 152; Physics 195, 196, 196L, 197, 197L (28 units.) Recommended: Engineering 140.

Major (continued). Geological Sciences 530, 510, 512, 520, 521, 530; Mathematics 530; Physics 311, 357, 400A; either Engineering 511 or Electrical Engineering 553 and Mathematics 531, or Physics 350A and 542. Recommended: Civil Engineering 218.

(e) Marine Geology

Major (continued). Geological Sciences 506, 524, 525, 526, 546, 548; Biology 531; Chemistry 501; plus Geological Sciences 506, 524, 525, 526, 546, 548; Biology 531; Chemistry 501; plus Geological Sciences 550, 540, 545, and four of the following courses:

(f) Paleontology
Additional preparation for the major. Biology 215; Botany 200; Mathematics 150, or 121 and 122 (alternative of 121 and 122 should not be selected by students planning academic work beyond the B.S. degree); Physics 125A-125B and 194A-194B, or Physics 195, 195L, 196, 196L, 197, 197L; Zoology 200, 242-249 units.)

Major (continued). Geological Sciences 507, 516, 520, 521, and two courses from the following: Biology 411, 531; Botany 572; Zoology 508, 510, 560.

Geology Minor
The minor in geology consists of a minimum of 20 units in geological sciences, twelve of which must be in upper division courses, to include Geological Sciences 104 (or 100 and 100L) and 231, 231L or 231L, and twelve units selected from Geological Sciences 301, 303, 305, 314, 319, 502, 506. In addition, Geological Sciences 211 or 230 are appropriate for geology minors.

Courses in the minor may be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.
Oceanography Minor

The minor in oceanography consists of a minimum of 15 upper division units to include Oceanography 541, Geological Sciences 540, 545, 546, and 548. With approval of the Department of Geological Sciences, Chemistry 501 and either Biology 531 or Zoology 510 may be substituted for any of the geological sciences courses listed above with the exception of Oceanography 541.

The oceanography minor is intended for students with extensive background in the sciences. Students lacking the prerequisites to the required courses should not attempt this minor. Oceanography 320 is not applicable toward the oceanography minor. The oceanography minor is not open to geology majors; geology students interested in the marine sciences should major in geology with the marine geology option.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

100. General Geology (3) I, II
Pursuit of understanding the earth as a whole and its past, present and future evolutionary processes. Unifying concepts such as plate tectonics and its implications, the magnitude of geologic time, uniformitarianism, and the ramifications of the fossil record will be explored. Open to all students except those with previous credit in geology.

101. General Geology Laboratory (1) I, II
Three hours of laboratory. Prerequisite: Credit or concurrent registration in Geological Sciences 100.

104. Physical Geology (4) I
Three lectures and three hours of laboratory. Prerequisite: High school chemistry or physics, or credit or concurrent registration in college chemistry or physics.

105. Historical Geology (4) I, II
Three lectures and three hours of laboratory. Prerequisites: Geological Sciences 100 and 101, or 104.

153. General Geology for Engineers (1) I, II
One three-hour laboratory or field project per week. Prerequisites: Geological Sciences 100 and 101 or 104.

211. Mineralogy (4) I, II
Three lectures and three hours of laboratory. Prerequisites: Credit or concurrent registration in Geological Sciences 100 and 101 or 104, high school chemistry and trigonometry, or credit or concurrent registration in college chemistry and trigonometry.

224. Petrology (3) I, II
Two lectures and three hours of laboratory. Prerequisites: Geological Sciences 100 and 101 or 104 and 211.

UPPER DIVISION COURSES

(If A trying for Undergraduates)

301. Geology of National Parks and Monuments (3) I, II
Prerequisite: Geological Sciences 100 or 104.

302. Historical Geology of a Group of National Parks and Monuments (3) I, II
Prerequisites: Geological Sciences 100 and 101 or 104.

303. Environmental Geology (3) I, II
Prerequisites: Geological Sciences 100 and 101 or 104.

305. Structural Geology (3) I, II
Two lectures and three hours of laboratory per week with occasional field trips. Prerequisites: Geological Sciences 100 and 104.

308. Field Geology (4) I, II
One lecture and three hours of laboratory, and twelve Saturday field sessions in the local area. Prerequisites: Geological Sciences 224 and 305.

314. Geomorphology (3) I
Prerequisite: Geological Sciences 105.

319-B. Summer Field Tour (2)
Prerequisite: Consent of instructor. A two-week study of some of the classic geologic localities in the Western United States. A camping trip with travel by chartered bus. Localities visited may vary from year to year. See Class Schedule for specific content. Maximum credit four units.

333. The History of Life (3) I
Prerequisite: A course in biological science.

496. Advanced Topics in Geology (1-4) I, II
Prerequisites: Consent of instructor. Selected topics in geology and related earth sciences. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

498. Senior Thesis (1) I, II Cr/NC
Prerequisite: Credit or concurrent registration in Geological Sciences 308. Selection and preliminary investigation of an individual research project which will lead to a written thesis in Geological Sciences 498B.

499. Senior Thesis (2) I, II
Prerequisites: Geological Sciences 498A and credit or concurrent registration in Geological Sciences 508.

499B. Senior Thesis (2) I, II
Prerequisites: Geological Sciences 498A and credit or concurrent registration in Geological Sciences 508.

499C. Senior Thesis (3) I, II
Prerequisites: Acceptable grade average in at least 12 upper division units within the major and consent of staff. Individual study in field, library, laboratory, or museum work. Maximum credit four units.
502. Geology of North America (3) I
Prerequisites: Geological Sciences 105.
A regional analysis of North American geology, its structural, stratigraphic, and tectonic patterns and hypotheses concerning their origin and evolution.

505. Paleogeology (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 305 and 314.
Geologic interpretation of aerial photographs, elementary stereo and stereomodel applied to structural and stratigraphic problems, and compilation of geologic maps from annotated aerial photographs.

506. Paleontology (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and either Biology 100-100L or Zoology 100-100L.
Methods and principles, exemplified by a study of the morphology, classification, habit, and geologic significance of fossil invertebrates.

Vertebrate Paleontology, see Zoology 580.

507. Stratigraphy (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and 224.
Stratigraphic principles and practices. Consideration of the North American stratigraphic record.

508. Field Geology (4) I, II
One lecture and three hours of laboratory and twelve Saturday field sessions.
Prerequisites: Geological Sciences 305.
Geologic investigation of an assigned area with preparation of an individual report and a geologic map.

510. Petroleum Geophysics (3) I
Two lectures and three hours of laboratory. Occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques as presently used in oil exploration.

512. Mining Geophysics (3) II
Two lectures, and three hours of laboratory or occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques used for delineation of ore bodies.

516. Micropaleontology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 506.
The morphology, classification and geologic significance of the various microfossils.

520. Ore Deposits (3) I
Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.
Geologic relations, origin, distribution, and economics of metallic and nonmetallic mineral deposits.

521. Petroleum Geology (3) II
Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.
Geologic occurrence of petroleum and the application of geologic principles in exploration and production.

524. Optical Mineralogy (3) I
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 221.
Theory and use of the polarizing microscope for determining optical properties of minerals as an aid to their identification.
German

In the College of Arts and Letters

Faculty
Emeritus: Walker, Wolf
Chair: Kozlik
Professors: Boney, Dukas, Paulin, Schaber, Tanaka, Westervelt, Wulbern
Associate Professor: Dunkie
Lecturer: Reavis

Offered by the Department of Germanic and Slavic Languages and Literatures
Master of Arts degree in German.
Minor in German with the A.B. degree in liberal arts and sciences.
Teaching major in German for the single subject teaching credential in foreign languages.

German Major

With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

Students majoring in German must complete a minor in another field to be approved by the departmental adviser in German.

Preparation for the major. German 101, 102 (or 105 in lieu of 101 and 102), 201, 202, 211, and 212. (20 units)

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major.

Major. A minimum of 24 upper division units in German to include German 301 and 302 and six units selected from 305A-305B, 540, and either 12 units in additional literature courses excluding German 495, or a minimum of three units in additional literature courses and a maximum of nine units in courses in Germanic linguistics.

German Minor

The minor in German consists of a minimum of 15 units in German, six units of which must be in upper division courses.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

High School Equivalents

High school foreign language courses may be used for purposes of placement in college courses and may be counted toward meeting the foreign language requirement in various majors. These high school courses will not count as college credit toward graduation.

The first two years of high school German may be counted as the equivalent of German 101; three years the equivalent of German 102; and four years the equivalent of German 201. The last year-course taken by a student in the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work.

LOWER DIVISION COURSES

Native speakers of German will not receive credit for taking lower division courses in German except with advance approval from the department.

No credit will be given for German 101, 102, 201, 202, 301 taken out of sequence.

101. Elementary (4) I, II
Four lectures and one hour of laboratory.

Prerequisite: German 101 or two years of high school German.

Continuation of German 101. Not open to students who have completed three years of high school German.

102. Elementary (4) I, II
Four lectures and one hour of laboratory.

Prerequisite: German 101 or two years of high school German.

Continuation of German 101. Not open to students who have completed three years of high school German.

105. Elementary (8) I
Eight lectures and two hours of laboratory.

The elements of German: oral emphasis. A one-year course concentrated in one semester.

Primarily for credential candidates in German.

201. Intermediate (4) I, II
Prerequisite: German 102 or 105 or three years of high school German.

Continuation of German 101. Not open to students who have completed four years of high school German.

202. Intermediate (4) I, II
Prerequisite: German 101 or four years of high school German.

Continuation of German 201. (Formerly numbered German 202.)

208. Scientific Reading (2)
Prerequisite: German 102 or 105 or three years of high school German.

Readings taken from the fields of biology, chemistry, medicine, physics, zoology, etc.

211. Conversation (2) I, II
Prerequisite: German 102 or three years of high school German.

Practice in the spoken language with emphasis on the articulation of German sounds; practical vocabulary; conversation on everyday cultural topics. (Formerly numbered German 210.)

212. Conversation (2) I, II
Prerequisite: German 201 or 211, or four years of high school German.

Continuation of German 211. (Formerly numbered German 212.)

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(For Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.
301. Grammar and Composition (3)
Prerequisites: German 202 and 212.
Grammar and stylistics; intensive writing practice; reports based on outside reading.
(Formerly numbered German 301A.)

302. Grammar and Composition (3)
Prerequisites: German 202 and 212.
Grammar and stylistics; intensive writing practice; reports based on outside reading.
(Formerly numbered German 301B.)

305A-305B. Survey of German Literature (3-3)
Prerequisites: German 202.
Important movements, authors, and works in German literature from the Reformation to the present. (Formerly numbered German 311A-311B.)

395. Selected Germanics (3)
One of the Germanic languages or literatures (other than German or English) selected for intensive study. See Class Schedule for specific content. Maximum credit six units in each language.

403. Advanced Oral and Written German (3)
Prerequisites: German 301 and 302.
Advanced forms of oral and written German. (Formerly numbered German 403A.)

495. Topics In German Literature (3)
Topics in German literature to be selected by instructor. May emphasize an author, period, movement or genre. Intended primarily for the nonspecialist. Does not fulfill language requirement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

498. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3) I, II
Prerequisites: Fifteen upper division units in the major with an average of B (3.0) or better and consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

505. Applied German Linguistics (3)
Prerequisites: German 301 and 302.
Linguistic study of modern German; integration of modern linguistic theory with the language classroom.

510. German Phonetics (3)
Prerequisites: German 202 and 212.
Sounds and intonation of German.

515. Germanic Linguistics (3)
Prerequisites: German 202 and 212.
Structural and comparative Germanic linguistics.

540. German Literature from Its Beginning to the Reformation (3)
Prerequisites: German 202 and 212.
Literature from the eighth century to about 1500.

545A-545B. German Literature of the Eighteenth Century (3-3)
Prerequisites: German 202 and 212.
The literature of the German Enlightenment, the "Storm and Stress," the Classical Age.
Outside readings and reports.

549. Goethe's Faust (3)
Prerequisites: German 202 and 212.
Goethe's Faust, Parts 1 and 2: its philosophical content and its position in German and European literature; lectures, reading, reports.

555A-555B. German Literature of the Nineteenth Century (3-3)
Prerequisites: German 202 and 212.
The literature of German Romanticism, Young Germany, Realism, and Naturalism. Outside readings and reports.

561A-561B. Contemporary German Literature (3-3)
Prerequisites: German 202 and 212.
The main developments in German literature from Neo-Romanticism to the present. Outside readings and reports.

563. Contemporary German Drama (3)
Prerequisites: German 202 and 212.
German drama from Hauptmann to the present.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Greek
Refer to section on Classics
Health Science and Safety
In the College of Professional Studies

Faculty
Emeritus: Fellers, Kitzinger
Chair: Grawunder
Professors: Bender, Burgess, Grawunder, Harper, McTaggart, Sorochan
Associate Professors: Barnes, Boskin, Kessler, Noto, Sleet
Assistant Professor: Senn

Offered by the Department
Master of Arts degree in health science.
Major in health science with the B.S. degree in applied arts and sciences.
Teaching major in health science for the single subject teaching credential in social science.
Minor in health science.

Health Science Major
With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Emphasis in Community Health Education
Preparation for the major. Health Science and Safety 101, 102; Family Studies and Consumer Sciences 107; Psychology 101; Sociology 101; Speech Communication 104; and Zoology 108. (22 units.)
Major. A minimum of 39 upper division units to include Health Science and Safety 400, 401, 402, 470, 490, 497 (six units), 560; Educational Technology and Librarianship 541; twelve units selected from Biology 362, Health Science and Safety 330, 341, 350, 561, 562, 573, 574, and 575.

Emphasis in Occupational Safety and Health
Preparation for the major. Health Science and Safety 101; Chemistry 100, 100L; Psychology 101; Sociology 101; Speech Communication 104; Zoology 108; and Psychology 270, or Mathematics 119, or Sociology 201. (23 units.)
Major. A minimum of 36 upper division units to include Health Science and Safety 330, 341, 345, 351, 353, 354, 355 and 552; Sociology 520; and six units selected from Health Science and Safety 340, 497, 499 and 574 (3-6 units); and Industrial Technology 591.
Note: Health Science and Safety 490 will be required if lower division statistics has not been met. This upper division course will be in addition to the 36 upper division requirements.

Emphasis in Traffic Safety
Preparation for the major. Health Science and Safety 101, 102; Family Studies and Consumer Sciences 107; Psychology 101; Sociology 101; and Zoology 108. (19 units.)
Major. A minimum of 36 upper division units to include Health Science and Safety 330, 340, 341, 347, 348, 349, 350, 400; Biology 362; and nine units selected from health science and safety or closely related fields with approval of the departmental adviser.

Health Science Minor
The minor in health science consists of a minimum of 15 units in health science and safety selected from one of four areas:

- **Community Health Education:** Health Science and Safety 101, 400, 401, 470, 561.
- **Traffic Safety:** Health Science and Safety 101 and 12 units selected from Health Science and Safety 340, 341, 345, 347, 348, 349.
- **Occupational Safety and Health:** Health Science and Safety 101 and 12 units selected from Health Science and Safety 340, 341, 351, 353, 354, 355.
- **School Health:** Health Science and Safety 101, 320 or 321, 330, 574, 575.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. **Health and Life-style** (3) I, II, S
Major variables in human health experience with attention to personal health assessment and application of health knowledge to health behavior.

102. **Community Health** (3) I, II
Community health problems: the role of the citizen, of the public, and of community health agencies in promoting and protecting the health of the community.

130. **Standard-Advanced First Aid and Emergency Care** (3) I, II
Emergency care for the sick and injured. Provides the essential information, skills and first-aid capabilities required by policemen, firemen, life guards, rescue emergency squad members, industrial safety squad members, teachers, school nurses, ambulance attendants and others interested in emergency care. Red Cross certificate.

170. **Physiology of Reproduction** (2) I, II
A series of lectures and discussions dealing with normal and abnormal physiology and anatomy of reproduction; facts and frauds in sex hygiene, and related topics.

299. **Experimental Topics** (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Decreased for Undergraduates)

300. **Honors Course** (1-3) I, II
Refer to Honors Program.

301. **Concepts of Health Science** (3) II
Development and application of concepts in individual, family, and community health. Involvement in health project work. Not open to students with credit in Health Science and Safety 101.

311. **Institute on Current Health Issues** (1)
A critical appraisal and analysis of selected contemporary health issues. May be repeated with new content. See Class Schedule for specific content. Maximum credit three units applicable on a bachelor's degree.
320. Health Education for Elementary Teachers (3) I, II
   The teacher's function in the different aspects of the elementary school health program,
   with emphasis on the planning and presentation of instructional materials and community
   resources and relationships.

321. Health Education for Secondary Teachers (2) I, II
   The teacher's function in the secondary school health program with emphasis on the
   planning and presentation of instructional materials and community resources.

330. Instructor's Course in First Aid (3) I, II, S
   Standard Red Cross course for instructors in first aid plus medical-legal problems of
   emergency care of accident victims. Not open to students with credit in Health Science and
   Safety 130.

331. Health in Emergencies (3) I
   An evaluation of the scope of disasters and the necessary planning for effective use of
   existing facilities, services, supplies and personnel within the communities. Developing
   emergency plans to minimize loss of life and relieve suffering from natural disasters such as
   floods, hurricanes, tornadoes and earthquakes as well as from man-made disasters such as
   fires, civil disturbances and bomb threats.

340. Traffic Safety (3) I, II
   Problems of traffic safety and programs designed to deal with them.

341. Safety Education and Accident Prevention (3) I, II, S
   Principles of safety and safety education as applied to the home, school, industry, traffic,
   recreation, and fire prevention. (Formerly numbered Health Science and Safety 545).

345. Motor Fleet Safety (3) I
   A basic introduction to problems and practices of motor fleet (truck) safety with emphasis
   on regulations.

346. Motorcycle Safety Education (3) I, II, S
   Two lectures and three hours of laboratory.
   Safe riding proficiency, teaching techniques and program development.

347. Traffic Safety and Driver Education (3) I, II, S
   Three lectures and one hour of laboratory.
   Analysis of traffic accidents; natural and man-made laws; safe use and care of vehicles;
   instructional approaches and the development of one's own driving and teaching skills.

348. Advanced Driver Education and Driver Training (3) I, II, S
   Two lectures and three hours of laboratory.
   Prerequisites: Health Science and Safety 241 and 347.
   Principles and procedures in organizing and conducting programs in driver instruction
   with emphasis on behind-the-wheel training. Students will teach high school youngsters to
   drive.

349. Multimedia Techniques in Driver Instruction (3) I, II
   Prerequisite: Health Science and Safety 347.
   Teaching devices and techniques in driver education and driver training, including
   multimedia approaches, psychophysical testing, and multiple-car driving ranges; major
   emphasis on driver simulators, their operation and basic principles.

350. Environmental Health Education (3) I, II
   Environmental hazards of living and working in this modern technological world, including
   air, noise, land, food, and water pollution.

351. Industrial Hygiene (3) II
   Occupational environment and its effect on the safety, health and performance of
   employees.

353. Industrial Fire Protection (3) II
   Two lectures and three hours of laboratory.
   Fire causes, building construction, flammable materials, private fire protection, and codes
   and laws.

354. System Safety Analysis (3) II
   Prerequisite: Health Science and Safety 341.
   System safety techniques as applied to the recognition of potential accident situations in
   occupational environments. Concentration includes the basic aspects of system safety.
520. Administration of the School Health Program (3) II
Administrative responsibilities of the school health program. Principles, policies, and practices involved in health instruction, health services, environment, legal implications, and community relationships.

552. Safety Administration (3) I
Prerequisite: Health Science and Safety 341.
Designed to acquaint the student with the basic administrative elements of a modern safety program. (Formerly numbered Health Science and Safety 352.)

560. Introduction to Public Health (3) I, II
Prerequisites: Health Science and Safety 102 and 400.
Philosophy, development, organization, administration, and legal aspects of public health in the United States. Disease prevention and control, health education, and the other functions and activities of official health departments, voluntary agencies, private physicians and others engaged in professional health work.

561. Health and Medical Care (3) I, II
Prerequisite: Senior or graduate standing with a major or minor in health education or a closely related area.
Health values, concepts, and attitudes; health products and facilities; hospital care and hospitalization plans; governmental health controls; economic and cultural influences on health and medical care; professional contributions, relationships, and careers; national and international health programs. Not open to students with credit in Sociology 526.

562. International Health (3) I, II
Prerequisite: Health Science and Safety 102.
Population dynamics, vital statistics, global disease patterns, and analysis of variations among nations and cultures with respect to health problems and health care services.

573. Health in Later Maturity (3) I, II
An approach to the conservation of human resources, with emphasis on understandings, attitudes, and practices related to health in later maturity. Designed for those with a personal or professional interest in the field.

574. Habit-Forming Substances (3) I, II, S
Prerequisite: Health Science and Safety 101 or 301.
Tobacco, alcohol, and other drugs; their use, misuse and abuse.

575. Sex Education (3) I, II, S
Prerequisite: Health Science and Safety 475.
Philosophy, current procedures, and materials needed for development of healthy attitudes and scientific knowledge appropriate for the understanding of human sexuality.

GRADUATE COURSES
Refer to the Graduate Bulletin.

---

Hebrew
In the College of Arts and Letters

Faculty
Assistant Professor: Getler

Offered by the Department of Classical and Oriental Languages and Literatures

Courses in Hebrew.
Major or minor work in Hebrew is not offered.

LOWER DIVISION COURSES
No credit will be given for Hebrew 101, 102, 201, 202 taken out of sequence.

101. Elementary (5)
Five lectures and one hour of laboratory.
Beginning reading, writing, and conversational skills. Essentials of grammar. Not open to students who have completed three years of high school Hebrew.

102. Elementary (5)
Five lectures and one hour of laboratory.
Prerequisite: Hebrew 101.
Continuation of Hebrew 101. Not open to students who have completed four years of high school Hebrew.

201. Intermediate (5)
Five lectures and one hour of laboratory.
Prerequisite: Hebrew 102.
Continuation of Hebrew 102. Applications of grammar and reading skills. Additional practice in conversation. (Formerly numbered Hebrew 203.)

202. Intermediate (5)
Five lectures and one hour of laboratory.
Prerequisite: Hebrew 201.
Continuation of Hebrew 201. Completion of conversational and grammar sequences. Composition and reading for comprehension. (Formerly numbered Hebrew 204.)

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Intended for Undergraduates)

496. Topics in Hebrew Studies (1-4)
Topics in Hebrew language, literature, culture, and linguistics. May be repeated with new content. See Class Schedule for specific content. Maximum credit eight units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.
History

In the College of Arts and Letters

Faculty
Emeritus: Merrill, Nasatir, Ragen, Ridout, Rohlfieisch
Chair: Flemion, M.
Professors: Appleby, J., Berge, Cheek, Cox, Cox, Davies, Detweiller, Dunn, Flemion, J.
Hamilton, Hanchett, Munter, Norman, Phillips, Pincetl, Rader, Ruetten, Schatz, Smith, C.
Smith, R, Starr, Steele, Stiles, Strong, Vanderwood
Associate Professors: Appleby, A., Chu, Cunniff, DuFaull, Flner, Flemion, P., Heyman,
Hoital, McDean, O'Brien, Peterson, Vartanian, Weinberg
Assistant Professors: Bartholomew, Oades

Offered by the Department
Master of Arts degree in History; and a Master of Arts degree for teaching service with a
concentration in History.
Minor in History.

History Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation
requirements listed in the section of this catalog on "Graduation Requirements."

A minor is not required with this major.

Preparation for the major. History 105A-105B, or 110A-110B, or 115A-115B, or 120A-
120B. (6 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally
attained through three semesters of college study) is required in one foreign language as part of
the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 30 upper division units in history to include History 430 (to be taken
in the junior year unless a temporary waiver is granted by the department chairman and a
minimum of six units in each of three of the following fields: (a) Ancient and Medieval; (b)
Modern Europe; (c) United States; (d) Latin America; (e) South, Southeast, and East Asia; (f)
Asia and the Middle East; (g) Topical Subjects. It is the student's obligation, in consultation with
the department chairman, to determine which courses fulfill his field requirements.

History Minor

For the Single Subject Teaching Credential

All candidates for a teaching credential must complete all requirements outlined in this
section of the catalog under the College of Education.

This major may be used by students in teacher education as an undergraduate major for
the A.B. degree in liberal arts and sciences.

Preparation for the major. History 105A-105B, or 110A-110B, or 115A-115B, or 120A-
120B. (6 units.)

Major. A minimum of 36 upper division units in history to include History 430 (to be taken
in the junior year unless a temporary waiver is granted by the department chair) with the
remaining units distributed in the following pattern:

United States: Twelve units to include History 310A-310B and six units (preferably in
sequence) selected from History 537A-537B, 539A-539B, 544A-544B, 545A-545B, 546A-

Europe: Twelve units to include History 307A-307B and six units selected from History

Asia, Africa, Latin America and the Middle East: Six units selected from History 315A-
315B, 320, 321, 573A-573B, 574, 575A-575B

Elective: Three units. History 425 is recommended.

History Minor

The minor in history consists of a minimum of 18 units in history to include six sequential
units in the lower division. Twelve units must be in upper division history, distributed in no
more than two of the fields listed under the history major.

Courses in the minor may not be counted toward the major, but may be used to satisfy
preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

100A-100B. The Global Community (3-3) I, II
Semester I: The growth of civilizations and the interrelations of peoples in Eurasia, Africa
and America to 1650. Semester II: The response of peoples and civilizations to Western
power and the forces of modernization.

105A-105B. Western Civilization (3-3)
European culture, thought and institutions from ancient times to the present. Semester I:
From ancient times through the Renaissance and Reformation. Semester II: Development of
modern societies and states to the present day.

Course is intended for lower division students; it is preferable that upper division students
take History 305A-305B.

110A-110B. American Civilization (3-3)
The political and social development of the United States, with emphasis on the rise of
American Civilization and ideals. This course is primarily for lower division students.

The year course meets the graduation requirements in American Institutions, U.S.
Constitution and California state and local government.

115A-115B. Comparative History of the Americas (3-3)
The western hemisphere from ancient times to the present, with focus on the interactions
between the American, Amer-Indian and Afro-American cultures, institutions and traditions.

Semester I: Ancient American civilizations, European colonial systems, creation of new
nations. Semester II: Nations and cultures of the Americas since independence.

The year course meets the graduation requirements in American institutions, U.S.
Constitution and California state and local government.

120A-120B. Asian Civilizations (3-3)
Asian culture, thought and institutions from ancient times to the present. Semester I:
Traditional civilizations of Asia, with emphasis on China, Japan and India. Semester II:
Development of Asian nations and nationalism in modern times.

293. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific
content. Limit of nine units applicable to a bachelor's degree in courses under this number of
which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Intended for Undergraduates)

305A-305B. The Sources of Civilization in the West (3-3)
Prerequisite: Open only to upper division students.

A survey of the most important ideas and attitudes which have shaped Western Civilization
since ancient times. Emphasis on cultural themes rather than a political
continuum. Not open to students with credit in History 105A-105B. The course satisfies the
requirement in Western Civilization but cannot be used to satisfy requirement for the major.

307A-307B. Modern Europe (3-3) I, II
History of Europe from the Renaissance to the present. Social, economic, and intellectual
trends, the development of the nation-state, and the reasons for continental conflict. Semester I:
The Renaissance to 1789. Semester II: The French Revolution to contemporary times.
Required for the teaching credential in history.
310A-310B. United States History (3-3)
Survey of major themes, topics and events in American history, 1492 to the present. Semester I: To 1877. Semester II: 1877 to the present. Designed primarily for social science majors, history minors, and students seeking an upper division elective. History 310A-310B meets all American history and institutions, U.S. Constitution and California government requirements for graduation. Not open to students with credit in History 110A-110B and cannot be used to satisfy requirements for the history major.

315A-315B. Latin America (3-3)
Semester I: Colonial Period to approximately 1825. Semester II: Republican Latin America. Not open to students with credit in History 115A-115B. Meets field requirement (d) Latin America toward credit in the major.

320. Asia's Dynamic Traditions (3)
Emergence and continuing vitality of historic traditions in India, China, and Japan. Topical, comparative survey emphasizing Confucian, Buddhist, and Hindu ideas and the interaction with institutions of family and village. (Not open to students with credit in History 120A, Meets field requirement (e) South, Southeast and East Asia toward credit in the major.) (Formerly numbered History 320A.)

321. Asia's Emerging Nations (3)
Historic changes which have contributed to the rise of modern Japan, India and China. Topical, comparative approach emphasizing ways Asian societies have responded to challenges of imperialism, nationalism, revolution, war, and modernization. (Not open to students with credit in History 120B. Meets field requirement (f) South, Southeast and East Asia toward credit in the major.) (Formerly numbered History 320B.)

335. History Through Film (3)
Critical analysis of selected historical problems, eras and events, using film as the principal historical document. Maximum credit six units.

340. Environmental Problems in Historical Perspective (3)
Past attitudes, policies, and behavior toward the land in context of religious and ethical beliefs, social values, economic practices, and political systems. Cannot be used to satisfy requirements for major.

425. Great Historians and Historical Literature (3)
Lectures and readings in the history of history and the works of major historians. Open to all upper division students; especially recommended for history and social science majors. Meets field requirement (g) Topical Subjects toward credit in the major.

430. The Writing of History (3)
Prerequisite: History major or 12 upper division units in history. Methodological and research in some aspect of history.

496. Selected Studies in History (1-4)
Topics in the various fields of history, such as biography, war, science, technology, urbanization, minority groups, immigration and capitalism. See Class Schedule for specific content. Maximum credit six units.

499. Special Study (1-3)
Prerequisite: Consent of department chair and instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

Field (a). Ancient and Medieval

500A-500B. Ancient History (3-3)
Semester I: Greece to the Roman Conquest. Semester II: Rome to the 5th Century A.D.

503A-503B. Europe in the Middle Ages (3-3)
European social, cultural, and political developments from the fall of Rome to the Renaissance.

505. The Byzantine Empire (3)
The social, political, cultural, and economic development of the Eastern Roman Empire from the crisis of the third century to the fall of Constantinople in 1453.

Field (b). Modern Europe

508. The Renaissance (3)
The intellectual, artistic, and social transformation of Europe from the 14th through the early 16th century.

509A-509B. Early Modern Europe (3-3)
Continental Europe in the 16th and 17th centuries: the religious revolt and religious wars, rise of monarchy, baroque culture, the revolutions in commerce and science. Semester I: The century after Luther. Semester II: The 17th century.

510A-510B. Europe in the 19th Century (3-3)
The "Old Regime" and the influence of the Enlightenment and the Enlightened Despots are emphasized. Semester I: The 18th century to 1763. Semester II: Intellectual and social changes in the quarter century before the French Revolution.

511A-511B. Europe in the 19th Century (3-3)
Social, political, and economic developments of 19th century Europe.

512A-512B. Europe in the 20th Century (3-3)
Political and social developments from 1870 to the present.

513A-513B. History of Scandinavia (3-3)
The major political, social and economic developments in Scandinavia from the Viking Age to the present. Semester I: From the Viking Age to the end of the Napoleonic Wars. Semester II: Modern Scandinavia, 1814 to the present.

514A. The French Revolution and Napoleon Era (3)
Prerequisite: History 105A-105B. France on the eve of the Revolution; the Great Revolution, 1789-1799, the Napoleon Era.

514B. Modern France (3)
Prerequisite: History 105A-105B. The development of France since 1815.

515A-515B. The Iberian Peninsula (3-3)
Survey of Spain and Portugal and their empires, with emphasis on economic, social, and cultural developments. Semester I: From the beginnings to the early sixteenth century. Semester II: From the sixteenth century to the present.

517A-517B. Germany and Central Europe (3-3)
A social and political history of Germany and Central Europe. Semester I: From the Reformation to 1848. Semester II: From 1848 to the present.

518A-518B. Russia and the Soviet Union (3-3)
Semester I: Political, social and economic development of Russia in Europe and Asia from the earliest times to the close of the 19th century. Semester II: Emphasis on the 20th century.

519. Modern Italy (3)
The development of Italy from 1815 to the present.

520A-520B. England (3-3)
Prerequisite: History 520A is prerequisite to 520B. Political and social history of England from the earliest times to the present day, stressing the origins of American institutions and social patterns. Recommended for majors in English.

521A-521B. Constitutional History of England (3-3)
Evolution of the common law and the development of parliamentary institutions.

522A-522B. Tudor and Stuart England (3-3)

523A-523B. Modern Britain (3-3)
Semester I: The development of constitutional and social patterns from the Glorious Revolution to the French Revolution, emphasizing the immediate background to the American Revolution. Semester II: From the 19th century to the present, including theories of Parliamentary democracy, imperialism and the Victorian age, and political thought from the Utilitarians to the Fabians.
526A-526B. Intellectual History of Modern Europe (3-3)
Selected problems in European intellectual history beginning with the 17th century, with special attention to social and political thought.

527A-527B. Diplomatic History of Modern Europe (3-3)
Prerequisite: History 103A-103B.
Diplomatic relations of the various European states with European and non-European powers. Semester I: From the Congress of Vienna (1815) to the Era of Realpolitik in the late 19th century. Semester II: The diplomatic backgrounds and results of two wars.

530. Colonial America (3)
Settlement of British colonies in North America and their development into a distinctive American civilization through modification of Old World institutions in the new environment. (Formerly numbered History 531A.)

531. The American Revolution (3)
Development of colonial resistance to British rule after 1760, the War for Independence, the Confederation, and the Constitution of 1787. This course meets the requirements in United States Constitution. (Formerly numbered History 531B.)

532. The United States, 1789-1828 (3)
Political, economic, and social development of United States from Washington through John Quincy Adams. This course meets the requirements in United States History. (Formerly numbered History 532A-532B.)

533A-533B. Jacksonian Democracy, Civil War and Reconstruction (3-3)
Semester I: Territorial expansion, democratic politics, revivalism, and the slavery controversy. Semester II: The Civil War and Reconstruction, emphasizing political affairs and the role of Lincoln.

534. The Rise of Modern America, 1868-1900 (3)
Economic, social, political, and intellectual developments from the end of the Civil War to the close of the 19th century.

535A-535B. The United States, 1901-1945 (3-3)
The age of reform and the United States as leader of the free world.

536. The United States in the Nuclear Age (3)
The United States since World War II.

537A-537B. The Western Movement (3-3)
The American frontier: Expansion, exploration, settlement and building of the new states, with emphasis on frontier problems of defense, communications, finance, etc., the experiences and results of the frontier American history, institutions and ideals.

538A-538B. The American Southwest (3-3)
Semester I: Exploration, colonization and development of the Southwest under Spanish and Mexican rule. Emphasis on frontier institutions and Indian policy. Semester II: Anglo-Spanish relations.

539A-539B. Black American Civilization (3-3)
Semester I: The Black minority group and its contributions and challenges to American society. African backgrounds, slavery, the abolitionists, the free Black. Semester II: Ghetto life, leadership personalities, and protest movements.

540. Environmental History of the United States (3)
The relationship of Americans to their environment from colonial times to the present with emphasis on how attitudes and values have affected personal behavior and public policy.

541A-541B. California (3-3)
Political institutions, social, cultural, economic and intellectual development; international present. History 541B will fulfill the requirement in California state and local government.

542. The American States; Latin America (3)
Institutions and ideals.

543A-543B. The City in American History (3-3)
Semester I: The development of American foreign policy from the Colonial Period to the First World War. Semester II: Developments from the First World War to the present. This year course meets the graduation requirements in American history, institutions, and ideals.

544A-544B. American Foreign Policy (3-3)
Semester I: The development of American foreign policy from the Colonial Period to the First World War. Semester II: Developments from the First World War to the present. This year course meets the graduation requirements in American history, institutions, and ideals.

545A-545B. Constitutional History of the United States (3-3)
American constitutional history since the establishment of the federal government. This year course meets the graduation requirement in U.S. Constitution and in American history, institutions, and ideals.

546A-546B. Development of American Capitalism (3-3)
The changes in agriculture, industry, labor, banking, transportation and commerce in a capitalist society with emphasis on the prominent personalities who made the changes possible.

547A-547B. Intellectual History of the American People (3-3)
Survey of American thought from 1620 to the present, focusing on the ideas of individuals, groups and movements in religion, politics, society, the arts and reform. Emphasis on liberal and conservative impulses and their role in the making of the modern American mind. This year course meets the graduation requirements in American institutions, U.S. Constitution, and California state and local government.

548A-548B. Social History of the United States (3-3)
Historical survey of American society emphasizing demographic trends, the changing role of the family, social structure, immigration patterns, religious movements, developments in education, the economy and entertainment.

551A-551B. Mexico (3-3)
Prerequisite: History 115A-115B or 315A-315B.

552A-552B. History of Brazil (3-3)
Semester I: Colony and empire, 1500-1889, with focus on Portuguese heritage, plantation society, African slavery and its abolition and development of classes and regions. Semester II: The 20th century, with focus on messianism and social banditry, creation of the industrial and military state, Afro-Brazilians, and the conquest and destruction of the Amazonian forest and Indians. Recommended for persons minoring in Portuguese.

553A-553B. The Caribbean Area (3-3)
Institutions and ideas in the Caribbean area with emphasis on the 20th century.

554. The West Coast Nations of South America (3)
The historical development of Chile, Bolivia, Peru and Ecuador with emphasis on race relations and social revolutions in the 20th century.

557. History of Latin American Popular Culture and Social Thought (3)
Examination of the ways Latin Americans have historically viewed their cultures and societies from the dual perspective of elites and the masses. Popular Culture—the Latin American self-image reflected in family relations, folklore, myth, legend, popular music and art and mass expression.

558A-558B. Diplomatic History of Latin America (3-3)
Origins of Inter-Americanism; relations among the Latin American nations; the origins and development of the American States; Latin America in World Affairs.

561A-561B. The Far East (3-3)
Particular, but not exclusive, emphasis on Asian-Western relations. Semester I: Through the 19th century. Semester II: The 20th century.
562. Civilization of India: The Great Traditions (3)
From earliest times to the eighteenth century including Hindu, Buddhist, and Muslim contributions to Indian society, changing political ideas and institutions, and historic trends in art and literature. (Formerly numbered and entitled History 562A, India—Hindu, Muslim and Modern.)

563. The Modern Indian Subcontinent (3)
British conquest and colonial policy, Hindu and Muslim nationalism, Gandhi's significance, and the emergence of independent India, Pakistan, and Bangladesh. (Formerly numbered and entitled History 562B, India—Hindu, Muslim and Modern.)

564A-564B. Southeast Asia (3-3)
Semester I: Cultural traditions of Southeast Asian peoples, indigenous institutions and the influence of China, India and Islam. Semester II: Southeast Asia in the modern world. Patterns of foreign stimulus and local response among the peoples of the area.

565. Revolution and Social Change in Asia (3)
Comparative study of contemporary problems in Asia emphasizing how indigenous peoples responded to the challenges of nationalism, reform, revolution, modernization, and neo-colonialism. Topics include social structure, education, peasant movements, urbanization, search for cultural identity, and national integration.

566. Chinese Civilization (3)
Chinese internal history and institutions during the period of relative isolation; religions, philosophy, literature and the arts.

567A-567B. Modern and Contemporary Chinese History (3-3)
Semester I: Impact of the West on China's history and civilization, particularly in the 19th and early 20th centuries. Semester II: Selected historical problems of contemporary China since the development of the Chinese Communist Party. Theory and practice of the party, Red Army, rural soviet, socialist economic and cultural systems, and revolutionary foreign policies.

569. Japanese Civilization (3)
Japanese internal history and institutions during the period of indigenous development and Chinese influence including religions, philosophy, literature and the arts.

570. Modern Japan (3)
Japan's development as a modern state, particularly in the 19th and 20th centuries.

571A-571B. Intellectual History of Modern Asia (3-3)
Asian intellectual history during the 19th and 20th centuries, with special attention to social and political thought.

Field (f). Africa and Middle East

573A-573B. History of the Near East from the 7th Century to World War I (3-3)
Semester I: Medieval Islam from the 7th century A.D. to the rise of the Ottoman Turks. Semester II: The Ottoman Empire to 1914.

574. The Near East in the Twentieth Century, 1914 to Present (3)
Analysis of sociopolitical and intellectual developments in the Near East during and after World War I.

575A-575B. Africa (3-3)
Semester I: Civilization of precolonial Africa both north and south of the Sahara from the advent of Islam to 1880. Semester II: Colonial and postcolonial Africa.

Field (g). Topical Subjects

581A-581B. The Contemporary World in Historical Perspective (3-3)
Trends and developments in the recent past which can contribute to an understanding of the problems of our age.

582A-582B. War and Civilization (3-3)
The political and social implications of warfare, of the development of military technologies, and of changing concepts of military organization. Semester I: Through the eighteenth century. Semester II: Napoleonic Wars to the present.
Humanities

Administered by the Dean of the College of Arts and Letters

Faculty
Faculty assigned to teach courses in humanities are drawn from departments in the College of Arts and Letters.

Offered by the College of Arts and Letters
Courses in humanities.
Major or minor work in humanities is not offered.
All classes are conducted in English.

LOWER DIVISION COURSES

101. Introduction to Humanities (3)
Preliminary investigation: How values and ideas are expressed in the literary, artistic and intellectual achievements of individuals and civilizations throughout the world. (Formerly numbered Humanities 201.)

102. Humanities in Perspective (3)
Integrated survey of contemporary movements in art, literature and modes, comparing American attitudes with traditional genres, values, and aesthetics. (Formerly numbered Humanities 202)

130. The Jewish Heritage I (3)
Major Hebraic concepts of the Biblical and post-Biblical periods; their impact on Western civilization and their contemporary relevance.

131. The Jewish Heritage II (3)
Major Jewish concepts from medieval through modern times; their impact on Western civilization and their contemporary relevance.

140. Mythology (3)
Major myths of the world in ancient and modern versions.

157. Arab-Islamic Culture and Civilization (3)
Interdisciplinary survey of Islamic culture and civilization, emphasizing religious beliefs, their developments, and their role in creating or being integrated with sociopolitical systems of the Islamic Near East from the time of Muhammad to the present.

158. African Culture and Civilization (3)
An interdisciplinary survey.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content.

UPPER DIVISION COURSES

(Intended for Undergraduates)

357. Islamic Culture and Civilization (3)
Interdisciplinary analysis of Islam as a religion and as a sociocultural ethic within a multinational framework extending from Morocco to Indonesia.

370. The Humanities and Modern Man (1) Irregular Cr/NC
Lectures open to the public.
Weekly lectures on literature, language, philosophy and cultural history. Reading and reports required of students enrolled for credit. Maximum credit three units.

496. Topics in Humanities (3)
Selected topics in literature and the arts. Comparative themes and critical approaches.
May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

498. Special Study (1-3)
Prerequisite: Consent of the instructor.
Individual study. Maximum credit six units.

Industrial Arts

In the College of Professional Studies

Faculty
Emeritus: Ford, Luce, McLoney
Chair: Marsters
Professors: Anderson, Bailey, Dirkerson, Guentzler, Hammer, Irgang, McMullen, Thiel
Associate Professors: Lybarger, Marsters, McEowen, Rasmussen
Assistant Professor: Lawrence

Offered by the Department of Industrial Studies
Master of Arts degree in industrial arts.
Major in industrial arts with the A.B. degree in applied arts and sciences.
Teaching major in industrial arts for the single subject teaching credential.
Minor in industrial arts.

Industrial Arts Major
With the A.B. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major. Industrial Arts 100 and 121 to be taken at the beginning of the major; four courses selected from Industrial Arts 115, 131, 140, 151, 161, 171 and 181. (17 units)

Major. A minimum of 24 upper division units to include nine units in each of two of the following fields: industrial drawing, general metalworking, plastics, general woodworking, electricity-electronics, transportation, graphic arts, industrial crafts, and photography, and six additional units in industrial arts excluding Industrial Arts 498 and 499.

Industrial Arts Major
For the Single Subject Teaching Credential
All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the School of Education.
The requirements for the industrial arts major for the single subject teaching credential are the same as the requirements for the A.B. degree in applied arts and sciences. In addition, Industrial Arts 492 must be taken.

Industrial Arts Minor
The minor in industrial arts consists of 23 units in industrial arts to include Industrial Arts 100, 121; six units selected from Industrial Arts 115, 131, 140, 151, 161, 171, 181, and 12 upper division units to include six units in each of two of the following fields: industrial drawing, general metalworking, plastics, general woodworking, electricity-electronics, transportation, graphic arts, industrial crafts, and photography.
Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

100. Introduction to Industrial Arts (2) I, II
Required of all industrial arts majors during their first semester.
The history and philosophy of industrial arts with emphasis on the current status and development of the secondary school curriculum. Discussion of professional requirements, obligations and development.

106. Survey of Electronics (3)
Six hours of laboratory.
A nonmathematical survey of electronics, practical utilization of tools and equipment of today's industry.
115. General Plastics (3) I, II
Six hours of laboratory.
Production methods, mechanical and physical properties, composition of plastics. The basic processes: molding, casting, thermoforming, reinforcing and foaming.

121. Industrial Drawing (3) I, II
Six hours of laboratory.
Fundamental theories, procedures and techniques of modern industrial drafting; study and practice intended to develop skill and judgment in application to drafting as the universal language of industry.

131. General Metalworking (3) I, II
Six hours of laboratory.
Exploration of basic materials and methods employed by industry to produce metal products. The attainment of knowledge and skills involved in the primary fabrication techniques of sheet metal, bench metal, art metal, foundry, forging, machining, and welding.

140. Introduction to Photography (3) I, II
Six hours of laboratory.
A consideration of photographic optics and chemistry; nature of light and image formation; photographic emulsions, exposure and development. Composition and lighting.

151. General Woodworking (3) I, II
Six hours of laboratory.
Introduction to wood technology and ecology; safe practices; fasteners; adhesives; abrasives; science of working with wood, emphasizing hand tools.

161. Basic Electronics (3) I, II
Six hours of laboratory.
Planning, designing, constructing, and experimenting to develop skills and acquire knowledge in the electronics field. Basic principles, their application to modern electronic equipment, and correct use of common hand tools and simple test equipment.

171. Power Mechanics (3)
Six hours of laboratory.
Introduction to the various forms of power transmission with emphasis on small gas engines and automotive preventive maintenance.

181. General Graphic Arts (3) I, II
Six hours of laboratory.
The theory and practice in planning, designing and processing in the various graphic reproduction activities involving type, stencils, paper, and other allied materials.

UPPER DIVISION COURSES
(intended for Undergraduates)

301. Industrial Arts Crafts (3) I, II
Six hours of laboratory.
Prerequisite: Previous industrial arts experience.
Emphasis on skills in the industrial arts crafts by laboratory experiences in such areas as plastics, jewelry, lapidary, leather and mosaics. Stress on creativity in design and utilization of materials.

315. Tooling for Plastics Production (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 115.
Design and use of basic tooling; dies for injection and compression molding, forms for reinforced plastics processes, and molds for thermoforming and casting.

321. Intermediate Industrial Drawing (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 121.
Complex theories and techniques of graphic delineation. Activities selected to develop individual competence.

331. Machine Tool Processes (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 131.
Study of machine tools as a manufacturing medium emphasizing precision measurement, standards, tolerances and inspection methods.

341. Intermediate Photography (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 140 or 540.
Exposure theory, sensitometry, contrast control, specialized development, and advanced studies of photographic lenses and equipment.

351. Machine Woodworking (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 161.
Development of skills through planning, designing, constructing and experimenting. Emphasis on the application of advanced principles of electronics to the uses of power, transmission, communication, radio and television.

371. Power Systems (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 171.
Power systems to include sources of power, power transmission, and its utilization. Emphasis on engine overhaul to include theory of operation, system design, and maintenance procedures.

381. Intermediate Graphic Arts (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 181.
Activities in the various graphic arts with emphasis on new technology in the industry.

402. Advanced Industrial Arts Crafts (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 301.
Advanced techniques of industrial arts crafts. Development of audiovisual aids, projects, and resource materials with emphasis on physical setting, organization, and other pertinent laboratory problems.

416. Thermoplastics (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 315.
Composition and selection of materials; evaluation of physical and mechanical properties of various thermoplastics; special techniques for processing and production of thermoplastics.

422. Architectural Drafting (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 121.
Architectural drafting, primarily in small home planning. Development of drafting skills and understanding of good contemporary home design.

432. Welding Processes and Procedures (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 131.
A study of the basic welding processes with emphasis on physical principles and properties, inspection methods and equipment operations.

443. Advanced Problems in Photography (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 341.
Technical problems in photography.
444. Color Photography (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 341.
Exposure and processing techniques as applied to current color films and papers in relation to the theory of color photography.

452. Industrial Woodworking (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 351.
Course designed to increase professional skills, craftsmanship, advanced technical skills in equipment maintenance, patternmaking, design analysis, and upholstery.

462. Advanced Electronics (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 361.
Development of advanced skills with application to industrial electronics. Techniques in the use of electronics test equipment and analysis of electronic devices.

464. Basic Digital Computers (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 361.
Functions of circuitry as applied to switching, timing and pulse circuits. Basics of computer digital logic.

465. Analog Computer Fundamentals (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 361.
Introduction to electronic analog circuits, with emphasis on instrumentation and measurement techniques.

472. Power System Diagnosis and Tune-up (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 371.
Theory and application of various types of diagnostic testing equipment, with emphasis on trouble shooting and power system analysis.

482. Advanced Graphic Arts (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 381.
Advanced techniques in developing skills involved in graphic arts techniques.

491. Manual Arts Therapy Clinical Training (6)
Prerequisite: Consent of department chairman and instructor.
Supervised experiences in manual arts therapy at various Veterans' Administration Hospitals and rehabilitation centers. Students will acquire, through observation and participation, clinical insight and experience in procedures and practices in the field. Two hundred forty hours of clinical training required.

492. Teaching Methods in Industrial Education (3) I, II
Prerequisite: Admission to Secondary Education Program.
Study of methodology needed to teach industrial subjects. It is recommended that this course be taken prior to student teaching.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

498. Senior Project (3) I, II
Six hours of laboratory.
Prerequisite: Consent of instructor.
Each student will work on a project in a selected industrial arts activity area. Oral progress reports will be made and a final written report is required.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit seven units.

503. Advanced Industrial Crafts (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 402.
Advanced techniques of industrial crafts. Concentration on the design of craft projects with best utilization of materials. Development, in at least three areas specified by the instructor, of individual exhibits showing originality.

517. Thermoset Plastics (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 315.
Composition and selection of materials; evaluation of physical and mechanical properties of various thermoset plastics, special techniques for processing and production of thermoset plastics.

523. Industrial Arts Drawing (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 121. Practice in and analysis of modern industrial drafting techniques and theory.

533. Applied Metal Forming Operations (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 131.
Theory of conventional and high energy industrial forming processes augmented with laboratory forming experiences.

540. Photography for Teachers (3)
Six hours of laboratory.
Designed for more mature students to learn photographic skills useful in teaching. Not open to students with credit in Industrial Arts 140 or Journalism 150.

553. Advanced Woodworking (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 351.
Wood finishing, residential building construction techniques, and advanced machine operations.

563. Industrial Electronics (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 361.
Advanced problems in industrial electronics circuit development, analysis, theory and application.

573. Accessory Power Systems (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 371.
Study of accessory power systems and technological innovations in education and power related industries.

583. Industrial Arts Graphic Arts (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 381.
Advanced techniques in developing skills involved in graphic arts facilities.

596. Experimental Industrial Arts (1 or 2)
Prerequisite: Consent of instructor.
Individual laboratory work on complex projects on an experimental basis. See Class Schedule for specific content. Maximum credit six units.

542. Advanced Photography (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 140 or 540.
A consideration of advanced negative control, projection printing techniques, composition and editorial content, architectural and illustrative photography, and flood photoflash techniques.

GRADUATE COURSES – Refer to the Graduate Bulletin.
Industrial Technology
In the Department of Industrial Studies
In the College of Professional Studies

Faculty
Chair: Marsters
Advisers: Dirkson, Hammer
Faculty assigned to teach courses in industrial technology are drawn from Industrial Studies.

Offered by the Department of Industrial Studies.
Major in industrial technology with the B.S. degree in applied arts and sciences.

Industrial Technology Major *
With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
This major in industrial technology may be planned with an emphasis in electronics technology, industrial sales, or manufacturing technology.
A minor is not required with this major.

Emphasis in Electronics Technology
Preparation for the major. Chemistry 100, 100L, 130, 130L; Economics 101 and 102; Industrial Arts 115, 121, 131, 140, 161, 171; Mathematics 103, 107, 119, 121, 122, 123, 137; Physics 124A-124B, 125A-125B, 125A-125B8. (60 units.)
Major. A minimum of 42 upper division units to include Industrial Technology 321, 361, 374, 495, 591 and 594; Industrial Arts 361, 462, 464, 465, 498, 583; and six units of electives selected with the approval of the adviser.

Emphasis in Industrial Sales
Preparation for the major. Business Administration 140; Economics 101 and 102; Industrial Arts 121; Mathematics 103, 107, 119, 120; Physics 124A-124B, 125A-125B; and 15 units selected from Industrial Arts 115, 131, 140, 151, 161, 171 and 181. (47 units.)
Major. A minimum of 42 upper division units to include Business Administration 370 and three units selected from Business Administration 378, 473, 474; Industrial Technology 483, 591, 592, 593, 594; a minimum of 18 upper division units in applicable industrial arts and/or industrial technology courses in three technical areas (six units in each area), and three units of electives selected in consultation with the adviser.

Emphasis in Manufacturing Technology
Preparation for the major. Business Administration 140; Economics 101 and 102; Industrial Arts 121, 161; Mathematics 103, 119, 121, 122, 123; Physics 124A-124B, 125A-125B, and 12 units selected from Industrial Arts 115, 131, 140, 151, 171 and 181. (50 units.)
Major. A minimum of 51 upper division units to include Business Administration 360 and 361, 381, 422, 454, 455, 456, 495, 595, 596; six units selected from 350, 351, 352, 461, 462; Industrial Technology 321, 361, 374, 495, 591; courses in two technical areas (nine units in each area) selected in consultation with the adviser.

* This major is being phased out. No new students are being admitted to the program.

UPPER DIVISION COURSES
(Indented for Undergraduates)

321. Industrial Design Problems (3) Six hours of laboratory.
Prerequisite: Industrial Arts 121.
A study of blueprint reading, the design of jigs, fixtures and dies, and the application and solution of power transmission problems in the industrial environment.

326. Commercial Building Layout (3) Six hours of laboratory.
Prerequisite: Industrial Arts 422.
Layout of light and medium commercial building using concrete, steel and wood construction.

334. Technology of Ferrous and Nonferrous Metals (3) Six hours of laboratory.
Prerequisite: Industrial Arts 131.
Applied metallurgy dealing with physical properties, heat treatments, testing and industrial applications.

354. Wood Processes and By-Products (3) Six hours of laboratory.
Prerequisite: Industrial Arts 452.
Study of wood by-products manufactured from macerated wood fibres, laminates, dielectric glue equipment and other processes.

361. Industrial Controls (3) Six hours of laboratory.
Prerequisite: Industrial Arts 181.
Study of industrial controls, including the electrical and electronic systems used in automated manufacturing methods. Emphasis on circuit functions, systems applications, and recent advancements in control techniques.

374. Fluid Power (3) Six hours of laboratory.
Prerequisite: Industrial Arts 171.
Study of fluid power, including hydraulic and pneumatic systems. Emphasis on circuit design and applications.

384. Printing Processes and Operations (3) Six hours of laboratory.
Prerequisite: Industrial Arts 381.
Recent advancements in the technology of graphic arts—study of work related to various printing processes.

423. Technical Illustration (3) Six hours of laboratory.
Prerequisite: Industrial Arts 121.
Theory and application of single- and multiple-point perspectives. Shading and rendering techniques as applied to presentation-type drawings will also be emphasized.

455. Wood Inspection and Testing (3) Six hours of laboratory.
Prerequisite: Industrial Arts 452.
Macro and micro wood identification, chemical and physical testing of wood and wood-revived products.

485. Photo-offset Lithographic Principles and Operations (3) Six hours of laboratory.
Prerequisite: Industrial Arts 381.
Study and experimentation in the field of offset lithography.

490. Supervised Field Experience (3-6) Prerequisite: Sponsorship by a full-time Industrial Studies Department faculty member. Supervised industrial experience in related occupational field. Specific assignments to be arranged in consultation with the adviser and selected industries. Maximum credit nine units.

495. Plant Layout and Material Handling (3) Study of education and industrial plant layout for expedient flow of materials.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

591. Industrial Safety (3) The integration of accident prevention into management functions. The organization of training and safety programs emphasizing the detection and control of hazards, analysis of data, investigations and environment modifications for safety effectiveness.
322 / Industrial Technology

592. Industrial Materials (3)
A survey of various types of manufacturing materials used in industry. Evaluation of materials composition, physical and mechanical properties with emphasis on processing requirements and product design.

593. Manufacturing Processes (3)
A survey of manufacturing processes used in industry. Evaluation of forming, shaping, assembly and finishing processes as they relate to characteristics of material and product design.

594. Industrial Proposals and Specifications (3)
Research, practice and investigation in the planning and writing of industrial proposals and plant manufacturing systems specifications.

Interdisciplinary Programs
In the College of Arts and Letters **

For information on additional interdisciplinary programs, refer to this section of the catalog under the headings of American Studies, Asian Studies, European Studies, Family Studies and Consumer Sciences (Child Development), Humanities, Latin American Studies, and Social Science.

African Studies Minor
Dr. James N. Kerri, Afro-American Studies, is adviser for this minor.
The minor in African Studies consists of a minimum of 15 units, 12 of which must be upper division, to include History 575A and 575B, Humanities 158, and six units from the following courses in any two departments: Anthropology 449*, 479*; Economics 489*; Geography 335*, 589*; Political Science 364, and Religious Studies 340*.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

* Additional prerequisites may be required for these courses.

Minor in Environment and Society
Dr. Douglas Strong, Department of History, and Dr. Warren Johnson, Department of Geography, are advisers for this minor.
The minor in environment and society consists of a minimum of 27 units to include Biology 100, Economics 101 and 102 or 303 and 304, Geography 101 or 102, nine units selected from Biology 320 or 420, Economics 452, 453 or 555*, and Geography 370 or 371, and six units selected from Anthropology 428*, Biology 320, 420, 525, 528, Economics 452, 453, 454, 458, 555*, Geography 370, 371, 570, 574, 575*, 576, History 340, 540, Political Science 334, 335, Sociology 550*. Recommended: Chemistry 301, Engineering 360, Geology 303, Physics 301.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

* Additional prerequisites required for these courses.

Jewish Studies Minor
Dr. Ita G. Sheres, Department of English and Comparative Literature, is adviser for this minor.
The minor in Jewish Studies provides a balanced interdisciplinary study of Jewish contributions to world culture and history. It serves the needs of students who plan to (1) specialize in disciplines in which an understanding of Jewish contributions is essential, or (2) follow careers in teaching, community service, foreign service, or the ministry. Students seeking a minor in Jewish Studies may want to consider combining it with a major in Social Science with an emphasis on Africa and the Middle East. Many courses relevant to this major are available in anthropology, Arabic language and literature, economics, geography, history, political science, and sociology.
The minor in Jewish Studies consists of 18 to 22 units to include Humanities 130 and 131, or Hebrew 101, 102 and 299; and 12 units selected from Comparative Literature 505 (English 505), 525, 526, 571 (Legend and Mysticism), 577 (Kafka), English 522 (Jewish-American Writings), History 496 (Jewish History), Philosophy 339*, 539*, Religious Studies 496 (Hasidism and Jewish Mysticism). 580* (Martin Buber). Relevant courses not here listed may apply to the minor with approval of the Coordinator of Jewish Studies. The 12 upper division units are to be taken in no more than two departments.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

* Additional prerequisites required for these courses.

** The Liberal Studies Major is administered by the Dean of Undergraduate Studies.
Liberal Studies Major

With the A.B. Degree in Applied Arts and Sciences and in Liberal Arts and Sciences

The liberal studies major provides two options for students wishing to follow degree programs involving more than one discipline or area of study. Option 1 offers an opportunity to combine three disciplines in a focused program of study. Option 2 permits a more general education with courses chosen from four broad groups and is designed mainly for students planning to enter elementary education.

OPTION 1. Liberal Studies in Three Departments.

The student selects three departments participating in this liberal studies option to provide a cohesive plan not otherwise provided in the regular programs of the university. Approval of the plan must be secured from each of the involved departmental advisers and from the Dean of the Undergraduate Division prior to completion of 90 semester units. Information regarding participating departments and procedures for application is available from the Undergraduate Division office.

Preparation for the major. A minimum of two courses (normally defined as six units) in each of the three departments selected in the major must be completed in the lower division as foundation for upper division courses. In departments where lower division offerings are insufficient to meet this requirement, the total minimum upper division requirement may be extended.

Major. A minimum of 36 upper division units selected from three departments, with no fewer than nine units from any one. The liberal studies major is governed by the regulations of the liberal arts and sciences. If two of the three fields selected are in the liberal arts and sciences, curriculum. If two of the three fields selected are in the applied arts and sciences curriculum, then the program is governed by the regulations of that curriculum.

OPTION 2. Liberal Studies in the Multiple Subjects Groups with the A.B. Degree in Applied Arts and Sciences.

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on “Graduation Requirements.” A minor is not required with this major.

The Liberal Studies Major Option 2 meets all the requirements for the multiple subjects diversified major as specified in the Ryan Bill, and is recommended for prospective elementary teachers.

Preparation for the major (completion of preparation for the major fulfills all general education requirements for liberal studies majors). Sixty units distributed as follows in items 1 through 17 (no more than 12 units may be selected from any one department).

1. Composition (3 units) — Afro-American Studies 120A or English 100 or 101 or Mexican-American Studies 111B.
2. Composition (3 units) — English 200 or 500.
3. Speech (3 units) — Afro-American Studies 140 or Mexican-American Studies 111A or Speech Communication 103.
4. Linguistics (3 units) — Linguistics 101 (or 524, 551, 552 if all general education is complete).
5. English Language Elective (3 units selected from the following) — Classics 120, English 280, Journalism 100, Speech Communication 104, 111A, 160, French 109, 110, Pathology and Audiology 104, 106.
6. Mathematics (6 units) — Mathematics 210A-210B (or on approval of the mathematics advisor, any of the following mathematics courses may be substituted: Mathematics 121, 122, 150, 151, 310A, 310B).
7. Science — 9 units to include a biological science, a physical science and a laboratory chosen from categories (a) and (b).
   a. Biological science (3 units or 4 including lab). Strongly recommended: Biology 100 (Biology 100L, lab). Also approved: Botany 100, Microbiology 110 (Microbiology 110L, lab), Natural Science 110B, Zoology 100.
   b. Physical science (3 units or 4 including lab). Strongly recommended: Natural Science 210A, 210B. Also approved: Astronomy 101, 103 (Astronomy 103, lab), Geography 101 (Geology 101L, lab), Geology 100 (Geology 101, lab), Natural Science 102A, 110A, Physics 103.
   c. (2-3 units) Any course approved in 6 or 7 above or Anthropology 101, Biology 299 (Biology of Health), Chemistry 100, Chemistry 101L, Mathematics 140, Natural Science 102B, Physics 107, Physics 107L.
8. The Global Perspective (3 units) — Anthropology 102 or Geography 102 or History 100A or 100B.
9. United States—Organization (3 units) — Economics 100 or 101 or Sociology 101 or Political Science 102 (or lower division General Education American Institutions course, history may not be taken in both categories 8 and 9).
10. The Individual Perspective (3 units) — Psychology 101 or Afro-American Studies 250 or Women's Studies 325.
11. Social Science Elective (3 units selected from the following): Any course approved for items 8, 9, or 10, or Afro-American Studies 101, 170A-170B, 250, American Indian Studies 110B, 115, 120A-120B, 140, 141A-141B, Political Science 103, Sociology 110, Women's Studies 101, 201.
12. Our Literary Heritage (3 units) — Comparative Literature 270A or 270B or English 220.
13. Values and Ethics (3 units) — Philosophy 101 or 102 or 103 or Religious Studies 101.
14. Western Civilization (3 units selected from the following) — Art 258, 259, Classics 140, Drama 120, History 105A, 105B, Humanities 102.
15. Art (3 units) — Art 100 or 101 or other skills course for students with sufficient background in art.
16. Music (3 units) — Music 102 (or higher level music course for students with sufficient background to be approved by the Music Department).
17. Social Science Elective (3 units selected from the following): Any course approved for items 13, 14, 15, 16 above, or American Indian Studies 110, Art 157, Drama 150 or 255, European Studies 100, foreign or Native American language, Humanities 130, 140, Music 151, Religious Studies 201.

Note: Students must fulfill certain requirements for liberal studies and for graduation. Some of these may be completed at either lower or upper division.

1. Health requirement: Lower division Health Science & Safety 101 (see category 11 above) or Biology 299 (Biology of Health) (see category 7c above), or upper division Health Science & Safety 320 (see Socialization and Development below).
2. American Institutions graduation requirement (see section of catalog on “Graduation Requirements”). One of the sequences may be included in liberal studies in lower division (see categories 9 and 11 above) or in upper division (see American Perspective emphasis below).
3. Physical Activities graduation requirement may be met by taking Physical Education 141 and one physical education activity course or equivalent monitored activity.

Major. Thirty units (no more than 15 units from any one department).

Students must fulfill two patterns of distribution: (1) emphasis and (2) Ryan Bill breadth requirements.

1. The Emphasis.
   Students must choose one of the emphases listed below and follow its directions for distribution (see categories 11a and 11b).

2. Ryan Distribution.
   In addition, students must select courses representative of all the Ryan categories. The symbol * or ** is placed next to each course listed below. Students must select the following number of units according to symbol * or **.
   - * (English and Speech) at least 3 units, maximum 9 units.
   - ** (Mathematics and Science) at least 3 units, maximum 12 units.
   - * (Social Science) at least 6 units, maximum 15 units.
   - ** (Humanities and Fine Arts) at least 3 units, maximum 12 units.

To fulfill the Ryan distribution, students must choose 18-21 units from the emphasis, and must select the remaining units (8-12) from courses listed in any of the other emphases, or in Art and Language.

Advising for Liberal Studies Option 2 is available at the University Advising Center.
Art and Language

(Not an emphasis; courses may be used for 9-12 elective units; limited to six units in Art)


Foreign Languages*

A student may choose any foreign language which he/she is qualified to take in the areas of Classical, Oriental, French, Italian, German, Slavic, Native American, Spanish and Portuguese. For those students who anticipate working with Mexican-American children in the southwestern United States, Spanish is recommended.

Note: The following courses have additional prerequisites not included in preparation for the major or the minor. Art 581; 589, 570, 576; Geography 508, 509; Economics 493; Family Studies and Consumer Sciences 436; Political Science 301B; Spanish 301, 442, 515A-515B; Speech Pathology and Audiology 321.

Middle East Studies Minor

Dr. James N. Kerri, Afro-American Studies, is adviser for this minor.

The minor in Middle East Studies consists of a minimum of 15 units, 12 of which must be upper division, to include Humanities 157 or 357; Religious Studies 340*; six units from History 573A*, 573B* and 574*; and three units from Anthropology 474*, Art 566*, Comparative Literature 535, Economics 469*, Geography 335* and Political Science 563.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

* Additional prerequisites may be required for these courses.

Russian and East European Studies Major

With the A.B. Degree in Liberal Arts and Sciences

Dr. Vytais Dukas, Department of Germanic and Slavic Languages and Literatures, is adviser for this major.

Preparation for the major. Russian 101, 102, 201, 202, or equivalent. (16 units.) Lower division prerequisites for the upper division courses to be taken in the major. (9-12 units)

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major.

Major. A minimum of 30 upper division units to include nine units from at least two departments in the humanities selected from Comparative Literature 513, 514; European Studies 330-331, History 518A-518B; nine units from at least two departments in the social sciences selected from Economics 330, 468, Geography 336, 337, Political Science 330, 558; six units in Russian selected from 301, 302, 305A-305B, 555A-555B, 561A-561B, 563, 570, 580, 581; and six units of electives selected with the approval of the adviser.

Italian

In the College of Arts and Letters

Faculty

Professors: Vergani, G., Vergani, L.

Offered by the Department of French and Italian Languages and Literatures

Minor in Italian

Italian Minor

The minor in Italian consists of a minimum of 15 units in Italian, nine units of which must be in upper division courses in the language.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

High School Equivalents

High school foreign language courses may be used for purposes of placement in college courses and may be counted toward meeting the foreign language requirement in various majors. These high school courses will not count as college credit toward graduation.

The first two years of high school Italian may be counted as the equivalent of Italian 101; three years the equivalent of Italian 102; and four years the equivalent of Italian 201. The last year-course taken by a student in the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work.

LOWER DIVISION COURSES

Native speakers of Italian will not receive credit for taking lower division courses in Italian except with advance approval from the department.

No credit will be given for Italian 101, 102, 201, 301 taken out of sequence.

101. Elementary (4) I, II

Four lectures and one hour of laboratory. Pronunciation, oral practice, readings on Italian culture and civilization, essentials of grammar. Not open to students who have completed three years of high school Italian.

102. Elementary (4) I, II

Four lectures and one hour of laboratory. Prerequisite: Italian 101. Continuation of Italian 101. Not open to students who have completed four years of high school Italian.

201. Intermediate (4) I, II

Prerequisite: Italian 102. A practical application of the fundamental principles of grammar. Reading in Italian of cultural material, short stories, novels or plays; oral and written practice.

211. Conversation (2) I, II

Prerequisite: Italian 102 or three years of high school Italian. Practice in the spoken language: practical vocabulary, conversation on assigned topics. Not applicable for the foreign language requirement for the A.B. degree in Liberal Arts and Sciences.

212. Conversation (2) I, II

Prerequisite: Italian 201 or 211, or four years of high school Italian. Continuation of Italian 211. Not applicable for the foreign language requirement for the A.B. degree in Liberal Arts and Sciences.

UPPER DIVISION COURSES

(Intended for Undergraduates)

All upper division Italian courses are taught in Italian unless otherwise noted.

301. Advanced Oral and Written Composition (3)

Prerequisite: Italian 201. Grammar review. Reading of modern Italian prose, with written reports and oral discussions in Italian. (Formerly numbered Italian 311)
305A-305B. Italian Literature (3-3)
Prerequisite: Italian 201.
Important movements, authors and works in Italian literature from Middle Ages to present.
(Formerly numbered Italian 321A-321B.)

331. Italian Literature in Translation (3)
Works of outstanding Italian writers in English translation. May be repeated with new content. Maximum credit six units. (Formerly numbered Italian 331A-331B.)

340. Intensive Italian for Reading (3) Cr/NC
Prerequisites: Italian 101 and 102.
Reading, translation and discussion of Italian texts (fiction, essays, articles, etc.) for upper division and graduate students. Taught in English. (Not applicable for graduation requirement in foreign language or for majors or minors.)

401. Dante and the Divine Comedy (3)
The poet, his cultural background, and his political-historical mission. Taught in English. (Formerly numbered Italian 401A-401B.)

411. Literature of the Italian Renaissance (3)
Literature of the 15th and 16th centuries as presented in works of Politiano, Lorenzo de' Medici, Pulci and Boiardo; Machiavelli, Ariosto, Michelangelo, Cellini and Tasso. Taught in English.

496. Selected Topics (1-4)
Topics in Italian language, literature, culture and linguistics. Conducted in English or in Italian. See Class Schedule for specific content. Maximum credit eight units.

499. Special Study (1-3) I, II
Prerequisites: Italian 301 and 305A or 305B. Individual study. Maximum credit six units. This course is intended only for students who are currently enrolled in or who already have credit for all upper division courses in Italian available in any given semester.

Japanese
In the College of Arts and Letters

Faculty
Lecturer: Rabson

Offered by the Department of Classical and Oriental Languages and Literatures

Courses in Japanese.
Major or minor work in Japanese is not offered.

LOWER DIVISION COURSES
Native speakers of Japanese will not receive credit for taking lower division courses except with advance approval from the department. No credit will be given for Japanese 101, 202, 303, 304 taken out of sequence.

101. Elementary (4) I
Four lectures and one hour of laboratory.
Prerequisite: Consent of instructor.
Pronunciation, oral practice, readings on Japanese culture and civilization, minimum essentials of grammar.

202. Elementary (4) II
Four lectures and one hour of laboratory.
Prerequisite: Consent of instructor.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Intended for Undergraduates)

303. Readings in Japanese (4) I
Prerequisite: Japanese 202.
Reading of modern Japanese short stories and essays. Composition and advanced conversation.

304. Readings in Japanese (4) II
Prerequisite: Japanese 303.
Continuation of Japanese 303. with readings in poetry, mainly Haiku.

496. Topics in Japanese Studies (1-4)
Topics in Japanese language, literature, culture and linguistics. May be repeated with new content. See Class Schedule for specific content. Maximum credit eight units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.
Journalism

In the College of Professional Studies

Faculty
Emeritus: Julian, Wimer
Chair: Brown
Professors: Brown, Buckalew, Holowach, Odendahl, Sorensen
Associate Professor: Whitney
Assistant Professors: Hartung, Spevak, Wulfemeyer

Offered by the Department
Major in journalism with the A.B. degree in liberal arts and sciences.
Teaching major in journalism for the single subject teaching credential in English,journalism.

Minor in Journalism

Journalism Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

A total of 36 units in journalism may be counted for graduation, of which a maximum of 12 lower division units in journalism may apply. A minor is not required with this major.

Students should expect to be examined in spelling, grammar, punctuation and vocabulary before successful completion of the major in journalism. Certain upper division courses will be closed to students who have not passed the examinations.

Emphasis in Advertising

Preparation for the major. Journalism 120 and 150 (6 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in journalism to include Journalism 460, 461, 480 or 500, 502, 522, and six units of electives.

Emphasis in Magazine

Preparation for the major. Journalism 120 and 150 (6 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in journalism to include Journalism 320, 326, 441, 443, 502 and nine units of electives selected from Journalism 444, 450, 451, 460, 490 (internship with a magazine), 522 and 529.

Emphasis in Mass Communication

Preparation for the major. Journalism 100, 120 and Sociology 101, 201 and Mathematics 103. (15 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in journalism to include Journalism 320, 500 or 508, 502, 503, 509, 522 or 529 and six units of electives.

Emphasis in News-Editorial

Preparation for the major. Journalism 120, 150 (6 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in journalism to include Journalism 320, 326, 502, 522 or 529, and 12 units of electives selected from 330, 425, 441, 450, 470, 490 (internship with a news medium), 500, 503, 522, 526, 529.

Emphasis in Photojournalism

Preparation for the major. Journalism 120 and 150 (6 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in journalism to include Journalism 320, 450, 451, 470, 475, 502, and six units of electives.

Emphasis in Public Relations

Preparation for the major. Journalism 100, 120, 150 (9 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in journalism to include Journalism 320, 460, 470, 480, 481, 583, 585, and three units of electives selected from Journalism 490 (internship in public relations), 500, 502; Psychology 342.

Emphasis in Radio-TV News

Preparation for the major. Journalism 120 and 150 (6 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in journalism to include Journalism 470, 474, 475, 490 (internship in radio-TV news), 500, 502 and six units of electives.

Journalism Major

For the Single Subject Teaching Credential in English/Journalism

All candidates for a teaching credential must complete all requirements as outlined in the section of this catalog on the College of Education.

A major in journalism selected from any one of the emphases in journalism may be used by students in teacher education as an undergraduate major for the A.B. degree in liberal arts and sciences.

Credential Requirements. A minimum of 45 units selected from courses in the following content areas:

- Literature: 12 units selected from Comparative Literature 270A, 270B, 570; English 250, 260A, 260B, 280, 505, 522, 526, 533; Journalism 100, 102, 503;
- Language: nine units selected from Journalism 326, 443, 446, Linguistics 101, 510, 520, 524, Speech Communication 530, 536;
- Oral Communication: six units selected from Journalism 474, 475; Speech Communication 103, 104, 105, 111A, 111B, 135, 391;
- Advising School Publications: four units selected from Journalism 150, 444, 449;
- Competency in News-gathering and Reporting: two units selected from Journalism 330.
Journalism Minor

The minor in journalism consists of a minimum of 15-18 units selected from one of the following areas:

**Advertising:** 18 units to include Journalism 100, 120, 460, 461, 463 and 468.

**Magazine:** 18 units to include Journalism 120, 150, 441, 443, 450 and 502.

**Mass Communication:** 18 units to include Journalism 120, Sociology 101, Journalism 502, 508, and six units from Journalism 500, 503, 505.

**News-Editorial:** 15 units to include Journalism 120, 320, 326, and six units from Journalism 502, 522 or 529.

**Photography:** 18 units to include Journalism 120, 150, 441, 450, 451 and 502.

**Public Relations:** 18 units to include Journalism 100, 120, 480, 481, 583 and 585.

**Radio-TV News:** 15 units to include Journalism 120, 470, 474 or 475, 502, and three units from 490, or a repeat of either 474 or 475.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

**LOWER DIVISION COURSES**

120. **News Reporting** (3) I, II

One lecture and four hours of laboratory.
Prerequisite: Grade of C or better in Journalism 120.

150. **News and Feature Photography** (3) I, II

One lecture and four hours of activity. An elementary course designed primarily for students of journalism and public relations; experience with professional photographic equipment and film processing; contact and cropping; documentary and color pictorial journalism for communicating news events with words and pictures, including a creative-interpretative approach.
Prerequisite: Grade of C or better in Journalism 120 and 150.

180. **Advanced News Reporting** (3) I, II

One lecture and four hours of activity. (Intended for Undergraduates)
Prerequisite: Grade of C or better in Journalism 120.

**UPPER DIVISION COURSES**

320. **Advanced News Reporting** (3) I, II

One lecture and four hours of activity. (Intended for Undergraduates)
Prerequisite: Grade of C or better in Journalism 120.

326. **News Editing** (3) I, II

One lecture and four hours of activity.
Prerequisite: Journalism 320.

330. **Newspaper Production** (3) I, II

Prerequisite: Journalism 320.
Includes techniques of reporting, editing, printing and photography relevant to the production of newspapers, with emphasis on mechanical, photographic, computerized and electronic processes.

425. **Editorial Writing** (3)

Principles and policies of editorial composition for mass communication media.

431. **Editorial Conferences** (1-3) I, II

More than three hours a week per unit of credit.
Prerequisites: Journalism 330 or 444, and consent of publication adviser.

441. **Magazine Article Writing** (3) I, II

Gathering material and writing articles for specialized areas, with emphasis on the business press. Production of eight articles and marketing of at least one article emphasized.

443. **Magazine Editing** (3)

Mechanics of the editorial process in magazines; with emphasis on industrial and business publications: selection and preparation of editorial material; picture selection, cropping, captioning; graphic production processes; layout; preparation of dummies; special purpose booklets and magazines.

444. **Magazine Production** (3) I, II

Prerequisite: Journalism 443.
Special work in magazine production. Includes editing and photographic work on campus magazines. (Formerly numbered Journalism 340.)

450. **Advanced News and Feature Photography** (3)

One lecture and four hours of laboratory. Preparation of copy, layout planning, and production of advertising.
Prerequisite: Journalism 150.

451. **Photojournalism (Print Media)** (3)

One lecture and four hours of laboratory. Preparation of copy, layout planning, and production of advertising.
Prerequisites: Journalism 120 and 150.

452. **Photojournalism (Radio-Television)** (3)

Techniques for achieving the technical and story-telling quality in photojournalism.

460. **Newspaper Advertising** (3) I, II

Principles of advertising for newspapers and trade papers. Emphasis on copywriting, layout, typography, and production. Use of consumer and market surveys, and advertising research studies in planning local advertisers' sales programs and promotions.

461. **Newspaper Advertising Practice** (3)

Prerequisite: Journalism 460.
Practical work in servicing accounts in advertising on campus media. Supervised work in preparation of copy, layout, and production of advertising.

463. **Advertising Copy, Layout and Production** (3)

Prerequisite: Credit or concurrent enrollment in Journalism 460.
Preparation of copy, layout planning, and production of advertising.

465. **Advertising Research and Analysis** (3)

Prerequisite: Journalism 460.
Evaluation and use of data collected and measurement for print media advertising. Cases and problems, with emphasis on quantitative and qualitative characteristics of print advertising.

466. **Advertising Campaigns** (3)

Prerequisite: Journalism 460 or Telecommunications and Film 540.
Cases and problems dealing with advertising campaigns and decision making involving copy themes, artwork, and media imagery.

470. **Radio and Television News Writing and Editing** (3) I, II

One lecture and four hours of laboratory. Gathering, writing, and editing news in special forms required by radio and television. This course not open to students with credit in Telecommunications and Film 310.

474. **Radio News Production** (3) I, II

One lecture and eight hours of laboratory.
Prerequisite: Journalism 470 or Telecommunications and Film 310.
Radio news production with experience in writing, editing, regional wire copy and local copy, preparing tapes and on-the-spot recordings of news events for programs produced over the campus radio station and local commercial radio stations. Maximum credit six units.

475. **Television News Production** (3) I, II

Two lectures and six hours of laboratory.
Prerequisite: Journalism 470 or Telecommunications and Film 310.
Television news production with experience in photographing news events, processing and editing film, and writing copy for film for programs produced over the campus and local commercial television stations. Maximum credit six units.
480. Public Relations (3) I, II
Principles, methods and objectives in the field of public relations; evaluation of the "publics" of institutions and industry; case studies of public relations problems.

481. Public Relations Techniques and Media Usage (3) I, II
One lecture and four hours of laboratory.
Prerequisite: Journalism 480.
Practical use of public relations techniques with emphasis on media usage.

490. Internship in Journalism (1-3) I, II Cr/NC
Prerequisites must be consistent with nature of internship:
Advertising Emphasis: Journalism 460.
Magazine: Journalism 441, 443.
News-Editorial: Journalism 326.
Photojournalism: Journalism 450.
Public Relations: Journalism 120, 481.
Radio-TV News: Journalism 470.
Prearranged and supervised work on local magazines, city and county newspapers, radio and television stations, and on public relations, publicity, and advertising staffs of civic and business groups. Maximum credit six units with no more than three units in any one semester.

496. Experimental Topics (1-3)
Selected topics. May be repeated with new content See Class Schedule for specific content Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

500. Current Problems in Mass Communication (3) I, II
Forces affecting American mass communications today: Government restrictions, economics, pressure groups, censorship, mechanical developments, interrelationships of the media and society, professional ethics.

502. Law of Mass Communication (3) I, II
Libel, defamation, privacy, censorship, advertising laws, postal regulations, and constitutional guarantees affecting press, radio, television, rights and responsibilities of communicators in reporting public affairs.

503. History of Mass Communication (3)
American journalism from colonial times to the present, with special attention to radio and other mass media which have entered the news and entertainment field; the relation of their development to society.

505. The Foreign Press (3)

508. Mass Communication and Society (3)
Prerequisite: Sociology 191.
Social factors underlying nature, functions of mass media. Theories, models, research in media as culture carriers, as opinion shapers, and in relation to government.

509. Research Methods in Mass Communication (3)
Prerequisite: Sociology 201.
Investigate tools and methods of mass media: content analysis, readership studies, audience measurement, experimental designs, and representative studies.

522. Reporting of Public Affairs (3)
Prerequisite: Journalism 320.
Coverage of the city hall, courthouse, police headquarters, federal agencies, courts, and other public and political centers.

526. Advanced Editing Techniques (3)
Prerequisite: Journalism 326.
Principles of typography, page layouts, and use of pictorial material; selection, evaluation, editing, and display of news.

529. Investigative Reporting (3)
One lecture and four hours of laboratory.
Prerequisite: Journalism 320.
Development of articles of substance and depth in specialized fields. Research, analysis, and interpretation of complex issues in the news. Maximum credit six units.

583. Problems in Public Relations (3)
Prerequisite: Journalism 481.
Current public relations problems of industry, public agencies and other institutions.

585. Public Relations Practices (3)
Prerequisite: Journalism 481.
Examination of current public relations practices in a wide variety of local commercial, industrial, financial, governmental, cultural and social organizations. Use of the local community's public relations resources. (Formerly numbered Journalism 485.)

GRADUATE COURSES
Refer to the Graduate Bulletin.

Latin
Refer to section on Classics.
Latin American Studies

In the College of Arts and Letters

Faculty
Latin American Studies is administered by the Latin American Studies Committee. The program draws upon courses offered by faculty in the Departments of Anthropology, Art, Economics, Geography, History, Mexican-American Studies, Political Science, and Spanish and Portuguese Languages and Literatures. Professor Ernst C. Griffin is the undergraduate adviser.

Offered by Latin American Studies
Master of Arts degree in Latin American Studies
Major in Latin American Studies with the A.B. degree in liberal arts and sciences.

Latin American Studies Major
With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

The major provides (1) a basis for a more effective understanding of the cultures and governments of the western hemisphere; and (2) a basic education and training for a business or professional career involving understanding of Latin America.

High school students preparing to enter this program should include in the high school course of study not less than three years of study in one foreign language, preferably Spanish or Portuguese. Proficiency in either of these languages is indispensable to a successful career in this area of study.

Preparation for the major. Portuguese 101, 102, 201, 202, 211, 212, or Spanish 101, 102, 201, 202, 211, and 212 with a minimum grade point average of 2.0 for all work attempted (20 units); 12 units selected from Anthropology 101, Economics 101 and 102, Geography 101, History 115A-115B, Latin American Studies 101, Political Science 101 and 103.

Foreign Language Requirement. The foreign language requirement for graduation is automatically fulfilled through course work for preparation for the major.

Major. A minimum of 36 upper division units selected from courses in anthropology, art, economics, geography, history, Latin American studies, Mexican-American studies, political science, Portuguese, and Spanish, with not less than 12 units in one field and nine in each of two other fields. At least 33 units must be in courses having Latin American content. The American Studies curriculum.

Courses acceptable for the Latin American Studies Major include: Latin American Studies 341, 346, 498, 580; Anthropology 425*, 442*, 443*, 451*, 470, 475, 476, 477; Art 561*, 562*, 486 (when relevant); 551A-551B, 552A-552B, 553A-553B, 554, 557, 558A-558B; Mexican-American Studies 333, 335, 376; Political Science 382, 501, 566, 567, 568; Portuguese 538, 535; Spanish 306A-306B, 515A-515B, 520, 522, 524, 570, 571, 572, 596* (when relevant); and 499 (when relevant) taken in one of the departments listed above.

* Indicates course with prerequisites not included in requirements listed above.

LOWER DIVISION COURSE

101. Latin American Heritage (3)
Introduction to Latin American cultures and peoples from an interdisciplinary perspective.
(Formerly numbered Latin American Studies 120)

UPPER DIVISION COURSE

(Designed for Undergraduates)

341. Latin American Civilization (3)
The principal aspects of the Latin American cultures with emphasis on literature, philosophy and the arts. Not open to students with credit in Spanish 441. (Formerly numbered Humanities 141.)
Linguistics
In the College of Arts and Letters

Faculty
Emeritus: Tidwell
Chair: Drake
Professors: Drake, Frey
Associate Professors: Donahue, Elgin, Seright, Underhill
Assistant Professor: Webb
Lecturers: Hudson, Kaplan

Offered by the Department
Master of Arts degree in linguistics.
Major in linguistics with the A.B. degree in liberal arts and sciences.
Teaching major in linguistics for single subject teaching credential in English.


Linguistics Major
With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." Students majoring in linguistics must complete a minor in another field approved by the department in linguistics. Recommended fields include anthropology, ethnic administration and urban studies, sociology, speech communication and speech pathology.

In addition, the demonstration of a reading competence in a second language is required. Association Language Test.

Preparation for the major.

Foreign Language Requirement: Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language.

Linguistics Minor
For the Single Subject Teaching Credential in English

For a description of the single subject teaching credential in English with a major in linguistics, refer to this section of the catalog under English.

Minor in Linguistics

The minor in linguistics consists of a minimum of 15 units, 12 of which must be upper division units and nine of which must be from linguistics.

A student must choose a specialization from one of the following subject areas:

Modern Syntax: Linguistics 101, 496, 520, 522, 525, 550, Philosophy 531*

Phonology: Linguistics 101, 496, 500, 521, 523

Methods of Linguistic Analysis: Linguistics 250 Directed Language Study, Linguistics 496, 500, 523, 525, 550, Anthropology 410, Philosophy 531*

Sociolinguistics: Linguistics 101, 496, 500, 551, 553, Anthropology 410*

Psycholinguistics: Linguistics 101, 496, 500, 552, 553, Anthropology 410*


Substitutions may be made at the discretion of the undergraduate adviser. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Certificate in Applied Linguistics

The Linguistics Department offers a basic and an advanced Certificate in Applied Linguistics. The basic certificate requires 12 units of study: Linguistics 520, Linguistics 550, Theory and Practice of ESL; Linguistics 552, Psycholinguistics; and either Linguistics 524, American Dialectology, or Linguistics 551, Sociolinguistics. Under certain circumstances comparable courses taken at other institutions may count toward the certificate. Such courses must be evaluated and approved by the Certificate advisor. In addition, there is a 15-hour tutoring practicum requirement. In order to enroll, you must contact the certificate advisor in the Department of Linguistics. Refer to the Graduate Bulletin for information on the advanced certificate.

LOWER DIVISION COURSES

101. Language Study (3) I, II
Introduction to the principles and practice of modern linguistics as applied to the study of English. (Formerly numbered Linguistics 100)

250. Directed Language Study (3) I, II
Prerequisite: Consent of instructor.
Directed independent study of a foreign language not offered within the course structure. No instruction in speaking or understanding the spoken language is included in this course.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Intended for Undergraduates)

470. Linguistics and Contemporary Issues (3)
Systematic linguistic analysis of language modes associated with various areas of contemporary life, using generative transformational methodology as the analytic technique.

496. Experimental Topics in Linguistics (1-4) I, II
Prerequisite: Consent of instructor.
Specialized study of a selected topic in linguistics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

500. General Linguistics (3) I
Open only to seniors and graduate students. Recommended: Reading knowledge of Latin, French, Spanish or German.
The principles of linguistic development illustrated chiefly from the Classical, Romanic, and Germanic language groups.

510. History of English (3) I, II
The history of English and its present-day use.

520. Modern English (3) I, II
The structure of modern English, including the various approaches to linguistic analysis.
521. Phonology (3) I, II
Prerequisite: Linguistics 101.
Introduction to the theoretical principles of transformational-generative phonology.

522. Syntax (3) I, II
Prerequisite: Linguistics 101.
Introduction to the theoretical principles of transformational-generative syntax.

523. Phonemics and Morphemics (3)
The study of procedures for deriving at the phonetic inventory of languages and the structuring of sound units (both linear and intonational) into phonemic systems; the study of morphemic hierarchies and their arrangements in forming words.

524. American Dialectology (3) I, II
The development of American English; regional and cultural differences in pronunciation, grammar and vocabulary.

525. Semantics and Pragmatics (3)
Prerequisite: Linguistics 101.
Advanced semantic theory; systematic analysis of the interaction of sequences of language with real world context in which they are used.

550. Theory and Practice of English as a Second Language (3) I, II
The nature of language learning; evaluation of techniques and materials for the teaching of English as a second language.

551. Sociolinguistics (3) I, II
Prerequisite: Three units in linguistics or sociology.
Investigation of the correlation of social structure and linguistic behavior.

552. Psycholinguistics (3) I, II
Prerequisite: Three units in linguistics or psychology.
Psychological aspects of linguistic behavior.

553. Functional Bilingual Linguistics (3) I, II
Prerequisites: Knowledge of Spanish, Linguistics 520, and consent of instructor.
Recommended prerequisites: Speech Pathology and Audiology 528 and 532.
English and Spanish linguistic differences as related to children's second language acquisition; assessment of children's linguistic competence in second language learning through contrastive analyses of English and Spanish phonology, morphology and syntax.
Research on current linguistic theories in second language acquisition and in bilingualism.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Mathematics Major

With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

A minor is not required with this major.

Preparation for the major: Mathematics 150, 151 and 152. (13 units) Recommended: Physics 195, 195L, 196, 196L, 197, 197L.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units selected with approval of the departmental adviser before starting upper division work, including Mathematics 520A, 521A and 534A and one two-semester sequence chosen from the following: Mathematics 521A-521B, 521A and 573, 530 and 531, 534A-534B, 544A and 535, 541A-541B, 551A and 551B; 550 and 553; 150 and 152. The student must complete an outline for the major and file a copy signed by the adviser with the evaluations office.

Mathematics Major

With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

A minor is not required with this major.

Preparation for the major. Mathematics 107, 150, 151 and 152. (16 units.)

Major. A minimum of 36 upper division units to include Mathematics 520A, 521A, 534A; at least nine units selected from Mathematics 340A, 340B, 521A, 530, 531, 532, 533, 534B, 12 units from a science to which mathematics may be applied (these should be from a single science and must be approved by the B.S. adviser); and nine units of electives in mathematics excluding Mathematics 302, 303, 310A-310B. The student must complete an outline for the major and file a copy signed by the adviser with the evaluations office.

Emphasis in Applied Mathematics
This emphasis is designed to train the student in those areas of mathematics which may be applied to formulate and solve problems in other disciplines. The program is designed to qualify the student for employment as an applied mathematician, but the graduate would be well prepared for graduate study in pure or applied mathematics.

Preparation for the major. Mathematics 107, 119, 137, 150, 151, 152. (23 units.)

Major. A minimum of 36 upper division units to include Mathematics 520A, 521A, 530, 531, 532, 533, 534B, 541A, 551A, and 12 units selected from Mathematics 531, 532, 536, 541B, 550, 550B or 551B, 570, 572 or 596 approved by the Applied Mathematics adviser; and three units of electives. The student must complete an outline for the major and file a copy signed by the adviser with the evaluations office.

Auxiliary Area. A minimum of 12 units from an area to which mathematics may be applied. A typical program might be Physics 195, 195L, 196, 196L, 197, 197L; or Chemistry 200, 200L, 201, 201L and a course for which these are prerequisite; or Botany 200 and Zoology 200 and courses for which these are prerequisite; or Economics 101, 102, 447, 541. The intent is to train the student in an area in some depth. Some latitude may be allowed in the choice of department and mix of courses, but all programs must be approved by the Applied Mathematics adviser. The 12-unit requirement is minimal, and a minor in an approved field is highly recommended.

Emphasis in Computer Science
Preparation for the major. Mathematics 107, 137, 150, 151, 152. (20 units.)

Major. A minimum of 36 upper division units in mathematics to include Mathematics 520A, 534A, 570, 572; at least nine units from Mathematics 340A, 340B, 521A, 530, 531, 532, 533, 534B, at least six units from Mathematics 371, 541A, 541B, 573, 574, 575, 576, 578, 580; and nine units of electives. The student must complete an outline for the major and file a copy signed by the adviser with the evaluations office.

Emphasis in Statistics
Preparation for the major. Mathematics 107, 119, 150, 151, 152. (19 units.)

Major. A minimum of 36 upper division units in mathematics to include Mathematics 520A, 534A, 551A, 551B; at least nine units from Mathematics 340A, 340B, 521A, 530, 531, 532, 533, 534B, and at least 12 units from Mathematics 391, 390A, 390B, 550, 553; and three units of electives. The student must complete an outline for the major and file a copy signed by the adviser with the evaluations office.

Mathematics Major

For the Single Subject Teaching Credential
All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education.

Preparation for the major. Mathematics 107, 150, 151, 152. (16 units) Recommended: Physics 195, 195L, 196, 196L, 197, 197L. (12 units)

Major. A minimum of 24 upper division units in mathematics to include Mathematics 302, 520A, 521A, 534A, 577, an upper division course in geometry, and six units of electives in mathematics approved by the credential adviser. The student must complete an outline for the major and file a copy signed by the adviser with the evaluations office.

Computer Science Minor
The minor in computer science consists of a minimum of 19-25 units in Mathematics to include Mathematics 107, 137; and at least 12 upper division units from the courses listed below, or at least nine upper division units from the courses listed below if the student completes a full calculus sequence, i.e., Mathematics 121, 122, 123, or Mathematics 150, 151, 152, or Mathematics 141, 142. The courses selected are subject to the approval of the minor adviser:

Mathematics 371, 541A, 570, 572, 573, 574, 575, 576, 578, 580 and 596.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Mathematics Minor
The minor in mathematics consists of a minimum of 20-22 units in mathematics to include 12 upper division units, at least six of which have as prerequisite Mathematics 151 or Mathematics 123 or Mathematics 142; or Mathematics 152 and nine upper division units in mathematics, at least six of which have as prerequisite Mathematics 151 or Mathematics 123 or Mathematics 142. The courses selected will be subject to the approval of the minor adviser. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Mathematics Placement Examinations
All students who expect to enroll in Mathematics 104, 119, 120, 121, 140 or 150 and have not completed prerequisite courses at San Diego State University must take the mathematics placement tests. These tests may be used to satisfy all or part of the prerequisite requirements for these courses and they also serve as a basis for the selection of students for the mathematics honors program. The schedule for these examinations will be posted on the mathematics bulletin board. Provision is also made for these examinations to be taken by the entering freshman or the transfer student prior to registration. Refer to the calendar.

LOWER DIVISION COURSES

102. Fundamentals of Mathematics (3) Cr./NC
This course is open only to students who fail the Competency Examination as administered by the San Diego State University Test Office and cannot be used to satisfy general education requirements.

Topics from algebra, with applications to practical problems. Elementary notions from geometry, probability and statistics.

Credit in this course satisfies the Mathematics Competency Requirement.
302. Basic Mathematical Concepts (3) I, II
Prerequisite: Mathematics 150.
An examination of the concepts of secondary school mathematics from the teacher's point of view.

303. History of Mathematics (3) I, II
Prerequisite: Mathematics 121 or 140.
History of mathematics down to early modern times.

310A-310B. Modern Elementary Mathematics (3-3)
Prerequisite: Mathematics 210B or qualifications on Mathematics Education Placement Test. Mathematics 310A is prerequisite to 310B.
Integers, rationals, and real numbers as mathematical systems; operations, mappings, properties of relations; coordinate geometry; mensuration. Enrollment limited to those in training for or engaged in teaching in the elementary schools.

314. Mathematics Curriculum and Instruction (3)
Prerequisite: Mathematics 120.
This course cannot be used as part of the major or minor in the Department of Mathematical Sciences.

331. Statistical Computations and Analysis (3)
Prerequisite: Mathematics 350A.
Using statistical computer packages (SPSS and BMPD) to analyze problems involving experimental data, regression and nonparametric methods.

340A-340B. Methods of Applied Mathematics (3-3) I, II
Prerequisite: Mathematics 152. Mathematics 340A is prerequisite to 340B.
Selected topics from ordinary differential equations, with applications; hyperbolic, elliptic, Bessel and gamma functions, Fourier series and integrals, electromechanical analogies, the Laplace transform, and partial differential equations. Mathematics 340A is not open to students with credit in Mathematics 530; Mathematics 340B is not open to students with credit in Mathematics 531.

340C. Methods of Applied Mathematics (3)
Prerequisite: Mathematics 340B.
Finite and infinite dimensional vector spaces. Linear transformations and matrix representations, eigenvalue problems. Introduction to functions of the complex variable. Contour integration and conformal mapping. This course cannot be used as part of the major or minor in the Department of Mathematical Sciences.

350A. Statistical Methods (3)
Prerequisite: Mathematics 119 or equivalent statistics course.
One- and two-sample hypothesis tests, paired difference tests, tests for variances, analysis of variance. Linear regression and correlation. Chi-square tests. Simple nonparametric tests. The power of hypothesis tests. (Formerly numbered Mathematics 330A.)

350B. Statistical Methods (3) II
Prerequisite: Mathematics 350A.
Multiple regression, factorial models and nonparametric methods, all with emphasis on applications. (Formerly numbered Mathematics 330B.)

371. Discrete Mathematics, with Computer Applications (3)
Prerequisite: Mathematics 122 or 151.
Equivalence and order relations, Boolean algebra, finite machines and their optimization, logical design. (Formerly numbered Mathematics 571.)

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.
533. Vector Analysis and Differential Geometry (3)
Prerequisite: Mathematics 152.
Vector algebra, differentiation and integration, classical theory of curves and surfaces, divergence theorem, Stokes' theorem and related integral theorems, curvilinear coordinates, elements of tensor analysis. Applications to geometry and physics.

534A. Advanced Calculus I (3)
Prerequisite: Mathematics 152.
The real number system, limits and other topics, with emphasis on functions of one variable.

534B. Advanced Calculus II (3)
Prerequisite: Mathematics 534A.
A continuation of Mathematics 534A with emphasis on functions of two or more variables.

535. Introduction to Topology (3)
Prerequisite: Mathematics 534A.

536. Mathematical Models (3)
Prerequisite: Mathematics 520A.
Analysis of complex systems in biological and social sciences. Applications of graphical methods, systems of differential equations and Markov chains to stability of populations, prices, allocation of resources, etc.

541A. Numerical Analysis and Computation (3) I
Prerequisites: Mathematics 107 and 152.

541B. Numerical Analysis and Computation (3) II
Prerequisites: Mathematics 340A or 530, 520A and 541A.

550. Probability (3)
Prerequisite: Credit or concurrent registration in Mathematics 152.
Definitions, computation of probability by enumeration of the cases, discrete and continuous random variables, density functions, moments, limit theorems, selected distributions.

551A. Mathematical Statistics (3) I, II
Prerequisite: Mathematics 152.
Probability models in the theory of statistics, sampling distributions with applications in statistical inference.

551B. Mathematical Statistics (3) II
Prerequisite: Mathematics 551A.
Point and interval estimation and hypothesis testing in statistical models with applications to problems in various fields.

555. Stochastic Processes (3)
Prerequisite: Mathematics 550.
Introduction to stochastic processes with selected applications.

570. Data Structures (3)
Prerequisite: Mathematics 137.
Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Multilinked structures.

572. Programming Languages (3)
Prerequisite: Mathematics 137.
Formal definition of programming languages including specification of syntax and semantics. Structure of algorithmic languages. Special purpose languages.

573. Automata Theory (3) II
Prerequisite: Mathematics 371 or 521A.
Definition and algebraic description of finite automata. Reduced forms for sequential machines. Regular sets and expressions. Introduction to context-free languages.

574. Introduction to Computability (3)
Prerequisite: Mathematics 155A or 371 or 523.
Definition of algorithm by abstract (Turing) machines and by recursion. Application of this definition to the limitations and capabilities of computing machines. Applications to logic, algebra, analysis.

575. Compiler Construction (3)
Prerequisite: Mathematics 523.

576. Artificial Intelligence (3) II
Prerequisite: Mathematics 523.

577. Probability and Statistics (3) I
Prerequisite: Mathematics 151.
Probability, measures of central tendency and dispersion, characteristics of frequency functions of discrete and continuous variates; applications. Highly recommended for all prospective secondary school teachers of mathematics.

578. Algorithms and Their Analysis (3)
Prerequisite: Mathematics 570.
Algorithms for solving frequently occurring problems. Sorting, merging, fast matrix multiplication, graph problems (e.g., finding shortest paths), the assignment problem and others.

579. Combinatorics (3)
Prerequisite: Mathematics 122 or 151.
Permutations, combinations, generating functions, recurrence relations, inclusion-exclusion counting. Polya's theory of counting, other topics and applications.

580. Systems Programming (3) I, II
Prerequisite: Mathematics 137.
Review of batch process systems programs, their components, operating characteristics, user services and their limitations. Implementation techniques for parallel processing of input/output and interrupt handling. Details on addressing techniques, core management, system updating, documentation and operation. (Formerly numbered Mathematics 557.)

596. Advanced Topics in Mathematics (1-4) I, II
Prerequisite: Consent of instructor.
Selected topics in classical and modern mathematics. May be repeated with the approval of the instructor. See Class Schedule for specific content. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Mexican-American Studies

In the College of Professional Studies

Faculty
Chair: Griswold del Castillo
Associate Professors: Griswold del Castillo, Villarino
Assistant Professors: Rodriguez, Sanchez
Lecturers: Arquillo, Chaves, Palacios

Offered by the Department
Major in Mexican-American Studies with the A.B. degree in liberal arts and sciences.
Minor in Mexican-American Studies.

Mexican-American Studies Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A double major is strongly recommended for students majoring in Mexican-American Studies.

Preparation for the major. Mexican-American Studies 110A-110B, 6 units.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Students majoring in Mexican-American Studies must demonstrate knowledge of Spanish by satisfactory completion of written and oral examinations administered by Mexican-American Studies. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units to include Mexican-American Studies 301A-301B, and 18 units selected from: (social sciences) Mexican-American Studies 302, 303, 304, 305, 306, 320, 324, 334, 350A-350B, 360, 361, 364, 385, 386; or 18 units selected from (humanities) Mexican-American Studies 310, 320, 321, 332, 333, 334, 335, 336, 365, 376, 380; or 18 units selected from (bilingual systems) Mexican-American Studies 460, 461, 464A-464B, 466, 480, 483. Up to nine units, with appropriate content, can be applied to each area of concentration from Mexican-American Studies 496, 497 and 499.

Mexican-American Studies Minor


Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

103. Chicano Orientation (1) Cr/NC
Lectures relating to general Chicano topics on and off campus directed especially at freshman and transfer EOP students; introduction to student services and general social problems in the Chicano community.

110A-110B. Introduction to Mexican-American Studies (3-3)
Introduction to the culture and the civilization of the Mexican-American. Semester I: History; Mexican and U.S. roots; the new identity. Semester II: Contemporary problems; social and political movements.

111A. Oral Communication (3)
Training in the process of oral (speech) expression: addressing the barrio; formal delivery. Mexican-American Studies 111A is equivalent to Speech Communication 103. Not open to students with credit in Afro-American Studies 140 or Speech Communication 103 or 104.

111B. Written Communication (3)
Training for the Spanish-speaking in the process of written expression. English grammar and composition; the essay; the term paper. Mexican-American Studies 111B is equivalent to English 100. Not open to students with credit in English 100.

115. Mexican American in Transition (3)
Modern Chicano social problems recognizing the sociological factors involved. Emphasis on scientific method of approach. Evaluation of various causes and solutions of problems of the Chicano. Mexican-American Studies 115 is equivalent to Sociology 110.

119. Field Instruction (3-6)
Field work in the barrio. Directed research and development projects in the San Diego Chicano community. It is recommended that this course be taken concurrently with Mexican-American Studies 110A or 110B.

120A-120B. The Mexican-American Role in the American Political System (3-3)
Semester I: Relationship between the Mexican-American community and the American political system. Semester II: The Mexican-American in relation to his city, county, and state institutions in California. This year course meets the graduation requirement in American institutions.

130. Mexican Literature in Translation (3)
Contemporary Mexican prose and poetry in translation.

140. History and Sociology of Racism (3)
Survey and analysis of majority group racism and its effects upon minority ethnic groups and society.

141A-141B. History of the United States (3-3)
Emphasis on Spanish and Mexican influences. Semester I: U.S. expansion to 1848. Semester II: 1848 to the present. The Treaty of Guadalupe Hidalgo, history of Mexican immigration; farm labor and urban Chicano history; contemporary movements. This year course meets the graduation requirement in American institutions.

200. Introduction to Mexican-American Culture (3)
The individual Chicano and his cultural pattern: the acquisition of his culture, innovation and invention, direction of his cultural development, diffusion and interpretation of Mexican and U.S. cultures.

230. Mexican-American Art (3)
Contemporary barrio art in the Southwest. Lectures and exhibitions by Chicano artists of California.

250. History of Mexican-American Drama (3)
The Teatro Campesino of Luis Valdez: the Los Angeles Teatro Urbano. Theory and practice in Contemporary Chicano Theater, including literary, critical, and technical aspects viewed against the historical background.

251. Mexican-American Dramatic Production (3)
Two lectures and three hours of laboratory. Theatrical practices and organization of productions; writing for the Chicano theater; presentation of plays in the barrio and the college.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES (intended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.
301A-301B. Political Economy of the Chicano People (3-3) I, II
Prerequisite: Mexican-American Studies 110A-110B; 301A is prerequisite to 301B.*
Recommended Economics 100, or 101 and 102.
Semester I: Political and economic roots of the oppression and exploitation of the Chicano from historical, institutional and theoretical points of view. Semester II: Traditional distortions in the sociology and anthropology of minorities (Chicano emphasis: demythification of the "sleeping giant," the "invisible minority," etc.

302. Community Organization and Development (3) I, II
Prerequisite: Mexican-American Studies 301B.*
Theory of organizing the Mexican-American community for creative roles in educational, political, social change. Role of the professional organizer.

303. Contemporary Problems of the Barrio (3)
Prerequisite: Mexican-American Studies 110A or 110B.
Sociological and practical analysis of barrio problems. Observation in informal agencies for experience and sensitizing.

304. Narcotics in the Mexican-American Community (3) I, II
Prerequisite: Mexican-American Studies 110A or 110B.*
Prevention and cure of drug problems; old and new methods; formal and informal agencies explored.

305. Advanced Field Instruction (3)
Advanced fieldwork in the barrio. Directed research and development projects in the San Diego Chicano community. Maximum credit six units.

306. Immigration Law and Practices (3)
Legal and political status of the immigrant from Mexico; process of immigration; counseling the immigrant.

310. Mexican and Chicano Music (3)
Music of Mexico and the Southwest including folk dances appropriate for children and adults. Emphasis on the corrido, its history and development in Mexico and the U.S. Course will be taught bilingually. (Formerly numbered Mexican-American Studies 260.)

320. Mexican-American Life Styles (3)
The Mexican-American family in the past, present, and future. Traditional and evolving roles of the man and the woman. The new alternatives in the twentieth century.

324. Gramatica Cantada (3)
Methods and materials of Spanish instruction through music of Mexico and the Southwest.

331. Chicano Poetry: Creative Writing (3)
Reading and writing of Spanish-English macaronic verse; a writing workshop in which students are given opportunity to criticize each other's work. Poetry is the point of departure and goal in sight. Maximum credit six units.

332. Chicano Prose: Creative Writing (3)
A writing workshop. Mutual criticism. Exploration of new form and content in Mexican-American prose. Maximum credit six units.

333. Prehispanic Literature (3)
Literature of Nahua and Maya areas in translation: studied as literature.

334. Language of the Barrio (3)
Pachuco, calo, and barrio Spanish: a linguistic study.

353. Mexican-American Literature (3)
Ideas, forms, history of significant Mexican-American prose, poetry and other literary genres.

350A-350B. Chicano History (3-3) I, II
Semester I: Review of indigenous origins; Hispanic institutions and northward expansion; the Mexican Republic. Semester II: Early U.S. encroachment and the Mexican-American War; Chicano influences and contributions; the multilingual and multicultural Southwest.

355

360. Effects of Political and Economic Institutions on the Barrio (3)
Prerequisite: Mexican-American Studies 301A, 301B.
Analysis of unique needs within the barrio and their relationship to political and economic institutions: a study of the consumer society; research and theoretical development of alternative economic modes.

365. Advanced Chicano Dramatic Production (3)
Two lectures and three hours of laboratory.
Theatrical practices and organization of productions; writing for the Chicano theater; presentation of plays in the barrio and in college.

376. Mexican-American Culture and Thought (3)
Intellectual history of the Mexican-American from Nahua and European origins to the synthesis between the two continents in nineteenth and twentieth centuries. The concept of Raza de bronce and Aztlán.

380. Chicano Folklore (3)
Prerequisite: Mexican-American Studies 110A or 110B.*
Stories, legends, dichos, and common practices of the Chicano storytellers of old; analysis of ancient myths and their contemporary manifestations.

390A-390B. The Chicano in Urban Politics (3-3)
Prerequisite: Consent of instructor. Mexican-American Studies 390A is prerequisite to 390B.
Semester I: Theory of urban politics; study and observation in county, city, and community organizations and agencies. Identification of specific problems. Semester II: Identification of specific urban problems; study and observation in county, city and community organizations and agencies. Exploration of practical solutions. Field trips.

404. Penology and Criminology and the Chicano (3)
The Chicano and the Pachuco and the penal institutions. Who goes to jail and why. Field trips to penal institutions, courtrooms.

460. Bilingual Training Systems (3) I, II
Prerequisite: Mexican-American Studies 110A-110B.
Philosophy of bilingual and bicultural education; investigation of bilingual models and exploration of research in area. Introduction to bilingual methods.

481. Bilingual Linguistics (3)
Prerequisite: Mexican-American Studies 110A or 110B.
Basic elements of linguistics in English and Spanish; definitions and applications. A study of comparative elements in bilingual linguistics. Taught bilingually.

484A-484B. Literature for the Bilingual Student (3-3)
Prerequisite: Mexican-American Studies 110A-110B.
The study of Iberian, Spanish-American and Chicano literature for the preschool, elementary, and junior high bilingual student. May be used in lieu of Elementary Education 512. Semester I: The study of Iberian, Spanish-American, and Chicano literature for the high school, college, and adult school bilingual student. Taught in Spanish.

466. Bilingual Materials and Curriculum (3) I, II
One lecture and four hours of activity.
Prerequisite: Credit or concurrent registration in Mexican-American Studies 460.
Investigation, evaluation and adaptation of existing materials in bilingual and bicultural education.

480. The Mexican American and the Schools (3) I, II
Prerequisite: Mexican-American Studies 110A or 110B.
The Mexican-American child's experience in the school system from preschool through high school with emphasis on social, intellectual and emotional growth and development.

481. Contemporary Issues and the Chicano Child (3)
Housing and neighborhoods: family structure; Chicano culture; health and medical needs, problems in education, emotional, social and intellectual growth, meaningful school curriculum; measurement and evaluation of academic skills and relationship to the education of urban and rural Chicano child.

* The prerequisites are waived for students not majoring in Mexican-American Studies.
483. Rural and Migrant Issues (3)
Prerequisite: Mexican-American Studies 480. *
The Mexican-American rural and migrant student; problems and new programs.

484. Counselling the Mexican-American Student (3) I
Prerequisite: Mexican-American Studies 480. *
Motivation counseling at all levels; parent counseling and involvement; recruiting for secondary continuation and college.

485. Testing Theories and the Mexican-American in the Southwest (3)
Prerequisite: Mexican-American Studies 480.
Cultural bias in testing; survey of the latest testing techniques as applied to the Mexican-American in the educational system.

486. Selected Topics in Mexican-American Studies (3)
Intensive exploration of selected topics in the area of Mexican-American Studies. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

487. Senior Survey in Mexican-American Studies (3)
Prerequisite: Mexican-American Studies 301B.
Survey integrating studies of selected areas of Mexican-American Studies. Senior report will be written.

499. Special Study (1-3)
Prerequisites: Consent of instructor and department chair of Mexican-American Studies. Individual study. Maximum credit six units.

* The prerequisites are waived for students not majoring in Mexican-American Studies.

Microbiology
In the College of Sciences

Faculty
Chair: Kelly
Professors: Baxter, Kelly, Moore, Walsh
Associate Professors: Andere, Phelps, Steenbergen
Assistant Professors: Hemmingsen, Kall

Offered by the Department
Master of Science degree in microbiology
Master of Arts degree or Master of Science degree in biology with an emphasis in microbiology.
Major in microbiology with the B.A. degree in liberal arts and sciences.
Major in microbiology with the B.S. degree in applied arts and sciences.
Major in Environmental Health with the B.S. degree in applied arts and sciences.
Single subject teaching credential in life sciences in area of microbiology.

Microbiology Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major: Botany 200; Biology 215 or Mathematics 119; Chemistry 200, 200L; 201, 201L, 230, 230L or 231, 231L, 250 or 251: Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 200. (42-44 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. It is recommended that students select French, German or Russian to satisfy this requirement. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in microbiology and approved related fields to include Microbiology 310, 320, 330, and 515 or Biology 503; and Chemistry 310A-310B, 310A-310B and 467. Remaining courses to be selected from courses in microbiology and approved courses in other biological sciences, chemistry and physics.

Microbiology Major
With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major: Botany 200; Biology 215 or Mathematics 119; Chemistry 200, 200L, 201, 201L, 230, 230L or 231, 231L, 250 or 251; Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 200. (42-44 units.)

Major. A minimum of 36 upper division units in microbiology and approved related fields to include Microbiology 310, 320, 330, and 515 or Biology 503; and Chemistry 310A-310B, 310A-310B and 467. Remaining courses to be selected from courses in microbiology and approved courses in other biological sciences, chemistry and physics.

Medical Technology Curriculum
In Applied Arts and Sciences
The curriculum in medical technology, which prepares for the licensed profession of Public Health Microbiologist or Clinical Laboratory Technologist or Bioanalyst, may be obtained by taking the microbiology major with the B.S. degree, but following a modified arrangement of courses. A description of the curriculum follows:
Public Health Microbiologist. To qualify for the licensing examination given by the California State Department of Public Health for Public Health Microbiologist, the applicant must be a licensed clinical technologist and have completed a training internship in a Public Health Laboratory in California.

Clinical Technologist. To fulfill the academic requirements to qualify for the licensing examination given by the State for Clinical Technologist and the certification examination for medical technologists given by the American Society of Clinical Pathologists, the student should follow the major in microbiology described for the B.S. degree, but should include Microbiology 520, 525, 530, 535, and Zoology 535. Recommended: Biology 570 and 571; Chemistry 467; Microbiology 430A-430B, 515, 535L; Zoology 508 and 528. Upon completion of the degree requirements a one-year training internship at an approved laboratory is required to be eligible for the licensing and/or certification examinations.

Environmental Health Major

With the B.S. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

This program is approved by the California State Department of Health. Upon completion of degree requirements and one year of experience as an Assistant Sanitarian with a local public health department, the graduate will be eligible to the State of California examination for Registered Sanitarian.

Preparation for the major. Botany 200; Biology 215 or Mathematics 119; Chemistry 200, 200L, 201, 201L, 230L, 230L, 231; 231L, and 250 or 251; Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Psychology 101 or Sociology 101; Zoology 200. (45-47 units)

Major. A minimum of 37 upper division units to include Biology 570; Civil Engineering 444, 555; Health Science and Safety 341; Microbiology 310, 410, 420, 430A-430B, 520; Sociology 440 or Psychology 340; Zoology 526. Remaining courses to be selected from among electives approved by the department. The prerequisites for Civil Engineering 444 and 555 are waived for students in this major.

Microbiology Major

For the Single Subject Teaching Credential in Life Sciences

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education.

This major may be used as an undergraduate major for the B.S. degree in applied arts and sciences.

The program described below is subject to the approval of the Commission on Teacher Preparation and Licensing. For the present time, the program is required for departmental recommendation to the student teaching program of the College of Education. Candidates for the single subject teaching credential must be recommended for the program of the College of Education by the Biological Science Credential Screening Committee.

Preparation for the major. Botany 200; Zoology 200; Biology 215 or Mathematics 119; Chemistry 200, 200L, 201, 201L, 230, 230L, 231, 231L, and 250 or 251; Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 150 and 160 strongly recommended. (42-44 units)

Major. A minimum of 39-41 upper division units in microbiology and approved related fields to include Microbiology 310, 320, 330, and 510 or 520; two of the following courses, Microbiology 515, 525, 535, 560; Biology 400; Botany 500; Chemistry 361A-361B; and one of the following courses, Zoology 503, 510, 521, 535, 570.

LOWER DIVISION COURSES

110. Microbiology and Man (3) I, II

The biology of microorganisms and their significance in disease, agriculture, sanitation and industry. Not open to biological sciences, nursing and dietetics majors. Fulfills the general education requirement in the natural science area.

110L. Microbiology and Man, Laboratory (1) I, II

Three hours of laboratory.

Prerequisite: Credit or concurrent registration in Microbiology 110.

Laboratory exercises designed to complement material presented in Microbiology 110. Fulfills the general education laboratory requirement in the natural science area.

210. Fundamentals of Microbiology (4) I, II

Two lectures and six hours of laboratory.

Prerequisites: Chemistry 100, 100L, 130, 130L or 200, 200L, 201, 201L. Students with credit in Microbiology 110 may enroll but will receive only one additional unit of credit.

A course for nursing and dietetics majors. Study of the microorganisms of the environment, including the disease-producing organisms, their actions and reactions.

299. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Intended for Undergraduates)

300. Honors Course (1-3) I, II

Refer to Honors Program.

310. General Microbiology (4) I, II, S

Two lectures and six hours of laboratory.

Prerequisite: Chemistry 230 or Chemistry 305.

The actions and reactions of microorganisms in response to their environment, both natural and as changed by other organisms, including man. Also includes an introduction to the pathogens.

320. Microbial Physiology (4) I, II

Two lectures and six hours of laboratory.

Prerequisites: Microbiology 310; Chemistry 250 or 251; Chemistry 361A; and Physics 194A-194B. Recommended: Physics 125A-125B.

Physiology of selected bacteria, fungi, and other microorganisms.

330. Fundamentals of Immunology and Serology (4) I, II

Two lectures and six hours of laboratory.

Prerequisites: Microbiology 310; Chemistry 361A; and one other upper division biological science course.

The immunology of antigens and antibodies and their reactions, immunohematology and hypersensitivity. Serological techniques.

360. Microorganisms in Human History (2) I, II

Influence of microorganisms at decisive points in human history and development of microbiology as a science.

370. Community Epidemiology (3) I, II

Prerequisite: Microbiology 210.

A course for other than biological sciences majors. Epidemiological concepts and methods as they apply to current community problems.

410. Principles of Environmental Health (4) I

Three lectures and three hours of laboratory and field work.

Prerequisites: Biology 215 or Mathematics 119; and Microbiology 310.

General principles of environmental sanitation, including the relationship of the various aspects of physical environment to preventive medicine, the provision of clean air and water, proper waste disposal, safe food supply, and adequate habitation.

420. Environmental Health Administration (4) II

Three lectures and three hours of field work.

Prerequisite: Microbiology 410.

Concepts of organization and administration applied to environmental health; factors affecting these at the local, national and international levels.
430A-430B. Epidemiology (2-2)
Prerequisite: Microbiology 520; Biology 215 or Mathematics 119. Study of the transmission, distribution, and control of infectious and noninfectious diseases in the community.

490. Investigation and Report in Microbiology (2-2)
Prerequisites: Microbiology 310 and at least one additional upper division course in microbiology. Investigation and reports on current microbiological literature.

495. Methods of Investigation (2-2)
One discussion and three hours of laboratory. Prerequisite: Microbiology 310. Laboratory methods used in microbiological research. Preparation and utilization of microbiological culture media and diagnostic reagents. Maximum credit four units.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3)
Prerequisite: Fifteen upper division units in the major with an average of B (3.0) or better. Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

510. Advanced General Microbiology (4)
Two lectures and six hours of laboratory. Prerequisite: Microbiology 310. Taxonomy, comparative physiology and ecology of representative microorganisms found in various natural environments.

515. Bacterial and Viral Genetics (2)
Prerequisite: Microbiology 310. The genetics of bacteriophages; selected animal viruses and bacteria.

520. Pathogenic Bacteriology (4)
Two lectures and six hours of laboratory. Prerequisite: Microbiology 310 with a minimum grade of "C"; Chemistry 250 or 251. Recommended: Chemistry 361A. Bacterial and rickettsial agents of disease in man and other animals. Consideration of host-parasite relationships, the biology of the inciting agents and mechanisms of host resistance. Laboratory experience in isolation and identification of bacterial pathogens.

525. Medical Mycology (4)
Two lectures and six hours of laboratory. Prerequisite: Microbiology 310. Mycotic agents of disease in human and other animals. Consideration of the biology of fungal concepts of host-parasite relationships, including factors affecting virulence and immunity. Experience in systematic identification.

530. Hematology (4)
Two lectures and six hours of laboratory. Prerequisite: Microbiology 310. The study of normal and pathological blood with chemical, physical and microscopic methods.

535. General Virology (2)
Prerequisite: Microbiology 310. Recommended: Microbiology 330 and 535L. Viruses, their structure, function, culture, and methods of study.

535L. General Virology Laboratory (2)
Six hours of laboratory. Prerequisite: Credit or concurrent registration in Microbiology 535. The culture, isolation, and characterization of viruses.

560. Marine Microbiology (2)
Prerequisites: Microbiology 310 or an introductory course in microbiology and consent of instructor. Microbiological population of estuary and ocean waters; interrelationships with other organisms and the physical and chemical environment.

560L. Marine Microbiology Laboratory (2)
Six hours of laboratory. Prerequisite: Credit or concurrent registration in Microbiology 560.

580. Animal Viruses (4)
Two lectures and six hours of laboratory. Prerequisites: Microbiology 330 and 535L. Animal virus identification and investigation, emphasizing cell culture, cytopathic effects and serology.

590. Electron Microscopy (4)
Two lectures and six hours of laboratory. Prerequisites: Physics 125A-125B and 194A-194B; Microbiology 310. Recommended: Microbiology 535 and Zoology 508. Principles and techniques in the biological application of the electron microscope.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Music

In the College of Professional Studies

The Department of Music is a Member of the National Association of Schools of Music.

Faculty

Emeritus: Hurd, Rohlfeisch, Rost, Savage, Smith, D., Smith, J.D. Springston
Chair: Brown
Associate Professors: Hill, Logan, Loomis, Meadows, Mitchell, Moe, Yates
Assistant Professors: Fye, George, Kolar, O'Donnell
Lecturer: Warman

Offered by the Department

Master of Arts degree in Music
Major in music with the A.B. degree in applied arts and sciences.
Bachelor of Music degree in applied arts and sciences.
Teaching major in music for the single subject teaching credential.
Minor in music.

Music Curricula

The music curricula are designed to fulfill the needs of all students: (1) those who have professional ambitions in music performance, or seek a foundation for graduate study leading to college or university teaching; (2) those who are preparing for one of the several state teaching credentials; (3) those whose major professional interest is in another department, and are seeking musical study as a minor; and (4) those who are interested in music as an elective study area for the enrichment of their cultural background.

General Basic Requirements

General basic requirements for the B.M. degree in applied arts and sciences, the A.B. degree with a major in music in applied arts and sciences or in teacher education are as follows:

1. Upon entering the department, each student is required to take an examination in piano for classification, and to commence on no less than four consecutive semesters of class piano study.

2. In the area of performance studies, each entering student is required to declare his major instrument (voice, piano, clarinet, etc.) and to take an examination thereon for classification and complete six semesters of study on that instrument for the A.B. degree and for the minor in music. A student must take an examination for all subjects of the major in music at least once during the junior year. (The requirements in terms of semesters of study may be reduced for transfer students on the basis of the examination for classification.)

3. To qualify for upper division study, music majors must complete successfully a Junior Level examination which will be administered following the fourth semester of study in Music 250A.

4. Appearance in at least one student recital during each semester in residence, according to departmental recital requirements.

5. As laboratory experience, participation in one or two performing groups each semester, to meet the requirement in courses numbered 170 through 190 and 370 through 390 as major instrument or voice is regularly required.

6. A final grade of C will be required in Music 158A-158B, 258A-258B, and 358A for students to qualify to enroll in the next higher course in the sequence.

Music Major

With the A.B. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Preparation for the major.

Music 110A-110B, 110C-110D (may be waived in full or in part by examination); 115A: four units selected from courses numbered 120A through 135; 158A-158B; four units selected from courses numbered 170 through 190; four units of Music 250; 258A-258B (29-33 units.) Recommended: Physics 109.

Major. A minimum of 26-29 upper division units to include Music 358A-358B, five units selected from courses numbered Music 370 through 390, one unit selected from Music 448A or 449A, four units of Music 450, 552A-552B, elect one course from Music 310, 351B, 351C, 351D.

Music Major

With the B.M. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Preparation for the major.

Music 110A-110B, 110C-110D, (may be waived in full or in part by examination), 158A-158B, 258A-258B: six units selected from courses numbered Music 170 through 190; four to eight units in Music 250. (26-34 units.) Recommended: Physics 109.

Major. Thirty-eight to forty-two upper division units to include two units selected from Music 448A-449B or 449A-449B, 358A-358B, 552A-552B, six units selected from courses numbered 370 through 390, four to eight units in Music 450, and the requirements in one of the following fields of emphasis:

(a) Performance. Ten units to include Music 367, 497, and seven units to be selected with the aid of the departmental adviser. (Pianists, vocalists, and string performers must include Music 541 and 542.)

Students emphasizing performance must appear in a joint recital during the junior year and must present a solo recital during the senior year. The student must pass an audition of the program to be performed before the music faculty no less than one month in advance of the recitals.

(b) Music History and Literature. Ten units to include four units of Music 499 and six units of courses to be selected with the aid of the departmental adviser from related fields such as history, etc.

During his senior year, the student emphasizing music history and literature is required to organize, prepare program notes, and present two recitals consisting of recorded or "live" performances. Each will deal with representative works of a certain period, composers, or styles to be compared. Such students must pass an audition of the lecture and the music to be performed no less than one month in advance of the recitals.

(c) Composition. Ten units to include two units of Music 207, two units of Music 497, two units of Music 507, and four units selected with the aid of the departmental adviser.

An interview with the Department Chairman is required for admission to this emphasis.

The student emphasizing composition is required to perform a concert of his compositions during the senior year and present the scores of works to be performed to the music faculty no less than one month in advance of the performance.

Foreign Language Requirement. Eight to twelve units of equivalent knowledge demonstrated in a test of reading knowledge administered by the foreign language department concerned in consultation with the Department of Music as follows:

1. Vocalists—one semester each of French, German, and Italian.
2. Music History and Literature students—12 units of one foreign language chosen from French, German, or Italian.
3. All other—eight units of one foreign language chosen from French, German, or Italian (except that classical guitar students may substitute Spanish).
Music Major

For the Single Subject Teaching Credential

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. Students in teacher education may use this major for the A.B. degree in applied arts and sciences by completing additional departmental requirements in recital attendance and performance, and proficiency examinations in voice and piano. Admission to teacher education is required prior to graduation with this major.

Preparation for the major: Music 110A-110B, 110C-110D (may be waived in full or in part by examination); 115A; four units selected from courses numbered 120A through 135; 158A-158B; four units selected from courses numbered 170 through 180; 245A-245B; four units of Music 250; 258A-258B. (31-35 units) Recommended: Physics 109.

Major: A minimum of 30 upper division units to include Music 350A-350B; two units selected from courses numbered Music 370 through 390; 445A-445B-445C; one unit selected from Music 448A or 449A; 355; two units of Music 450; 552A-552B.

Electives in Music

The Music Department offers certain courses for students who are interested in music as an elective study area for the enrichment of their cultural background. Courses particularly suited for these needs are Music 151 and 351 and the music courses numbered 370 to 390. Some students will be musically prepared to elect courses which may or may not be included in the group. Enrollment by qualified students who wish to elect these courses is encouraged.

Performances Studies for Credit

Credit may be allowed for performance studies under the following conditions:

1. Properly enrolled music majors may enroll for performance studies with resident faculty within an additional fee.
2. Properly enrolled music majors who elect to study off campus with a teacher approved by the Department of Music may do so and may apply for credit by examination. Application for such credit must be made each semester in the Office of the Registrar within the official time limits for filing a change of program. The examination will consist of the regular jury examination required of all music majors at the conclusion of each semester.
3. Students may under no circumstances change teachers in the middle of a semester without first securing the permission of the chairman of the Department of Music.
4. Prior to the start of performance studies at San Diego State University, the student is required to take a preliminary audition conducted by the Department of Music faculty which will indicate his status at the beginning of his study.
5. Students who have dropped out of school or have stopped taking performance studies for credit for one semester or more, upon resumption of that instruction for credit are required to present another preliminary audition.
6. At the end of each semester, the Department of Music will sponsor a jury examination to satisfy itself that its standards have been met.

Music Minor

To be admitted to the minor program, the student must demonstrate vocal or instrumental performing ability.

The minor in music consists of 24 units in music to include Music 110A-110B, 158A-158B, 258A-258B, and six units of upper division electives selected in consultation with the departmental adviser.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. Recitals (1) I, II Cr/NC
Preparation for individual solo performances and attendance at a minimum of 12 concerts or recitals in accordance with departmental requirements. Maximum credit four units.

102. Basic Musicianship for Non-Music Majors (3) I, II
Four hours.
Rudimentary music theory involving the elements of music: melody, rhythm, and harmony. Developing the understanding of these elements through instrumental and vocal experiences which include the use of unison and part-singing, the keyboard, and simple melodic and harmonic instruments.

103A. Basic Aural Skills (1) I, II
Three hours of laboratory.
Prerequisite: Ability to read music. Emphasis on ear-training and sight-singing. May be taken as preparation to enter Music 158A.

103B. Aural Skills (1) I, II
Three hours of laboratory.
Prerequisite: Music 103A. Continued emphasis on ear-training and sight-singing. May be taken as review for the Junior Level Aural Skills Examination.

110A-110B. Piano—Elementary Class Instruction (1-1) I, II
Two hours.
Prerequisite: Music 110A is prerequisite to 110B. Basic keyboard experience through study of music reading, notation, scales, chords, and sight-reading covering a repertoire of beginning and intermediate songs and piano literature, with emphasis on keyboard harmony. Required of music majors and minors and credential candidates for teaching at the kindergarten-primary level.

110C-110D. Piano—Elementary Class Instruction (1-1) I, II
Two hours.
Prerequisite: Music 110B is prerequisite to 110C; and 110C to 110D. Continuation of Music 110A-110B.

115A. Voice—Elementary Class Instruction (1) I, II
Two hours.
Mastery of the fundamentals of voice. Not open to voice majors.

115B. Voice—Elementary Class Instruction (1) I, II
Two hours.
Prerequisite: Music 115A.

120A. Strings—Elementary Class Instruction (1) I
Two hours.
Observation of individual or group lessons; critiques and discussion; performance in class. Fundamentals of violin, viola, cello, and string bass by lecture and acquisition of elementary skills. Not open to students with credit in Music 320A.

120B. Strings—Elementary Class Instruction (1) II
Two hours.
Prerequisite: Music 120A or 320A. Fundamentals of violin, viola, cello, and string bass by lecture and acquisition of elementary skills emphasizing those instruments not previously studied in Music 120A or 320A. Not open to students with credit in Music 320B.

125A. Clarinet and Flute—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of the clarinet and flute by lecture and acquisition of elementary skills. Not open to students with credit in Music 325A.

125B. Oboe and Bassoon—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of oboe and bassoon by lecture and acquisition of elementary skills. Not open to students with credit in Music 325B.

130. Brass—Elementary Class Instruction (1) I
Two hours.
Fundamentals of brass instruments by lecture and acquisition of elementary skills. Not open to students with credit in Music 330.
135. Percussion—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of percussion through acquisition of elementary skill on the snare drum and by demonstration and lecture regarding all commonly used percussion instruments of definite and indefinite pitch. Not open to students with credit in Music 335.

140. Guitar—Elementary Class Instruction (1) I, II
Two hours.
Open only to music or elementary education majors. Fundamentals of guitar by acquisition of elementary skills. Not open to students with credit in Music 340.

151. Introduction to Music (3) I
Practical approach to hearing music with understanding and pleasure, through study of representative compositions of various styles and performance media, great musicians and their art. Music correlated with other arts through lectures, recordings, concerts. Closed to music majors and minors.

153. Opera Theatre (2) I, II
Four hours.
The interpretation and characterization of light and grand opera. Specific work in coordination of operatic ensemble. Maximum credit eight units.

158A-158B. Comprehensive Musicianship (3-3) I, II
Two lectures and two hours of activity.
Prerequisite: Music 158A is prerequisite to 158B.
Direct analysis of musical styles and forms as they have evolved historically; composition, improvisation, performance, and instrumentation; sight-singing, dictation, harmony. Parallel developments in related arts; comparisons with non-Western musical systems.

Performance Organization Courses
(Music 170 through 190)
The performance organization courses are devoted to the study in detail and the public performance of a wide range of representative literature for each type of ensemble and designed to provide students with practical experience in rehearsal techniques.

170. Chamber Music (1) I, II
Three hours. Four hours for opera.
Prerequisite: Consent of instructor.
Sections for string, woodwind, brass, piano, vocal, and mixed ensemble groups. Maximum credit four units.

175. Marching Band (1)
Concurrent registration in Music 175 and 176 required. Combined activity, six hours.
Prerequisite: Consent of instructor.
Maximum credit two units.

176. Symphonic Band (1) I, II
Semester I: Concurrent registration in Music 175 and 176 required. Combined activity, six hours. Semester II: Activity, five hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

177. Wind Ensemble (1) I, II
Five hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

180. Symphony Orchestra (1) I, II
Five hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

185. Concert Choir (1) I, II
Five hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

188. University Chorus (1) I, II
Three hours.
Open to all persons interested in performing oratorio, cantata, opera, and the extended choral works. No entrance auditions are required. Maximum credit four units.

189. Jazz Ensemble (1) I, II
Three hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

190. Collegium Musicum (1) I, II
Three hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

207. Composition Laboratory (1) II
Three hours of laboratory.
Prerequisite: Consent of instructor.
Original written in different homophonic and polyphonic forms for various media. Maximum credit two units.

246. Practicum in Music (1) I, II
Three hours of laboratory.
Materials and techniques used in instruction with field observation.
A. Performance Areas.
B. General Music.

250. Performance Studies (1-2) I, II
Prerequisite: Open only to music majors. Audition and approval by departmental faculty.
Fifteen one-half hour private lessons or thirty one-hour group sessions for one unit; fifteen one-hour private lessons for two units.
Studies in technical, stylistic, and aesthetic elements of artistic performance. Candidates for the B.M. degree with Performance emphasis enroll for two units of credit per semester. Candidates for the A.B. degree and for the B.M. degree in composition and in music history. Conducted in the major emphasis enroll for one unit of credit per semester. For conditions under which credit is given, see Performance Studies for Credit in the section of the music major. Maximum credit for Music 250 is eight units.

258A-258B. Comprehensive Musicianship (5-5) I, II
Four lectures and two hours of activity.
Prerequisite: Music 158A is prerequisite to 258B.
Continuation of Music 158A and 158B. Late 19th and 20th century historical and performance studies in Medieval, Renaissance, and Baroque styles.

259. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Reserved for Undergraduates)

301. Recitals (1) I, II CR/NC
Preparation for individual solo performances and attendance at a minimum of 12 concerts or recitals in accordance with department requirements. Maximum credit four units.
368 / Music

310. Electronic Music (2)
One lecture and three hours of laboratory.
Prerequisite: Consent of instructor.
Principles and techniques of electronic sound synthesis, musique concrete, and multimedia application in live performance.

320A. Strings—Elementary Class Instruction (1) I
Two hours.
Fundamentals of violin, viola, cello and string bass by lecture and acquisition of elementary skills. Not open to students with credit in Music 120A.

320B. Strings—Elementary Class Instruction (1) II
Two hours.
Prerequisite: Music 120A or 320A.
Fundamentals of violin, viola, cello and string bass by lecture and acquisition of elementary skills emphasizing those instruments not previously studied in Music 120A or 320A. Not open to students with credit in Music 120B.

325A. Clarinet and Flute—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of the clarinet and flute by lecture and acquisition of elementary skills. Not open to students with credit in Music 125A.

325B. Oboe and Bassoon—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of oboe and bassoon by lecture and acquisition of elementary skills. Not open to students with credit in Music 125B.

330. Brass—Elementary Class Instruction (1) I
Two hours.
Fundamentals of brass instruments by lecture and acquisition of elementary skills. Not open to students with credit in Music 130.

335. Percussion—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of percussion through acquisition of elementary skill on the snare drum and by demonstration and lecture regarding all commonly used percussion instruments of definite and indefinite pitch. Not open to students with credit in Music 135.

340. Guitar—Elementary Class Instruction (1) I, II
Two hours.
Open only to music or elementary education majors.
Fundamentals of guitar by acquisition of elementary skills. Not open to students with credit in Music 140.

343. Music Literature for Children (3) I, II Offered at Imperial Valley Campus only.
Prerequisite: Music 102 or 158B.
Analytical study of music suitable for children of all ages. Background information, musical structure and functions of the music in the lives of children are included.

344. Folk Music (3) I, II
Prerequisite: Music 102 or 158B.
The origin and development of folk music; the social instruments and their use. Participation in singing and playing folk music.

345. Music in Contemporary Life (3) I, II
Functional music in society to include its psychological, physical and recreational uses; music as communication; the composer, the musician, and the audience.

347. Perspectives in Music (3) I, II
Prerequisite: Music 102 or 158B.
Musical understandings from nonperformance aspects and perspectives regarding the relationships of music to the visual arts and the humanities.

350. Ethnomusicology (3)
The study of music in society to include its psychological, physical and recreational uses; music as communication; the composer, the musician, and the audience.

351. Great Music (3) I, II
Significant music literature of the various historical periods with emphasis on the stylistic characteristics through directed listening.
A. Musical Masterpieces of the 18th and 19th Centuries.
B. Musical Masterpieces of the 20th Century.
C. Masterpieces of Grand Opera.
D. Twentieth Century American Jazz.

353. Opera Theatre (2) I, II
Four hours.
Interpretation and characterization of light and grand opera. Specific work in preparation for public performance. Maximum credit eight units.

355. Ethnic Musics (3)
World music outside the European art tradition with emphasis on the musics of India, Africa, East Asia and Indonesia.

358A-358B. Comprehensive Musicianship (5-5) I, II
Four lectures and two hours of activity.
Prerequisite: Music 258A. Music 358A is prerequisite to 358B.
Continuation of Music 258A-258B. Counterpoint from 18th to 20th century, serial techniques, jazz, electronic music. Individual projects in instrumentation, composition, analysis, non-Western musics.

367. Junior Recital (1) I, II
Prerequisite: Junior standing in music.
Selection of literature for recital program not to exceed 30 minutes in length; theoretical analysis and historical study of scores chosen; preparation for public performance; and examination before committee of music faculty.

Performance Organization Courses
(Music 370 through 390)
The performance group courses are devoted to the study in detail and the public performance of a wide range of representative literature for each type of ensemble, and designed to provide students with practical experience in rehearsal techniques.

370. Chamber Music (1) I, II
Three hours. Four hours for opera.
Prerequisite: Consent of instructor.
Section for string, woodwind, brass, piano, vocal, and mixed ensemble groups. Maximum credit four units.

375. Marching Band (1) I
Concurrent registration in Music 375 and 376 required. Combined activity, six hours.
Prerequisite: Consent of instructor.
Maximum credit two units.

376. Symphonic Band (1) I, II
Semester I: Concurrent registration in 375 and 376 required. Combined activity, six hours.
Semester II: Five hours per week.
Prerequisite: Consent of instructor.
Maximum credit four units.

377. Wind Ensemble (1) I, II
Five hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

380. Symphony Orchestra (1) I, II
Five hours.
Prerequisite: Consent of instructor.
Maximum credit four units.

385. Concert Choir (1) I, II
Five hours.
Prerequisite: Consent of instructor.
Maximum credit four units.
388. University Chorus (1) I, II
Three hours.
Open to all persons interested in performing oratorio, cantata, opera and the extended choral works. No entrance auditions are required. Maximum credit four units.

389. Jazz Ensemble (1) I, II
Three hours.
Prerequisite: Consent of instructor. Maximum credit four units.

390. Collegium Musicum (1) I, II
Three hours.
Prerequisite: Consent of instructor. Maximum credit four units.

446. Practicum in Music (2) I, II
One lecture and two hours of activity.
Advanced materials and techniques used in instruction, with field observation.
A. Choral Music
B. Instrumental Music
C. General Music

448A-448B. Choral Conducting (1-1) I, II
Three hours.
Prerequisite: Music 258B. Music 448A is prerequisite to 448B.
Elements of baton technique and development of basic skills common to choral conducting. Representative literature and techniques for choral organizations will be studied and performed. Practical experience in typical conducting situations will be emphasized in various grade levels.

449A-449B. Instrumental Conducting (1-1) I, II
Three hours.
Prerequisite: Music 258B. Music 449A is prerequisite to 449B.
Orchestra and band scores of graduated levels of advancement. The class will prepare and conduct instrumental works in public performance.

450. Performance Studies (1-3) I, II
Prerequisite: Open only to music majors. Audition and approval by departmental faculty.
Fifteen one-half hour private lessons or thirty one-hour group sessions for one unit; 15 one-hour private lessons for two units.
Studies in technical, stylistic and aesthetic elements of artistic performance. Candidates for the B.M. degree with Performance emphasis enroll for two units of credit per semester, Candidates for the A.B. degree and for the B.M. degree in composition and in music history and literature enroll for one unit of credit per semester. For conditions under which credit is given, see Performance Studies for Credit in the section on the music major. Maximum credit for Music 450 is eight units.
A. Piano
B. Harpsichord
C. Organ
D. Voice
E. Flute
F. Oboe
G. Clarinet
H. Saxophone
J. Bassoon
K. French Horn
L. Trumpet
M. Trombone
N. Baritone Horn
O. Tuba
P. Percussion
Q. Violin
R. Viola
S. Cello

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

497. Senior Recital (2) I, II
Prerequisite: Senior standing in music.
Selection of literature for recital program not to exceed one hour in length; theoretical analysis and historical study of scores chosen; preparation for public performance; and examination before committee of music department faculty.

499. Special Study (1-3) I, II
Prerequisite: Consent of the department chair.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

507. Composition Laboratory (1) II
Three hours of laboratory.
Prerequisites: Music 207 and consent of instructor.
Continuation of Music 207. Maximum credit two units.

541. Performance Studies Pedagogy (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Consent of instructor.
Teaching beginning and intermediate applied music. Survey and evaluation of teaching materials. Observation of individual or group lessons.
A. Piano
B. Strings
C. Voice

542. Performance Studies Laboratory (2) I, II
One lecture and three hours of laboratory.
Prerequisite: Music 541A is prerequisite to 542B.
Practical experience in the teaching of individual or group lessons.
A. Piano
B. Strings
C. Voice

552A-552B. History of Music (3-3) I, II
Prerequisite: Music 258B. Music 552A is prerequisite to 552B.
The chronological development of musical art and forms from the Middle Ages to the present. Analytical score study and assigned recordings. Familiarity with musicological resources through individual assignments.

554. Music Literature (2) I, II
Prerequisite: Music 258B.
A concentrated study of the literature in the several areas listed. Analysis by use of scores and recordings, when available.
A. Chamber Music Literature—Strings
B. Orchestral Literature
C. Keyboard Literature
D. Song Literature

596. Special Topics in Music (1-3)
A specialized study of selected topics from the several areas of music. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Natural Science
In the College of Sciences

Faculty
Emeritus: Merzbacher, Watson
Chair: Mathewson
Professors: Dessel, Ingmanson, Mathewson, Metzger, Phieger, Shull
Associate Professors: Dowler, Feher, May, Springer, Wallace
Assistant Professor: Thompson

Offered by the Department
Teaching major in the physical sciences for the single subject teaching credential.

Physical Science Major
For the Single Subject Teaching Credential
All candidates for a teaching credential must complete all requirements outlined in the section of this catalog under the School of Education. This major may be used by students in teacher education as an undergraduate major for the A.B. degree in applied arts and sciences; it prepares students for certification to teach chemistry and physics in secondary schools.

Prerequisites:
- Mathematics 103 or competency in mathematics by examination.
- Prerequisites: Six units from astronomy, chemistry, geological sciences, natural science, or physics.
- Continuation of Natural Science 100A with additional subjects and extension of topics covered in 102A. For students interested in preparation for the major or for those interested in chosen an elective course in physical science.

Prerequisites:
- Natural Science 102A.

Program Description:
- Three hours of lecture and three hours of laboratory. Description same as Natural Science 100A except that laboratory activity is fully integrated with lecture material. Experiments and observations are done when relevant to the (formerly numbered Physical Science 102).

102B. Physical Science II (3) II
Two lectures and three hours of laboratory.
Prerequisite: Natural Science 102A.

Program Description:
- Continuation of Natural Science 102A with additional subjects and extension of topics covered in 102A. For students interested in preparation for the major or for those interested in choosing an elective course in physical science.

Prerequisites:
- Two lectures and three hours of laboratory.
- Natural science inquiry as illustrated by laboratory exercises and demonstrations based on experimental methods of physical sciences.

100A-100B. Physical Science (3-3) I, II
Introduction to concepts and processes in science intended to show why science is essential to a liberal education by recognizing relationships with other areas of knowledge and discovery. An integrated introduction to the natural sciences at the university level. Selected topics from physics, chemistry and biology focused on the themes of energy and the relationships between processes and structures in nature. Weekly laboratory sessions include demonstrations, discussions, problem exercises and experiments.

110A-110B. Energy in Nature with Laboratory (4-4)
Three lectures and three hours of laboratory. Prerequisite: Mathematics 103 or competency in mathematics by examination.

115. Natural History (1) I, II
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES
(Selected Topics) (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

305. Modern Physical Science (3) I, II
Development of scientific models and technologies, and their influence on the development of societal attitudes and public policy. Examples from contemporary problems such as environmental degradation and energy utilization, climatic change, uses of computers, and armaments.

310-S. Contemporary Problems in Physical Science (1-3) Cr/NC
A series of six weekly lectures on varied aspects of physical science. Reading and reports required of students enrolled for credit. See Class Schedule for specific content. Maximum credit three units. These lectures are open to the public.

311. Readings in Physical Science (3) I, II
Reading of selected materials with informal class discussion of topics. Emphasis on the historical background, the philosophical implications and the impact of science on thought and culture.

314. Personalities in Science (1) I, II
Case study in the life and work of individual scientists from the history of science. See Class Schedule for specific content.

315. History of Science I (3) I, II
Prerequisite: A college-level course in the physical sciences or life sciences.

316. History of Science II (3) I, II
Prerequisites: Completion of the Foundations of Learning requirement in natural science and three units in history, classics sequence of Foundations of Learning.

317. Development of Scientific Thought (3) I, II
Prerequisites: Six units from astronomy, chemistry, geological sciences, natural science, or physics; and Mathematics 121.

318. History of Science II (3) I, II
Prerequisites: Six units from astronomy, chemistry, geological sciences, natural science, or physics; and Mathematics 121.

319. History of Science II (3) I, II
Prerequisites: Six units from astronomy, chemistry, geological sciences, natural science, or physics; and Mathematics 121.

320. History of Science II (3) I, II
Prerequisites: Six units from astronomy, chemistry, geological sciences, natural science, or physics; and Mathematics 121.

321. History of Science II (3) I, II
Prerequisites: Six units from astronomy, chemistry, geological sciences, natural science, or physics; and Mathematics 121.
Nursing

In the College of Human Services

Accredited by the California Board of Registered Nursing
and by the National League for Nursing

Faculty

Emeritus: Covery, Johnson, Moses, Nye, Sirovica, Thomas

Director: Wozniak

Associate Professors: Flagg, Hines, Laiho, Verderber

Assistant Professors: Clerkin, DeLora, Hansen, La Monica, Laws, Leslie, Moffett, Roth

Lecturers: Broderick, Corwell, Kelley, Lucas, Novak, Shively, Smith

Offered by the School of Nursing

Major in nursing with the B.S. degree in applied arts and sciences

Standards for Admission

Admission to the University

In addition to the requirements for admission to the University as listed in the section of this catalog on “Graduation Requirements,” the following criteria must be met for admission to the University as a nursing major:

1. High School Course Requirements. The following courses are required:
   a. One year English composition at junior/senior level.
   b. One year advanced algebra.
   c. One year chemistry with a laboratory.
   d. One year biology.

2. Transfer Students. Transfer students will be required to demonstrate the four high school course requirements or introductory college or university course work in the same disciplines.

   First-time freshman and transfer student applicants requesting a nursing major will be ranked and evaluated on the basis of performance in required high school courses or introductory college or university course work in the same disciplines. Points will be granted to each applicant up to a maximum of 16 with grades of A (4) or B (3). Those applicants who select nursing as a major and meet the high school requirements will be given priority for enrollment and advisement as nursing majors. First-time freshman and transfer student applicants accepted as nursing majors are subject to further screening to determine their eligibility to be admitted into the professional course work.

Admission to the Professional Program in Nursing

1. Declaration of Major. Only students who are declared nursing majors at SDSU will have their application considered.

2. Prerequisite Courses. The following courses and course grades are required for admission to the nursing program:
   a. Course grade requirement (C or better) in each required university course:
      Chemistry 130 and 130L
      Chemistry 160
      Sociology 101
      Psychology 101
   b. Course grade requirement (B or better) in each of these required university courses:
      Zoology 108
      Biology 261

3. Minimum Grade Point Average

   Applicants must complete the six prerequisite courses with a minimum overall grade point average of 2.5. (NOTE: The minimum grade point average of the last three nursing classes admitted to Nursing has been 3.2 or better.)
### Preparation for the major
Upon acceptance into the program, Nursing 202, 204, 250, 252; Microbiology 210; Family Studies and Consumer Science 204; three units in personality development and three units in growth and development must be successfully completed before continuation in the upper division courses required for the major. Biology 100, 100L prerequisites for Family Studies and Consumer Sciences 204 may be waived for nursing majors.

**NOTE:** A grade of C (2.0) or better is required in all nursing or corequisite courses. No nursing course may be repeated more than once.

Progress in the nursing program is dependent upon completion of corequisite and nursing courses in the prescribed sequence as outlined below. While corequisite courses may be completed prior to the specified semester, students will not be permitted to progress to the next semester until both corequisite and nursing courses are completed at each semester.

**Major** A minimum of 41 upper division units in nursing to include Nursing 306, 308, 310, 350, 354, 356, 412, 414, 450, and five units selected from Nursing 452 or 454.

### Sequence of Courses in the Nursing Curriculum

#### First Year

<table>
<thead>
<tr>
<th>Unit</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Chemistry 130, 130L</td>
<td>Chemistry 160</td>
</tr>
<tr>
<td>4</td>
<td>Zoology 106.</td>
<td>Biology 261</td>
</tr>
<tr>
<td>3</td>
<td>Sociology 101.</td>
<td>Psychology 101.</td>
</tr>
<tr>
<td>3</td>
<td>Basic Subject</td>
<td><strong>General Education</strong></td>
</tr>
<tr>
<td>1</td>
<td><em>General Education</em></td>
<td>Physical Activities</td>
</tr>
<tr>
<td></td>
<td>Physical Activities</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Unit</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Microbiology 210</td>
<td>FSCS 204</td>
</tr>
<tr>
<td>3</td>
<td>Personality Development</td>
<td>Growth and Development</td>
</tr>
<tr>
<td>5</td>
<td>Nursing 202</td>
<td>Nursing 250</td>
</tr>
<tr>
<td>3</td>
<td>Nursing 204</td>
<td>Nursing 252</td>
</tr>
<tr>
<td>3</td>
<td>General Education</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Unit</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Elective</td>
<td>Nursing 350</td>
</tr>
<tr>
<td>3</td>
<td>Nursing 306</td>
<td>Nursing 354</td>
</tr>
<tr>
<td>5</td>
<td>Nursing 308</td>
<td>Nursing 356</td>
</tr>
<tr>
<td>4</td>
<td>Nursing 310</td>
<td><strong>General Education</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Unit</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Elective</td>
<td>Nursing 450</td>
</tr>
<tr>
<td>5</td>
<td>Nursing 412</td>
<td>Nursing 452 or 454</td>
</tr>
<tr>
<td>5</td>
<td>Nursing 414</td>
<td><strong>General Education</strong></td>
</tr>
<tr>
<td>3</td>
<td>General Education</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

* Completion of three units in English composition is necessary to be eligible to take the State Board examination.
** Courses in oral communication and statistics recommended.

### Nursing Major

**With the B.S. Degree in Applied Arts and Sciences**

All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Nursing majors are eligible to take the State Board Registered Nurse license examination after completing six semesters of the prescribed curriculum. Graduates are eligible to apply for the California Certificate of Public Health Nursing. Nursing majors are advised to consult with the School of Nursing office on a semester basis for program modification or policy revisions.

### Writing Competency Requirement
All students must demonstrate their writing competence on one of the following tests:
- A score of 47 on the Standard Written English Test
- A score of 20 on the American College Tests
- A score of 47 on the Scholastic Aptitude Test

Students who have not achieved the minimum score on the writing competency test must register in Study Skills 150 prior to admission to the nursing program.

### Additional Point System
Applicants requesting admission to the professional course work will be ranked and evaluated on the basis of a point system. A maximum of 94 points can be earned in meeting the prerequisite courses, writing competency, recognition of outstanding achievement, practical experience and bilingual ability requirements, and applicants will be ranked in accordance with points earned. In combination with points assigned earlier in the review process, a grand total of 110 points is possible. For specific additional point system allocation, consult the School of Nursing office.

### Health Requirement
To meet the specific health requirements, a medical examination and immunizations must be completed prior to enrolling in the first nursing course. The medical examination is in addition to the medical required for admission to the University. For specific information concerning immunization series, consult the School of Nursing office.

### Academic Credit Through Examination
Academic credit by examination may be obtained by those whose prior education and experience provides the knowledge and skills required to meet the objectives of one or more courses. Students who believe they may be eligible for credit by examination should contact the School of Nursing office for an appointment for special advising prior to submitting their application for admission. For University policy regarding credit-by-examination, consult "Academic Credit Through Examination" in the "General Regulations" section of this catalog.

### Formal Application
Application to the nursing program must be made during the semester that the student is completing prerequisite non-nursing courses (21 units). Obtain application form at the College of Human Services, Director of Admissions office.

### Special Instructions

1. **Change of Major** Requests for a change of major during the 1978-79 academic year will be granted only on a space available basis. Students must be admitted to the University as declared nursing majors.

2. **Second Baccalaureate Degree** Students requesting a second baccalaureate degree with a major in nursing will be considered by the School of Nursing during the 1978-79 academic year only on a space available basis.

3. **Full-Time Study** Students enrolled in the nursing program are required to carry a full-time study load. Students with extenuating circumstances may petition the Student Affairs Committee for special consideration.

4. **Liability Insurance and Transportation** Students enrolled in the nursing program are required to provide their own professional liability insurance and transportation to off-campus clinical agencies.

5. **Impacted Program** The Nursing Major is designated as an impacted program and specific regulations related to admissions are imposed. Consult "Locally and Statewide Impacted Programs" in the "Admissions" section of this catalog for regulations.

### Nursing Major

Nursing majors are advised to consult with the School of Nursing office on a semester basis for program modification or policy revisions.
LOWER DIVISION COURSES

202. Nursing Science I (5) I, II
Two lectures and nine hours of laboratory.
Prerequisites: Admission to the nursing program; satisfactory completion or concurrent registration in Microbiology 210; courses in personality development; and concurrent registration in Nursing 204.
Analysis of the nursing process and the role of the professional nurse in utilization of this process. Emphasis on determining and measuring variables relevant to assessment.

204. Nurse-Client Relationships (3) I, II
Prerequisites: Concurrent registration in Nursing 202.
Study of nurse-client communication and its application to the clinical practice of nursing. Emphasis on development of each student's ability to communicate in collaborative health team efforts and in patient care situations.

250. Nursing Science II (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Nursing 202, 204; satisfactory completion or concurrent registration in Family Studies and Consumer Sciences 204; course in growth and development; and concurrent registration in Nursing 252.
Determination of assessment variables and their impact on diagnosis, planning and implementation of care. Laboratory includes experiences with clients having a variety of nursing diagnoses requiring determination of differential priorities in planning and implementing care.

252. Stress in the Health Continuum (6) I, II
Three lectures and nine hours of laboratory.
Prerequisites: Concurrent registration in Nursing 250.
Focus on psychological, social and physiological stressors affecting man's health status and the modalities of nursing intervention which promote health. Emphasis on developmental and situational stressors commonly experienced in modern society and man's adaptive and maladaptive behavioral and biological responses from birth through senescence.

UPPER DIVISION COURSES
(Intended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

306. Nursing Science III (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Nursing 250, 252; satisfactory completion or concurrent registration in Nursing 306 and 310. Analysis of the implementation of quality client care and consumer needs and rights. Concepts of qualitative and quantitative client care and exploration of the expected contribution of various health personnel.

308. Adult Health Nursing (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Nursing 250, 252; concurrent registration in Nursing 306 and 310. Application of theories of stressors and/or biological responses specifically affecting the adult on the health-illness continuum. Laboratory focuses on the application of the nursing process in implementing preventive, supportive, and restorative therapeutic modalities which assist the adult client to reestablish, maintain, or develop new adaptive responses.

310. Psychosocial Nursing (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Concurrent registration in Nursing 306 and 308. Theory and clinical laboratory in the application of the nursing process to the care of clients evidencing maladaptive responses to psychosocial stressors. Presentation of theories of understanding maladaptive behaviors and application of nursing interventions in a variety of treatment modalities.

335. The Professional Role (3) Irregular
Development of the nursing profession in Western Civilization. Focus on the multifaceted role of the professional nurse in modern social order.

343. Geriatric Nursing (4) Irregular
Two lectures and six hours of laboratory.
Principles of gerontology as they apply to the nursing care of the older patient in a variety of settings.

350. Nursing Science IV (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Nursing 306, 308 and 310. Concurrent registration in Nursing 354 and 356. Analysis of evaluation phase of nursing process as a form of documentation of qualitative care. Emphasis on development of critical elements, criteria, and conclusions in effecting objective evaluation of client care.

354. Maternal-Neonatal Nursing (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Concurrent registration in Nursing 350 and 356. A family-centered focus encompassing adaptive and maladaptive responses to stressors in the maternity cycle and their effect on the neonate. Clinical laboratory focuses on the application of nursing theory and process in providing preventive, supportive and restorative care to mothers and neonates.

356. Child Health Nursing (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Concurrent registration in Nursing 350 and 354. Stressors affecting the child on health-illness continuum. Nursing theory and laboratory focuses on application of nursing process in providing preventive, supportive and restorative therapeutic modalities in a variety of settings. Emphasis on the child in the family and the necessary intervention to promote adaptation of the child to attain, maintain or regain an optimum level of health.

412. Health Care Systems and Methods (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Nursing 350, 354 and 356; satisfactory completion or concurrent registration in Microbiology 370; and concurrent registration in Nursing 414. Theories and methods of client and personnel management. Focus on the reciprocal effects of the professional nurse's preparation and role and emergent patterns of health care.

414. Community Health Nursing (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Concurrent registration in Nursing 412. Assessment and utilization of community health care concepts and delivery with emphasis on promotion of health, prevention of illness and individual and group teaching techniques. Consideration given to cultural aspects of health care.

450. Assertive Nursing (1) I, II
Two hours.
Prerequisites: Nursing 412, 414; concurrent registration in Nursing 452 or 454. Subservient and assertive styles in professional practice and their impact on contemporary issues in health care systems.

452. Clinical Nursing in Complex Situations (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Nursing 412, 414; concurrent registration in Nursing 450. Theory and selected laboratory experience in the care of clients in complex situations requiring intensive nursing care. Consideration will be given to student's clinical area of concentration.

454. Ambulatory Nursing in Complex Situations (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Nursing 412, 414; concurrent registration in Nursing 450. Theory and selected laboratory experience in the care of ambulatory clients requiring specific or complex nursing care. Consideration will be given to the student's clinical area of concentration.

480. School Nursing (3) Irregular
Prerequisites: Nursing 414.
The application of health principles and current best practices in schools with emphasis on the functions of the school nurse related to the school, home and community. (Formerly numbered Nursing 400.)
481A. The School Nurse Practitioner (6) Irregular
Four lectures and six hours of laboratory.
Prerequisites: Bachelor's degree in Nursing; Nursing 480.
Primary health care of school age children. Emphasis on the physical assessment.
(Formerly numbered Nursing 401A.)

481B. The School Nurse Practitioner (4) Irregular
Two lectures and six hours of laboratory.
Prerequisite: Nursing 481A.
Theory and supervised practice of assessing the health-illness of children in the school system.
(Formerly numbered Nursing 401B.)

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3)
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

Oceanography
Administered by the Dean of the College of Sciences
San Diego State University provides preparation for work in the oceans by offering degree programs in fundamental fields supplemented by marine-related course work and oceanographic experience. A minor in oceanography is offered by the Department of Geological Sciences. Interdisciplinary instructional and research activities are coordinated by the Center for Marine Studies, and more detailed information is available there. Ocean-oriented courses and bachelor's degree programs are available in the departments of Biology, Botany, Chemistry, Civil and Mechanical Engineering, Geography, Geological Sciences, Microbiology, Natural Science, Physics and Zoology. A master's degree with emphasis on marine problems may be earned in these departments. The Ph.D. degree is offered in Chemistry, Ecology and Genetics jointly with the University of California. Students who require advising in Oceanography and other marine studies areas should inquire at the Center for Marine Studies.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

541. Oceanography (3) I, II
Prerequisites: Chemistry 200, 200L; Mathematics 121 and 122 or 150; Physics 124A or 125A, 125B. Multidisciplinary examination of the physical, chemical, biological and geological aspects of the marine environment and the relationship of man with the sea. Intended for science majors only.

For additional courses in Oceanography see:
Biology 531. Biological Oceanography
Chemistry 501. Chemical Oceanography
Geological Sciences 540. Marine Geology
Geological Sciences 545. Descriptive Physical Oceanography
Geological Sciences 546. Advanced Physical Oceanography
Geological Sciences 548. Coastal and Estuarine Physical Oceanography
Microbiology 560. Marine Microbiology
Zoology 510. Marine Invertebrate Zoology
Philosophy
in the College of Arts and Letters

Faculty
Emeritus: Ruja, Shields
Chair: Lauer
Professors: Carella, Crawford, Howard, Koppelman, Lau, McClurg, Nelson, O'Reilly,
Rosenstein, Ruja, Snyder, Warren, Weissman
Associate Professors: Feenberg, Troxell, Weston

Offered by the Department
Master of Arts degree in philosophy.
Major in philosophy with the A.B. degree in liberal arts and sciences.
Minor in philosophy.

Philosophy Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major. Nine lower division units in philosophy including Philosophy 120.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section on "Graduation Requirements."

Major. A minimum of 24 upper division units in philosophy to include Philosophy 301 and either Philosophy 303, 502, and 504, or Philosophy 523, 525 and 528.

Philosophy Minor
The minor in philosophy consists of a minimum of 15 units in philosophy. 12 units of which must be in upper division courses. At least six units must be in one of the following groups:

History: Philosophy 301, 303, 336, 502, 504, 505A, 505B, 508, 509, 532, 564.

Values: Philosophy 329, 334, 510, 512, 527, 528, 533, 535, 541, 542 and 596.

Knowledge and Reality: Philosophy 521, 522, 523, 525, 526, 537, 575 and 596.

Philosophy 301 is recommended.
Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. Introduction to Philosophy: Values (3) I, II
Introduction to philosophical inquiry, with emphasis on problems of value. Each student is encouraged to think independently and formulate his own tentative conclusions.

102. Introduction to Philosophy: Knowledge and Reality (3) I, II
Introduction to philosophical inquiry with emphasis on problems of knowledge and reality. Each student is encouraged to think independently and formulate his own tentative conclusions.

103. Historical Introduction to Philosophy (3) I, II
Introduction to philosophical inquiry through study of the works of major philosophers in their historical contexts.

120. Logic (3) I, II
Introduction to deductive and inductive logic. Logic and language. Analysis of fallacies.
Uses of logic in science and in daily life.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content.

UPPER DIVISION COURSES (Intended for Undergraduates)

300. Honors Course (1-3)
Refer to Honors Program.

301. History of Philosophy I (3) I, II
Prerequisite: Three units of philosophy.

303. History of Philosophy III (3)
Prerequisite: Philosophy 301. Recommended: Philosophy 502.

329. Social Ethics (3)
Prerequisite: Philosophy 101, 102 or 103.
Ethical issues of contemporary life. Individualism vs. collectivism; democracy vs. dictatorship; ethical problems arising in law, medicine, business, government and interpersonal relationships.

334. Philosophy of Literature (3)
Prerequisite: Six units of philosophy.
Study of literature of philosophical significance, and of philosophical problems of literature.

336. Jewish Philosophy (3)
Prerequisite: Three units of philosophy.
Outstanding men and movements, e.g., Biblical ethics and law, Philo of Alexandria, the rabbinical tradition, the Kabbala, Moses ben Maimon, Moses Mendelssohn and Martin Buber.

499. Special Study (1-3) I, II
Prerequisites: Twelve upper division units in philosophy and consent of instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSES (Also Acceptable for Advanced Degrees)

502. History of Philosophy II (3)
Prerequisite: Philosophy 301.

504. History of Philosophy IV (3)
Prerequisite: Philosophy 303.

505A-505B. Twentieth Century Philosophy (3-3)
Prerequisite: Six units of philosophy.

508. Existentialism (3)
Prerequisite: Six units of philosophy.
The philosophical aspects of Existentialism. Major emphasis is on the diversity of thought within a common approach as this is shown in individual thinkers.

509. Ordinary Language Analysis (3)
Prerequisite: Six units of philosophy.
Foundations of linguistic philosophy with emphasis on achieving an awareness of the relationship between thinking and language.

510. Philosophy of Law (3)
Prerequisites: Three units of philosophy and three units of political science.
The nature of law and the logic of legal reasoning. An exploration of certain key legal concepts such as causation, responsibility, personality and property.
512. Political Philosophy (3)
Prerequisite: Philosophy 101, 102 or 103.
Selected aspects of the political structures within which we live, such as law, power, sovereignty, justice, liberty, and welfare.

521. Deductive Logic (3)
Prerequisite: Philosophy 120.
Principles of inference for symbolic deductive systems: connectives, quantifiers, relations and sets. Interpretations of deductive systems in mathematics, science, and ordinary language. Not open to students with credit in Mathematics 525.

522. Inductive Logic (3)
Prerequisite: Philosophy 120.

523. Theory of Knowledge (3)
Prerequisite: Six units of philosophy.
The major theories of human knowledge: mysticism, rationalism, empiricism, pragmatism.

525. Metaphysics (3)
Prerequisite: Six units of philosophy.
Prominent theories of reality, e.g., realism and nominalism, materialism and idealism, teleology and determinism.

527. Values and Social Science (3)
Prerequisite: Six units of philosophy.
Analysis and discussion of the nature of values and value-judgment with particular reference to the social sciences. Among relevant issues: the naturalistic fallacy, facts and values; authoritarianism, emotivism, objective relativism; the individual and the community.

528. Theory of Ethics (3)
Prerequisite: Six units of philosophy.
Significant and typical value theories and systems and the concrete problems such theories seek to explain. Emphasis will be on moral values.

531. Philosophy of Language (3)
Prerequisite: Six units of philosophy.
An introduction to theories of meaning for natural languages and formal systems: concepts of truth, synonymy and analyticity; related epistemological and ontological problems.

532. Philosophy of History (3)
Prerequisite: Six units of philosophy.
The nature of history and historical inquiry. As metaphysics: A study of theories of historical development. As methodology: History as science, truth and fact in history, historical objectivity, the purpose of history.

533. Philosophy of Education (3)
Prerequisite: Philosophy 101, 102 or 103.
Various philosophical viewpoints concerning education. The functions of education as conceived by major figures in the western philosophical tradition.

535. Philosophy of Religion (3)
Prerequisite: Six units of philosophy.
Philosophical examination of issues raised by the religious impulse in man.

537. Philosophy of Science (3)
Prerequisite: Six units of philosophy.
The basic concepts and methods underlying contemporary scientific thought. Contributions of the special sciences to a view of the universe as a whole.

541. History of Aesthetics (3)
Prerequisite: Philosophy 101, 102 or 103.
Major documents in the history of aesthetics.

542. Philosophy of Art (3)
Prerequisite: Six units of philosophy.
The nature of aesthetic experience. Principal contemporary theories of art in relation to actual artistic production and to the function of art in society.
Physical Education

In the College of Professional Studies

Faculty
Emeritus: Broadbent, Caves, Landis, Lockman, Schulte, Schwob, Scott, Shannon,
Sportsman, Terry, Tollefsen, Williamson
Chair: Carlson
Professors: Andruss, Benton, Carlson, Carter, Cullen, Fox, Howell, M, Kasch, Moore, Murphy,
Olsen, A, Olsen, L, Phillips, Sacs, Ziegenfluss
Associate Professors: Barone, Franz, Friedman, Howell, R, Solder, Wells, Willis
Assistant Professors: Aufsesser, Gutowski, Landis, Quinn, Simmons, Smith, Whitby, Wilhelm

Offered by the Department
Master of Arts degree in physical education.
Major in physical education with the A.B. degree in liberal arts and sciences.
Major in physical education with the A.B. degree in applied arts and sciences.
Teaching major in physical education for the single subject teaching credential.
Minor in physical education.
Minor in dance.

Physical Education Major

With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the requirements listed in the section of this catalog on "Graduation Requirements."

Preparation for the major.
Biology 362; Physical Education 141, 176, 190; Psychology 101; Zoology 108. (16 units.)

Foreign Language Requirement.
Competency (equivalent to that which is normally attained through three consecutive semesters of college study is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in physical education to include 12 units from Physical Education 371, 376, 476, 560, 561, 570, 585 and 12 units selected with the approval of the adviser.

Physical Education Major

With the A.B. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the requirements listed in the section of this catalog on "Graduation Requirements."

Emphasis in Athletic Training

Preparation for the major.
Physical Education 141, 165, 176, 190; Biology 100, 100L; Chemistry 100, 100L, 130, 130L; Family Studies and Consumer Sciences 204; Psychology 101; Zoology 108. (29 units.) Recommended: Physics 107, 107L

Major. A minimum of 36-41 upper division units to include Physical Education 345A, 345B, 368, 369, 371, 376, 476, 560, 561, 563, 565, 567, 570, 585; Biology 362. Recommended: Health Science and Safety 301, 574, 575.
This emphasis does not meet the teaching credential requirements.
105. Individual Adaptives (1)
Prerequisite: Consent of instructor.
Individual exercise programs for those who are handicapped in some respect, or who have functional defects or deficiencies amenable to improvement through exercise. May be repeated for credit.

108A-108B. Basketball (1-1)
109A-109B. Soccer (1-1)
110A-110B. Volleyball (1-1)
111A-111B. Softball (1-1)
112A-112B. Field Hockey (1-1)
113A-113B. Flag Football (1-1)
114A-114B. Wrestling (1-1)
115A-115B. Track and Field (1-1)
116A-116B. Golf (1-1)
117A-117B. Archery (1-1)
118A-118B. Tennis (1-1)
119A-119B. Bowling (1-1)
120A-120B. Badminton (1-1)
121A-121B. Handball (1-1)
122A-122B. Fencing (1-1)
123A-123B. Racquetball (1-1)
124A-124B. Sailing (1-1)
125A-125B. Men's Gymnastics Apparatus (1-1)
126A. Rhythmic Gymnastics (1)
127A-127B. Women's Gymnastics Apparatus (1-1)
128A-128B. Ice Skating (1-1)
129A-129B. Swimming (1-1)
130A-130B. Synchronized Swimming (1-1)
131. Life Saving (1)
132A-132B. Ballroom Dance (1-1)
133A-133B. Folk and Square Dance (1-1)
134A-134B. Modern Dance (1-1)
135A-135B. Ballet (1-1)
136A-136B. Jazz (1-1)
138. Selected Activities (1)
May be repeated with new activity for additional credit. See Class Schedule for specific content.

141. Physical Education of Children (2)
Four hours of activity.
Application of the principles of motor learning and muscular fitness to the elementary physical education activity program. Includes a practical field experience with elementary students.

145. Dance (Men) (2)
Four hours of activity.
Competency development in dance. Emphasis on skills, movements, facilities and organizational procedures in dance.

147A-147B. Officiating Women's Sports (1-1)
Two hours of activity.
Prerequisite: Consent of instructor.
Practice in officiating techniques in women's sports leading to official's ratings:
A. Volleyball
B. Softball, Basketball. May be repeated once with new content.
331. Practicum: Theory and Analysis of Coaching Competitive Sports (2)
Four hours of activity.
Prerequisite: Passing competency tests in each activity covered in section. Selection and care of equipment, skill analysis, teaching progressions, evaluation techniques, organizational procedures and resource materials for selected activities as listed.
A. Weight Training, Physical Fitness
B. Track and Field
C. Football
D. Basketball
E. Baseball
F. Rhythm and dance activities for children
G. Ball and sports activities for children
H. Gymnastics activities for children
I. Gymnastics Apprentice
J. Perceptual motor activity
K. Additional sports (offered on student demand) may be repeated with new content.

334. Practicum: Physical Education Activities for Secondary Schools (2)
Four hours of activity.
Prerequisite: Physical Education 141.
In-depth study of selected physical education activities for secondary school children. Includes teaching techniques, unit planning, progressions and resource materials for selected activities as listed.
A. Movement exploration activities for children
B. Rhythm and dance activities for children
C. Ball and sports activities for children
D. Gymnastics activities for children
E. Gymnastics Apprentice
F. Perceptual motor activity

344. Practicum: Physical Education Activities for Elementary Schools (2)
Four hours of activity.
Prerequisite: Physical Education 141.
In-depth study of selected physical education activities for elementary school children. Includes teaching techniques, unit planning, progressions and resource materials for selected activities as listed.
A. Movement exploration activities for children
B. Rhythm and dance activities for children
C. Ball and sports activities for children
D. Gymnastics activities for children
E. Gymnastics Apprentice
F. Perceptual motor activity

352. Workshop in Dance (1-2)
Two hours per unit.
Choreographic techniques and skills with visiting master teachers; written report or project. Maximum credit four units.

358. Exercise Physiology Laboratory (1)
Three hours of laboratory.
Prerequisite: Consent of department chairman.
Experiments in the application of physiologic principles of energy and food for the maintenance of health and performance in physical activity.

364. Kinesiology - Biomechanics Lab (1)
Three hours of laboratory.
Prerequisites: Physical Education 560 and 563.
Experiments in application of kinesiology and biomechanics to human movement.

366. Adapted and Special Physical Education Laboratory (1-4)
Three hours of laboratory per unit.
Prerequisites: Consent of department chairman.
Experiences in the application of kinesiology and biomechanics to human movement.

369. Practicum in Athletic Training (1-3)
Three hours of laboratory per unit.
Prerequisite: Physical Education 165.
Practical training and clinical applications of basic and advanced techniques of athletic training and sports medicine. Athletic first aid, emergency procedures, bandaging, taping, use of actual athletic medicine clinics. Maximum credit six units.
454. Intermediate Improvisation (1)
Two hours of activity.
Prerequisite: Physical Education 453.
Practise in more complex arrangements of improvisation.

456. Dance Pedagogy (2)
Four hours of activity.
Prerequisite: Completion of preparation for the major in physical education with emphasis on dance teaching modern dance in the commercial studio environment.

475. Contemporary Socio-Cultural Aspects of Physical Activity (3)
Prerequisite: Physical Education 376.
Historical, anthropological and cultural factors influencing development of sport and physical education in America; and current sociological, philosophical, socio-psychological, and comparative factors influencing role and significance of sport and physical education in modern American society. (Formerly numbered Physical Education 375.)

476. International Physical Education and Sport (3)
Prerequisite: Physical Education 475.
Analyses of physical education and sport programs in selected cultural ideologies, and of international sport competitions.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3)
Prerequisite: Consent of department chair.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

550. Choreography: Basic Elements (2)
Four hours of activity.
Prerequisite: Completion of preparation for the major in physical education with emphasis on dance. Using concepts of space, time, and energy to investigate and explore basic elements of choreography. Studies and compositions emphasizing solo and small group works.

551. Choreography: Large Groups (2)
Four hours of activity.
Prerequisite: Physical Education 550.
Introducing large group works, solo and small group work in organizing more complex arrangements of the basic elements of dance composition. Utilizing music and sound as aural contributions to choreography.

552. Choreography: Form and Content (2)
Four hours of activity.
Prerequisite: Physical Education 551.
Approaching dance as a fundamental means of communication. Recognizing the relationship between form and content.

553. Choreography: Recital (2)
Four hours of activity.
Prerequisite: Physical Education 552.
Choreography of solo and group works utilizing symbiotic relationship of movement, sound, lighting, costuming, and other interdisciplinary media. Presentation of a recital.

554. History and Philosophy of Dance (2)
The historical and philosophical background of all forms of dance in various civilizations. Emphasis will be on the relationship of the social structure to the existing dance forms.
Physics

In the College of Sciences

Faculty
Emeritus: Clark, Craig, Kalbfeil, Moe, Smith, Snodgrass, Wolter
Chair: Burnett
Professors: Burnett, Garrison, Lilly, Morris, Nichols, Piserclo, Rehfuss, Roeder, Skolill, Teasdale, Temkin
Associate Professors: Cottrell, Davis, Shore, Solomon
Lecturer: Shuckelford

Offered by the Department
Master of Arts degree in physics.
Master of Science degree in physics.
Master of Science degree in radiological physics.
Major in chemical physics with the B.S. degree in applied arts and sciences.
Major in physics with the B.S. degree in liberal arts and sciences.
Single Subject teaching credential in physical sciences in the area of physics.

Chemical Physics Major

With the B.S. Degree in Applied Arts and Sciences

Preparation for the major. Chemistry 200, 200L, 201, 201L, or 204A-204B, 231, 231L
and 251; Mathematics 150, 151 and 152; Physics 185, 195L, 196, 196L, 197, 197L (43 units)
Major, A minimum of 39 upper division units to include Chemistry 410A-410B, 431, 431L
and 250; Mathematics 340A; Physics 311, 350A, 354A, 357, 400A, 460 and 510.
Recommended: Mathematics 340B, 340C. Individual master plans for each student are
filed with Evaluations.

Physics Major

With the B.A. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the requirements
listed in the section of this catalog on "Graduation Requirements." A minor in mathematics is required. It should include Mathematics 150, 151, 152, 340A-
for students preparing for elementary or secondary teaching. Students planning graduate
Preparation for the major. Chemistry 200, 200L, 201, 201L, or 204A-204B; Mathematics
150, 151, 152, Physics 185, 195L, 196, 196L, 197, 197L (35 units)
Foreign Language Requirement. Competency (equivalent to that which is normally
attained through three consecutive semesters of college study) is required in one foreign
French, German or Russian. Refer to section of catalog on "Graduation Requirements."
Major. A minimum of 24 upper division units in physics to include Physics 311, 350A,
354A, 357, 400A, 460, and two courses selected from Physics 313, 354B, 400B and 510.

Physics Major

With the B.S. Degree in Applied Arts and Sciences

All candidates for a degree in applied arts and sciences must complete the graduation
master plans for each student are filed with Evaluations.
A minor is not required with this major.
Preparation for the major and the major consist of basic requirements in the lower and
following areas: (a) Foundations of Physics; (b) Scientific Instrumentation; (c) Modern Optics;
(d) Radiation Physics; (e) Senior Research.

Basic Requirements for all Students

Preparation for the major. Chemistry 200, 200L, 201, 201L, or 204A-204B; Mathematics
150, 151 and 152; Physics 195, 195L, 196, 196L, 197, 197L (35 units)
Major. A minimum of 39-44 upper division units to include Mathematics 340A-340B;
Physics 311, 313, 350A, 354A, 354B, 357, 400A-400B, 460, and 498A-498B or a minimum
of two semesters of 499. Recommended: Mathematics 340C.

Areas of Specialization

In addition to the basic requirements, the student must complete the requirements in one of the following areas:

(a) Foundations of Physics
The courses in this area constitute the expected preparation for entering students in many graduate programs.
Required: Physics 510, and 532 or 564.
Recommended: Physics 350B, 552.
Strongly recommended: Physics 532, 564.

(b) Scientific Instrumentation
Required: Physics 413, 516A.
Recommended: Physics 515, 516B.
Strongly recommended: Physics 518, 520.

(c) Modern Optics
Required: Physics 306, 552, 553.
Recommended: Physics 516A, 532.

(d) Radiation Physics
Required: Physics 302, 560, 561, 565.
Recommended: Physics 413, 515, 563, 564.

(e) Senior Research
Students taking this area of specialization must be sponsored by a member of the faculty.
Required: Physics 498A-498B and a minimum of four (4) additional upper division units
approved by faculty sponsor.
Recommended: Additional Physics 499 in conjunction with 498A-498B.

Physics

For the Single Subject Teaching Credential in Physical Sciences

All candidates for a teaching credential must complete all requirements as outlined in this
section of the catalog under the College of Education.
This major may be used by students in teacher education for the A.B. degree in applied
arts and sciences.
The requirements for the single subject teaching credential in physical sciences in the
area of physics are the same as those listed for either the A.B. degree in liberal arts and sciences. The department is currently applying
for a waiver of the State Examination for the Teaching Credential in Physics.

Physics Minor

The minor in physics consists of a minimum of 15 units in physics. 11 units of which must be
be in upper division courses. The department requires that the upper division units for the
minor be selected from the courses in one of the areas listed below. Prerequisites: Physics
minor be selected from the courses in one of the areas listed below. Prerequisites: Physics

Foundations of Physics (appropriate for Mathematics, Chemistry, Engineering, Geology, Natural Science and all life sciences). Upper division courses selected
Scientific Instrumentation (also appropriate for all science majors above). Physics 311, 313 and 413 must be taken. One or more additional courses to be selected from Physics 516A, 516B, 518, 520.

Modern Optics (appropriate for all science and engineering majors). Physics 306 and 553 must be taken. Additional courses may be selected from Physics 311, 313, 354A, 400A, 499, 552.

Radiation Physics. In lieu of the prerequisites listed above, a student may substitute Physics 115A-115B or 124A-124B and 125A-125B; Mathematics 123 or 152. (Suitable for all majors; particularly recommended for life science majors.) Physics 302, 303, 311, 561, and three units of electives.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

103. Physics for Poets (3) I, II
Physics as natural philosophy. How physical theories grow and change through interaction with experiment. Holography, black holes, fusion, acoustics, lasers, and other topics form a framework through which the laws of physics and their philosophical and historical foundations are explored.

107. Introductory Physics (3) I, II
Prerequisite: Concurrent registration in Physics 107L. Some of the more important phenomena and concepts in physics with practical illustrations and applications. Not open to students with credit for Physics 115A-115B, 124A-124B, 194A-194B, 195, 195L, 196, 196L, 197L, 197L. Principles of Physics Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Concurrent registration in Physics 107. Physics 107 and 107L are taught together and a single grade will be given. A student will not receive credit for one course without the other.

108. Physics of Musical Sounds (3) I, II
Physiological properties of sound, the ear and its perception of sounds, the effects of electronics to the production, reproduction and compositions of music.
115A-115B. Elementary Physics (4-4) I, II
Two lectures, one discussion and three hours of laboratory.
Prerequisites: Two years of high school mathematics, Physics 115A is prerequisite to 115B. This is a one-year course for non-science majors. Physics 115A is not open to students with credit in 124A, 194A, or 195, 195L; 115B is not open to students with credit in 124B, 194B, 196, 196L, or 197L. Foundations of wave motion, behavior of light, energy, mass, evolution of ideas concerning planetary motion. Emphasis on evolution of fundamental concepts.

124A-124B. General Physics (3-3) I, II
Prerequisites: Mathematics 103 and 104. Physics 124A is prerequisite to 124B. Recommended: For Physics 124A, concurrent registration in 125A; for Physics 124B, concurrent registration in 125B. Physics 124A is not open to students with credit in 115A, 194A, or 195, 195L; 124B is not open to students with credit in 115B, 194B, 196, 196L, or 197L. This course provides a thorough basis in mechanics, electricity, magnetism, optics, and modern physics in a two-semester sequence.

125A-125B. Physical Measurements (1-1) I, II
Three hours of laboratory.
Prerequisite for 125A: Credit or concurrent registration in Physics 124A or 194A. A laboratory course to accompany Physics 124A-124B or 194A-194B. Properties of matter, mechanics, sound, and wave motion. Semester I: Electricity, DC circuits, oscilloscope measurement techniques, electric and magnetic fields, and optics.
UPPER DIVISION COURSES
(Intended for Undergraduates)

301. Energy and Conservation (3) I, II
Prerequisite: Completion of Basic Subjects and Foundations of Learning science components of General Education.
Course devoted to the fundamental physical concepts underlying energy, its conversion, utilization and conservation. Not open to physics majors.

302. Nuclear Energy (2)
Prerequisite: Physics 107, 107L or 115B, or 124B and 125B, or 194B and 125B, or 197, 197L.
Nuclear sources of energy, including solar, geothermal, hydrocarbon, and an introduction to nuclear reactors and their environmental impact.

303. Radiation Physics
One lecture and six hours of laboratory.
Prerequisite: Physics 107, 107L or 115B, or 124B and 125B, or 194B and 125B, or 197, 197L.
Radioactivity, interaction of radiation with matter, and methods of detection and measurement.

304. Concepts in Modern Physics (3) I, II
Prerequisite: Physics 107, 107L, 115B, or 124B.
Modern developments in physics for non-physics majors, including relativity, introductory quantum theory, and atomic, nuclear, and solid state physics.

306. Optics (3)
Prerequisites: Physics 197, 197L or 124B or 194B; Mathematics 123 or 152.
Reflection, refraction, matrix methods, dispersion, polarization, double refraction, interference, diffraction, Fourier optics, coherence theory, lasers, and holography with applications to optical instruments, wave propagation, and the nature of light.

311. Electronics for Scientists (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Physics 115B, or 124B and 125B, or 194B and 125B, or 196, 196L; Mathematics 122, upper-level standing in one of the physical or life sciences.
AC and DC circuits, diodes, transistors, conventional and operational amplifiers. Designed to introduce science majors to modern electronic devices and their utilization in scientific instrumentation.

313. Advanced Electronics (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Physics 311 (3).
Conventional and operational amplifiers, oscillators, analog to digital conversion, pulse and digital electronics. Emphasis is on applications to modern scientific instrumentation.

350A-350B. Classical Mechanics (3-3) I, II
Prerequisites: For 350A, Physics 197, 197L, and credit or concurrent registration in Mathematics 340A or 530. For 350B, Physics 350A and credit or concurrent registration in Mathematics 340B or 531.
Newtonian mechanics, wave motion, Lagrange's equations, Hamilton's equations, generalized coordinates, normal coordinates, small oscillations, special theory of relativity.

354A-354B. Modern Physics (3-3) I, II
Prerequisites: For 354A, Physics 197, 197L, and credit or concurrent registration in Mathematics 340A or 530. For 354B, Physics 354A and credit or concurrent registration in Mathematics 340B or 531.
Semester I: Atomic theory of matter, introduction to quantum theory with applications to atomic structure. Semester II: Atomic theory, periodic table, techniques of quantum mechanics. Applications of quantum mechanics to solid state and nuclear physics. (Formerly numbered Physics 354A)

357. Advanced Physical Measurements (3) I, II
One lecture and six hours of laboratory.
Prerequisites: Physics 197, 197L and credit or concurrent registration in Physics 311.
A course which stresses both laboratory experiments and techniques of data and error analysis. The experiments are taken from several of the major areas of physics.

400A-400B. Classical Electromagnetism (3-3)
Prerequisites: For 400A, Physics 197, 197L, and credit or concurrent registration in Mathematics 340A or 530. For 400B, Physics 400A and credit or concurrent registration in Mathematics 340B or 531.
Electrostatics, magnetostatics, electromagnetic induction, Maxwell's equations, radiation and wave propagation. (400A: formerly numbered Physics 350B; 400B: formerly numbered Physics 400)

413. Electronic Instrumentation (2) I
Six hours of laboratory.
Prerequisite: Physics 313.
Transducer principles and applications; theory and design of active filters, modern signal detection and enhancement techniques, instrumentation design.

451A-451B. PSSC and PPC Physics (4-4)
Three lectures and discussions and three hours of laboratory.
Prerequisites: Physics 115B, or 124B and 125B.
A new approach to the study of major concepts of physics. Designed for those who plan to teach science. The course is based on materials prepared by national groups of teachers such as the Physical Science Study Committee and the Harvard Project Physics.

460. Thermal Physics (3)
Prerequisite: Physics 354A.
Classical thermodynamics and statistical mechanics. Applications of equilibrium thermodynamics. Introduction to statistical mechanics, including concepts from probability and statistics. Maxwell-Boltzmann, Fermi-Dirac, and Bose-Einstein statistics. Applications of statistical mechanics in calculating macroscopic properties of simple systems. (Formerly numbered Physics 354B)

498A. Senior Research (1-1) I, II
One discussion period and two additional hours per week to be arranged.
Prerequisite: Senior standing in physics and an acceptable plan for graduation within one year.
Selection and design of individual research project. Oral and written progress reports.

498B. Senior Research (1-1) II
Two discussion periods and four additional hours per week to be arranged.
Prerequisite: Physics 498A with grade of C or better.
Laboratory work, progress reports, oral and written final reports.

499. Special Study (1-3) I, II
Individual study or laboratory work on a special problem in physics selected by the student. Each student will be assigned a member of the staff who will supervise his work. Credit hours and topics to be arranged in each case. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

510. Quantum Mechanics (3)
Prerequisites: Physics 350A, 354B; Mathematics 340B or 531.
The mathematical and physical foundations of the quantum theory in terms of the mathematical and physical foundations of the quantum theory. Applications to the properties of atoms, quantum chemistry, and solid-state physics. (Formerly numbered Physics 350A)

515. Electronics of Nuclear Instrumentation (1)
Prerequisite: Electronics course and credit or concurrent registration in Physics 581.
Operation and utilization of modern solid-state devices as used in nuclear instrumentation.

516A-516B. Theory of Scientific Instrumentation (2-2)
Prerequisites: Physics 313; Mathematics 340B or 531. Physics 516A is prerequisite to Physics 516B.
Linear system analysis using Fourier techniques. Introduction to the stochastic treatment of signals and noise, using concepts from probability and statistics. Optimization of detection of signals and noise, using concepts from probability and statistics. Applications to spectroscopy. (Formerly numbered Physics 416)
518. **Minicomputer Interfacing** (3)

Two lectures and three hours of laboratory.

Prerequisite: Credit or concurrent registration in Physics 413.

Theory and practice of minicomputer interfacing and control techniques, including minicomputer architecture on a block-diagram level, bus structure, and I/O signals. Assembly language programming and applications to I/O involving instrumentation peripherals.

(Formerly numbered Physics 418.)

520. **Microprocessor Instrumentation** (2)

One lecture and three hours of laboratory.

Prerequisite: Credit or concurrent registration in Physics 413.

The electronics of microprocessor based computer and control systems. Assembly language programming interfacing of analog inputs and outputs. The microcomputer as a multipurpose signal processing instrument.

532. **Solid State Physics** (3 II)

Prerequisites: Physics 350A, 354B; Mathematics 340B or 531.

Elastic, thermal, electric, magnetic and optical properties of solids. Introduction to the energy band theory of solids, with applications to semiconductors and metals.

542. **Acoustics** (3)

Prerequisites: Physics 400A or Electrical Engineering 340 and Engineering 310.

Wave motion, production, reception, transmission and analysis of sound. Special applications such as environmental noise, underwater and seismic waves.

552. **Modern Optics and Lasers** (3)

Prerequisites: Physics 306, credit or concurrent registration in Physics 354A and either Physics 400A or Electrical Engineering 340.

Electromagnetic theory, matrix methods of optics, propagation of Gaussian beams, optical resonators, interaction of radiation and atomic systems, theory of laser oscillation, nonlinear optics, specific laser systems, optical detectors, applications of lasers in physics.

553. **Modern Optics Laboratory** (2)

Six hours of laboratory.

Prerequisite: Physics 306. Recommended: Credit or concurrent registration in Physics 552.

Experiments in various fields of modern optics such as holography, physics of lasers, optics, spatial filtering, diffraction grating spectroscopy, radiometry, and nonlinear optics. May be repeated with new content with the approval of the instructor for a maximum of four units.

560. **Physics of Nuclear Medicine** (1 II)

Three hours of laboratory.

Prerequisite: Physics 561.

Topics and experimental problems in the diagnostic use of radioactive isotopes in nuclear medicine. (Formerly numbered Physics 660.)

561. **Nuclear Physics Laboratory** (3 II)

One lecture and six hours of laboratory.

Prerequisites: Physics 303 or 357, Mathematics 123 or 152.

Techniques and instrumentation for the detection, identification and measurement of the properties of nuclear radiations and particles, and their use in the study of nuclear reactions.

563. **Physics of Nonionizing Radiation** (1)

Three hours of laboratory.

Prerequisite: Physics 303 or 357.

Topics and experimental problems in radiation protection in nonionizing radiation.

564. **Nuclear and Elementary Particle Physics** (3)

Prerequisite: Physics 354B.

Nuclear and elementary particle phenomena, including nuclear structure of reactions, nuclear devices, elementary particle symmetry and structure, and experimental methods.

565. **Physics of Diagnostic X-Rays** (1)

Three hours of laboratory.

Prerequisite: Physics 561.

Topics and experimental problems in the use of diagnostic x-rays. (Formerly numbered Physics 665.)

570. **Relativity** (3)

Prerequisites: Physics 354A, 400A; Mathematics 149 or 520A, 340B or 531.

Relative coordinates, Lorentz transformation, covariant formation of the laws of physics, applications of special relativity, introduction to curved space time, cosmology.

596. **Special Topics in Physics** (1-4 I, II)

Prerequisite: Consent of instructor.

Selected topics in classical and modern physics. May be repeated with the consent of the instructor. See Class Schedule for specific content. Maximum credit six units.

**GRADUATE COURSES**

Refer to the Graduate Bulletin.
Political Science

In the College of Arts and Letters

Faculty
Emeritus: Generales, Leifler
Chair: Nesvold
Professors: Andrain, Coniff, Crain, Fellersbach, Funston, Gripp, Hofstetter, Janssen, Johns, Kahng, Miles, Nesvold, Padgett, Schultz
Associate Professors: Anderson, Cutter, Fairlie, Hobs, Lewin, Little, Loveman, Soulé
Terrell
Assistant Professors: Jones, Keiser, Strand
Lecturer: Crowly

Offered by the Department
Master of Arts degree in political science.
Major in political science with the A.B. degree in liberal arts and sciences.
Minor in political science.

Political Science Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on “Graduation Requirements.” Students majoring in political science must complete a minor in another field to be approved by the chair of the major department.

Preparation for the major. Political Science 101, 102, 103 and three units of either statistics or logic (12 units)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on “Graduation Requirements.”

Major. A minimum of 24 upper division units to include (a) three units in Political Science 340 or 497, and (b) 21 upper division units in political science distributed among at least four of the groups listed below, provided that at least three units shall be taken in Group I.

Group I: Political Theory. Courses numbered 301A to 313, and 514.

Group II: Research Methods. Courses numbered 515A-515B.

Group III: Politics. Courses numbered 320 to 344 and 522 to 537.

Group IV: Public Law. Courses numbered 345 to 354 and 546 to 550.

Group V: Comparative Government. Courses numbered 356 to 374 and 555 to 571.

Group VI: International Relations. Courses numbered 375 to 394 and 577 and 579.

Political Science Minor

The minor in political science consists of a minimum of 18 units in political science, including Political Science 101, 102 or 103, twelve of the 18 units must be in upper division courses and at least nine of these units must be selected from one of the following subject areas:

Political Theory and Research Methods (Groups I and II)
Politics and Public Law (Groups III and IV)
Comparative Government and International Relations (Groups V and VI)

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. Introduction to Political Science (3) I, II
Basic concepts of political science including an introduction to the scope of the discipline and representative methods of acquiring political knowledge. Illustrative materials drawn primarily from the American experience.
Completion of both Political Science 101 and 102 will meet all requirements in American Institutions. (Formerly numbered Political Science 110.)

102. Introduction to American Government and Politics (3) I, II
The origin and development, structure and operation of the government of the United States, national, state and local.
Completion of both Political Science 101 and 102 will meet all requirements in American Institutions. Political Science 102 will meet the requirements in U.S. Constitution and California government. (Formerly numbered Political Science 120.)

103. Introduction to Comparative Government (3) I, II
Analytical models and techniques for examination of the problems of decision-making and control in various political systems. Emphasis on patterns of political action in various cultural contexts. (Formerly numbered Political Science 130.)

201. Elementary Statistics for Political Science (3)
Prerequisites: Political Science 101 and 102, and Mathematics 103 or qualification on the Mathematics Placement Examination.
Quantitative methods in political science. Tabular and graphic presentation, measures of central tendency, simple correlation and sampling techniques. Not open to students with credit for another course in statistics. (Formerly numbered Political Science 140.)

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor’s degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Extended for Undergraduates)

305. Institute of Public Affairs (1-3)
Study of selected phases of American or Comparative Government. May be repeated with new content and consent of instructor. Maximum credit six units.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor’s degree in courses under this number of which no more than three units may be applicable to general education requirements.

497. Investigation and Report (3) I, II
Analysis of special topics. Admission by permission of instructor.

499. Special Study (1-3) I, II
Prerequisites: Twelve upper division units in political science and consent of the instructor.
Individual study. Maximum credit six units.

Political Theory (Group I)

301A. History of Western Political Thought (3-3)
Prerequisite: Political Science 301A is prerequisite to 301B.
Development of political ideas from the golden age of Greece until the French Revolution. Relevance of theory to a critical understanding of concrete political and social problems.
301A emphasizes Plato, Aristotle, Augustine, Aquinas, and Marsilius of Padua. 301B stresses major political theorists such as Marx, Weber and Sartre. The following topics may be covered: conservatism, liberalism, utilitarianism, socialism, fascism, positivism and existentialism.

302. Modern Political Thought (3)
Major writers of political thought in the last two centuries, including Burke, J.S. Mill, Freud, Marx, Weber and Sartre. The following topics may be covered: conservatism, liberalism, utilitarianism, socialism, fascism, positivism and existentialism.

303. Socialist Political Thought (3)
Prerequisites: Political Science 101 or 102, and 302 or 301B.
Socialist thought from an historical perspective.

304. Socialist Political Thought (3)
Prerequisites: Political Science 101 or 102, and 301B or 302.
Selected topics in socialist thought. (Formerly numbered Political Science 504.)
305. American Political Thought (3)
The origins and development of American political ideas from colonial times to the present. (Formerly numbered Political Science 505)

310. Politics and the Arts (3)
Prerequisites: Political Science 101 and 102
The contribution of the artistic media to the activity and understanding of politics. This course does not meet the departmental requirements for majors of a course from Group I.

313. The Theory of Political Inquiry (3)
Philosophical basis of science with reference to political science. Concepts, concepts formation, theory building and verification. (Formerly numbered Political Science 513)

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

514. Problems in Political Theory (3)
Prerequisite: Six upper division units in political theory
Research methods in political theory; intensive development of selected issues. Research Methods (Group II)

515A-515B. Research Methods in Political Science (3-3)
Prerequisite: Political Science 201. Political Science 515A is prerequisite to 515B.
The research process, from research design through data processing, analysis and interpretation. Problems of opinion to election statistics, census data, roll-call records, sample survey data and biographical information.

UPPER DIVISION COURSES
(Intended for Undergraduates)

320. American Institutions (3)
The principles of the Constitution of the United States of America, and a survey of the political and social institutions which have developed under the Constitution. Meets the graduation requirement in the United States Constitution and California state and local in American history, institutions and ideas. Not open to students with credit in Political Science 102.

321. State Politics (3)
Public policy making within the context of statewide politics, state-federal and state-local relations, including both official and unofficial institutions. Emphasis on California. Meets the graduation requirement in California Government.

325. Political Behavior (3)
Prerequisites: Political Science 102. Social and attitudinal variables in political behavior. Quantitative research data as used in electoral studies.

326. Political Communication (3)
Prerequisite: Political Science 102. Communication as a political process; the effects of political communications on individuals and groups.

332. Minority Political Thought and Politics in the United States (3)
Political attitudes, behavior and thought of selected minority groups.

334. Politics of the Environment (3)
Analysis of political process as it shapes environmental policy in a world characterized by finite resources. Emphasis on expanding national and international claims made upon these resources.

335. Government and Public Policy (3)
Prerequisite: Political Science 102. Theory and practice of process of formulating public policy, roles of administrators, legislators, courts, interest groups and political parties, public agencies and public interest, case studies in formulating public policies.

338. The Legislative Process (3)
A detailed analysis of legislatures. Special attention will be devoted to the impact of dynamic factors on formal procedures.

340. Internship in Politics (2-6)
Prerequisites: Three upper division units within Group III and consent of instructor. Students will be assigned selectively to functional areas of politics, such as political party headquarters, elective public offices and nonpartisan political groups for work under joint supervision of activity heads and the course instructor. Participation will include project and internship conferences.

344. Special Problems in American Politics (3)
Prerequisites: Political Science 101 and 102 and three upper division units within Group III. Intensive exploration of selected issues in the field of American politics.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

522. Urban Politics (3)
Prerequisite: Political Science 101 or 102.
The processes by which social conflicts in American urban areas are represented and regulated. Urban political culture, ecology, group development and activity, power structures, and reform movements are surveyed. The character of the urban political "problem" and proposed solutions are evaluated.

523. Community Political Behavior (3)
Prerequisite: Political Science 101 or 102.
The studies of structure of community power are summarized and critically evaluated. The issues of community conflict are treated both by case study and comparative methods. Examples are drawn primarily from American urban experience.

530. Political Parties (3)
Prerequisite: Political Science 102 or 320.
A critical analysis of the political party as a part of the process of government; party organization and activities; nominating and campaign methods; theories and functions of the party system; party responsibility. The function of the two-party system in American government.

531. Political Groups and Movements (3)
Prerequisite: Political Science 101 or 102.
Pressure group activity, lobbies, mass movements; factors which explain origins and motivations of group behavior; votes, money, information, protest as political resources, theories of pluralism, power elite and mass society, class and ethnic politics.

532. The American Presidency (3)
Prerequisites: Political Science 101 and 102.
Analysis of principal institutions, functions and problems of the presidency and federal executive branch. Attention given to presidential leadership, staffing, executive-legislative relations and policy formation.

537. The Politics of Bureaucracy (3)
Prerequisite: Political Science 101 and 102.
An analysis of the bureaucracy as an actor in the political system.

UPPER DIVISION COURSES
(Intended for Undergraduates)

345. Constitutional Government (3)
Prerequisites: Political Science 101 and 102.
Constitutionalism as a concept of legal and political philosophy; foundations of American Constitutionalism as a concept of legal and political philosophy; foundations of American Constitutionalism as a concept of legal and political philosophy; foundations of American Constitutionalism as a concept of legal and political philosophy.

346. The Supreme Court and Contemporary Issues (3)
Recent decisions of the Supreme Court of the United States and their relationship to contemporary political and social issues.
354. Special Problems in Public Law (3)
Prerequisites: Political Science 101 and 102, and three upper division units within Group IV.
Intensive exploration of selected issues in the field of constitutional law.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

546. Law and the Political System (3)
Forces influencing the making of law; relationship between social and legal change; nature and limits of the judicial function.

547A-547B. American Constitutional Law (3-3)
Prerequisites: Political Science 547A is prerequisite to 547B.
Principles of American constitutional law. Includes judicial review, the federal system, the separation of powers, the nature of selected Congressional powers, and the liberties protected by the Constitution against national and state action. Meets the graduation requirement in the United States Constitution.

550. Jurisprudence (3)
Prerequisite: Political Science 101 or 102 or three upper division units within Group IV.
Theoretical foundations of law; relationship between legal and political philosophy; development of law and legal systems.

Comparative Government (Group V)

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

554. Special Problems in Public Law (3)
Prerequisites: Political Science 101 and 102, and three upper division units within Group IV.
Intensive exploration of selected issues in the field of constitutional law.

556. Governments of Continental Europe (3)
The political systems of countries of western continental Europe. (Formerly numbered Political Science 556.)

557. Government of England (3)
The structure and functioning of the English parliamentary system with emphasis on present-day political principles and parties. (Formerly numbered Political Science 557.)

559. Government of the Soviet Union (3)
Theory and practice of government in the Soviet Union, with some attention to foreign affairs. (Formerly numbered Political Science 559.)

564. Political Change in Contemporary Africa (3)
General pattern of nationalism in Africa south of the Sahara. Theories of social change and general features of contemporary African political development. (Formerly numbered Political Science 564.)

370. Political Violence (3)
Prerequisite: Political Science 101, 102 or 103.
Underlying conditions, expressions and consequences of violence within political systems.

372. Democracy and Mass Society (3)
Impact of contemporary world on processes and ideology of democracy in various national settings.

374. Special Problems in Comparative Politics (3)
Prerequisites: Political Science 101, 102, 103 and three upper division units within Group V.
Intensive exploration of selected issues in the field of comparative politics.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

555. Comparative Political Systems (3)
Prerequisite: Political Science 103.
An examination of selected political and governmental systems for purposes of comparative study and analysis to determine similarities, differences and general patterns and universals among political systems.

558. Comparative Communist Governments (3)
The interrelations between the theory and practice of modern communism as found in representative communist systems.

561. Governments and Politics of the Developing Areas (3)
Prerequisite: Political Science 101 or 103.
Internal political systems, governmental structures and the foreign policies of developing nations.

562. Governments and Politics of the Far East (3)
The internal political structure and foreign policies of China, Japan and Korea.

563. Governments and Politics of the Middle East (3)
The governmental and political structures of representative states in the Middle East including Turkey, Israel and the Arab states.

566. Political Change in Latin America (3)
Prerequisite: Political Science 101 or 103.
General pattern of politics and political development in Latin America with an emphasis on those features which condition domestic and foreign policy making.

567. Political Systems of Latin America (3)
Prerequisite: Political Science 556.
Domestic and international politics of selected Latin American states.

568. The Mexican Political System (3)
Prerequisite: Political Science 101 or 103.
Principal factors in Mexican governmental decision making. Ideology, political groups, tactics of leaders and governmental structure.

571. Seminar in Cross-national Studies (3)
Prerequisite: Any upper division course in comparative politics.
Cross-national analysis of institutional norms, attitudes and behavior in relation to government; factors which determine patterns and styles of political participation in contemporary societies.

International Relations (Group VI)

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

375. International Relations (3)
Political, economic, cultural and social forces responsible for various patterns of international conflict among nation states and other transnational actors. (Formerly numbered Political Science 375A-375B.)

376. International Organization (3)
Prerequisites: Political Science 101 and 102.
International organization both as institutions and as processes, including the United Nations, regional organizations, multinational corporations, international stratification, development of international law, international integration and disintegration. (Formerly numbered Political Science 576.)

378. The Conduct of American Foreign Relations (3)
The legal, administrative and political organizations by which American foreign policies are formulated and implemented.

381. International Relations of the Developing Nations (3)
Prerequisite: Six units of political science.
Cooperation and conflict between the developing nations and relations of such nations with the developed countries. (Formerly numbered Political Science 581.)

382. International Relations of the Latin American States (3)
The foreign policies of the Latin American states; the organization of American states; the foreign policies of the United Nations and with the United States. (Formerly numbered Political Science 582.)
390. Dynamics of Modern International Crises (3)
Prerequisite: Consent of instructor.
The determination and analysis of facts surrounding international crises since World War II; the evaluation of these crises and their effects upon external policies of the United States and the operations of the United Nations. (Formerly numbered Political Science 590.)

393. Institute on World Affairs (3)
Contemporary problems in international relations. May be repeated once for credit with permission of the instructor. See Class Schedule for specific content.

394. Special Problems in International Politics (3)
Prerequisites: Political Science 101, 102 and three upper division units within Group VI. Intensive exploration of selected issues in the field of international politics.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

577. Principles of International Law (3)
The function of law in the international community. The historical development of the ideas and rules of international law and their place in the modern diplomatic and legal structure.

579. National Security Policy (3)
Objectives, instruments and consequences of national security policy.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Portuguese
In the College of Arts and Letters

Faculty
Chair: Christensen
Assistant Professor: Silverman

Offered by the Department of Spanish and Portuguese Languages and Literatures

Minor in Portuguese.

Courses in Portuguese.
Major work in Portuguese is not offered.

Portuguese Minor
The minor in Portuguese consists of a minimum of 15 units in Portuguese; six units of which must be in upper division courses. Recommended: History 552A-552B, the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

High School Equivalents
High school foreign language courses may be used for purposes of placement in college courses and may be counted toward meeting the foreign language requirement in various majors. These high school courses will not count as college credit toward graduation.

The first two years of high school Portuguese may be counted as the equivalent of Portuguese 101; three years the equivalent of Portuguese 102; and four years the equivalent of Portuguese 201. The last year-course taken by a student in the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work.

LOWER DIVISION COURSES

Native speakers of Portuguese will not receive credit for taking lower division courses in Portuguese except with advance approval from the department.

No credit will be given for Portuguese 101, 102, 201, 202, 301, 302 taken out of sequence.

101. Elementary (4)
Four lectures and one hour of laboratory.
Pronunciation, oral practice. reading on Luso-Brazilian culture and civilization, essentials of grammar.

102. Elementary (4)
Four lectures and one hour of laboratory.
Prerequisite: Portuguese 101.
Continuation of Portuguese 101.

201. Intermediate (4)
Prerequisite: Portuguese 102.
A practical application of the fundamental principles of grammar. Reading in Portuguese of cultural material, short stories, novels or plays; oral practice. (Formerly numbered Portuguese 203.)

202. Intermediate (4)
Prerequisite: Portuguese 201.
Continuation of Portuguese 201. (Formerly numbered Portuguese 204.)

211. Conversation (2)
Prerequisite: Portuguese 202.
Practice in the spoken language; practical vocabulary; conversation on assigned topics; simple dialogues and plays. (Formerly numbered Portuguese 210.)

212. Conversation (2)
Prerequisite: Portuguese 211.
Continuation of Portuguese 211. (Formerly numbered Portuguese 211.)
299. Experimental Topics (1-4)  
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES  
(Intended for Undergraduates)

301. Advanced Oral and Written Composition (3)  
Prerequisite: Portuguese 202.  
Oral and written composition in Portuguese, based on models from modern Portuguese and Brazilian literature. (Formerly numbered Portuguese 301 A.)

302. Advanced Oral and Written Composition (3)  
Prerequisite: Portuguese 202.  
Oral and written composition in Portuguese, based on models from Modern Portuguese and Brazilian literature. (Formerly numbered Portuguese 301 B.)

496. Experimental Topics (1-4)  
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

499. Special Study (1-3) I, II  
Prerequisite: Consent of instructor.  
Individual study. Maximum credit six units.

UPPER DIVISION COURSES  
(Also Acceptable for Advanced Degrees)

534. Portuguese Literature (3)  
A study of important movements, authors and works in the literature of Portugal from its beginnings to the present.

535. Brazilian Literature (3)  
A study of the important movements, authors and works of the literature of Brazil from the colonial period to modern times.

Psychology  
In the College of Sciences

Faculty  
Emeritus: Carlson, Kidwell, McCollom, Peiffer, Steinmetz, Treat, Turner, Voeks  
Chair: Grossberg  
Professors: Alf, Bryson, J. Dicken, Feierabend, Franzini, Gallo, Graf, Graham, Grossberg, Harari, Harrison, Hillix, Hunrichs, Kaplan, O., Kass, Kinnon, Koppman, Leckart, Leukel, Levine, Litrownik, McDonald, Mollenauer, O'Day, Penn, Plotnik, Radlow, Rodin, Sattler, Schulte, Segal, Sheposh, Stevens, Yaremko  
Associate Professors: Borges, Bryson, R., DeFran, Hornbeck, Kaplan, R., Lynn, Price, Psomas, Saccuzzo, Sand, Smith, Spinetta  
Assistant Professors: Brown, Fenson, Lee, McCardick, Scollay  
Lecturer: Hillyard

Offered by the Department  
Master of Arts degree in psychology.  
Master of Science degree in psychology.  
Major in psychology with the A.B. degree in liberal arts and sciences.  
Minor in psychology.

Psychology Major  
With the A.B. Degree in Liberal Arts and Sciences  
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."  
A minor is not required with this major.  
Two plans are provided for the major in psychology: Plan A for those students who wish to extend their liberal arts education in the field of psychology; and Plan B for those students expecting to pursue the study of psychology beyond the A.B. degree.

Plan A  
Plan A is for a nonprofessional major in psychology and is designed to provide the student with a greater understanding of human behavior as the emphasis in his liberal arts education.  
The recommended pattern of courses for this program is not designed to facilitate graduate and professional study in psychology.  
Preparation for the major. Psychology 101, 210 and 260. (9 units) Recommended courses in related fields: Six units in biology and/or zoology; three units in anthropology; and six units in anthropology and/or sociology.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."  
Major. A minimum of 24 upper division units in psychology to include Psychology 330, 340, 350 and 351. It is expected that each student under Plan A will select, with the assistance of his adviser, a pattern of courses in line with his particular objectives in pursuing his liberal arts education.  
Plan A.  
To facilitate the purpose of Plan A the following courses in other departments are recommended as electives: Biology 350, 546; Economics 330; and courses in family studies and consumer sciences.

Note: At the Imperial Valley Campus, students are to select 12 units from Psychology 316, 321, 335, 366, 410, 455, 454, 481, 496, 497, 499 and 517. Other psychology courses may be substituted with the approval of the major adviser.
Plan B

The purpose of Plan B is to facilitate the specific preparation of those students who wish to pursue graduate and professional preparation in clinical, industrial, and personnel, social, and theoretical-experimental psychology. 

Preparation for the major. Psychology 101, 210, 260, and 270. (12 units.) Recommended courses in related fields: Six units in biology and/or zoology, three units in philosophy, and six units in anthropology and/or sociology.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in psychology to include Psychology 350, 405, 410; and one of the following: 411, 412, 413, 414, 415, 416, 417, 418 or 419; and ten units selected from courses in consultation with the departmental advisor.

Psychology Minor

The minor in psychology consists of 21-26 units selected from one of the following areas:

- **Experimental:** Psychology 101, 210 and 270 or equivalent; Mathematics 103; 14 units of upper division psychology to include Psychology 410 and three of the following: Psychology 316, 411, 414, 416, 417, 419, 517, 587.
- **Industrial/Organization:** Psychology 101 and 270 or equivalent; Mathematics 103; 12 units of upper division psychology to include Psychology 320, 405, and two of the following: Psychology 321, 322, 326, 342. (21-22 units.)
- **Personality and Social:** Psychology 101, 210 and 260; 12 units of upper division psychology of which nine must be selected from Psychology 330, 340, 350 and 351. (21 units.)
- **Physiological:** Psychology 101, 210, 260 and 270 or equivalent; Mathematics 103; 11 units of upper division psychology to include Psychology 410, 460* and either 413 or 481. (28 units.)

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Additional prerequisites are required for this course.

**LOWER DIVISION COURSES**

101. Introductory Psychology (3) I, II
- Facts, principles, and concepts which are basic to understanding human behavior.

110. The Evaluation of Psychological Literature (3)
- Designed to increase the nonpsychologist's ability to evaluate psychological and quasi-psychological writings. Topics include methods of generating information, concept of controlled observations, interpretation of data, pitfalls in decision making and aids to critical thinking. Practical experience in evaluation will be obtained through the criticism of current articles and other activities.

150. Psychology of Individual Adjustment (3)
- Prerequisite: Psychology 101.
- An examination and interpretation of the factors which go into the making of the person as he adapts himself to the social world about him. The development of the normal personality.

210. Principles of Learning and Perception (3) I, II
- Prerequisite: Psychology 101.
- The nature of psychological inquiry. Emphasis on principles and basic experimental data of learning and perception.

260. Introduction to Physiological Psychology (3) I, II
- Prerequisite: Psychology 101.
- Physiological mechanisms underlying the psychological phenomena of sensation, perception, emotion, motivation, learning and psychosomatic disorders.

342. Public Opinion Measurement (3) I
- The history, methods and problems of public opinion and attitude measurement. Emphasis will be placed on the polling of consumers and voters. Students will be given field experience.

347. Psychology of Contemporary Social Problems (3)
- Prerequisite: Psychology 101.
- Discussion of social issues and problems of importance to the contemporary world, from the point of view of psychological theory, method and knowledge.

350. Abnormal Psychology (3) I, II
- Prerequisite: Six units of psychology.
- The causes, symptoms, and modification of behavior disorders with emphasis on neurosis, psychosis, and personality disorder.

351. Psychology of Personality (3) I, II
- Prerequisite: Psychology 101.
- Principles of personality functioning and adaptation.

365. Drugs and Behavior (3)
- Prerequisites: Psychology 101 and 260.
- The effects of hallucinogens, tranquilizers, stimulants, alcohol and other depressants, on the nervous system, personality, and intellectual functioning.

375. Computer Methods in Psychology (3)
- Prerequisites: Psychology 101 and credit or concurrent registration in Psychology 270;
- Fundamentals of programming in "BASIC" computer language. Application to statistics and other quantitative topics in psychology.

385. Theories of Personality (3) I, II
- Prerequisites: Six upper division units in psychology to include one of the following: Psychology 330, 350, or 351.
- Theory and review of research in the area of personality.

405. Psychological Testing and Measurement (3) I, II
- Prerequisite: Psychology 270, or a semester of statistical methods in any other department.
- Measurement theory and the basic principles of testing. The selection and critical evaluation of group tests of intelligence, personality, aptitude, interest and achievement.

410. Introduction to Experimental Psychology (4) I, II
- Two lectures and six hours of laboratory.
- Prerequisites: Psychology 210 and 270.
- Understanding of experimental design, quantitative methods, and experimental reports as they are applied to all areas of psychology.

411. Experimental Psychology: Perception (4)
- Two lectures and six hours of laboratory.
- Prerequisites: Psychology 410.
- Experimental literature, assigned and original laboratory projects in the field of perception.

412. Experimental Psychology: Social (4) I, II
- Two lectures and six hours of laboratory.
- Prerequisites: Psychology 410.
- Experimental literature, assigned and original laboratory projects in the field of social psychology.

413. Experimental Psychology: Physiological (4)
- Two lectures and six hours of laboratory.
- Prerequisites: Psychology 260 or 480 or three units of biology and Psychology 410.
- Experimental literature, assigned and original laboratory projects in the field of experimental physiology. Surgical and histological techniques; control of autonomic physiological psychology. Experimental physiology and biofeedback and computerized data acquisition; includes basic electronics for biological scientists.

414. Experimental Psychology: Comparative (4)
- Two lectures and six hours of laboratory.
- Prerequisites: Psychology 410.
- Experimental literature, assigned and original laboratory projects in the field of experimental comparative psychology.
### UPPER DIVISION COURSES (Intended for Undergraduates)

#### 300. Honors Course (1-3) I, II
- **Description:** Refer to Honors Program.

#### 301-S. Contemporary Problems in Psychology (1) S
- **Description:** Lectures open to the public. A series of six weekly lectures by visiting psychologists on subjects related to current research problems. Reading and reports required of students enrolled for credit. See Class Schedule for specific content. Maximum credit three units.

#### 316. Operant Behavior (3)
- **Prerequisite:** Psychology 210.
- **Description:** Emphasis on methods of measuring attitudes, values, and behavior of people when functioning as consumers.

#### 320. Personnel and Industrial Psychology (3) I, II
- **Prerequisites:** Psychology 101, and 270 or statistics in another field.
- **Description:** Psychological principles applied to industrial problems of selection, placement and training.

#### 321. Organizational Psychology (3) I, II
- **Prerequisite:** Six units of psychology.
- **Description:** The interplay of men and organizations. Psychological literature of the individual and his motivation to work, working in groups, industrial organizations, communications and conflict in industrial organizations.

#### 322. Consumer Psychology (4)
- **Prerequisites:** Three units of psychology, and a course in statistics.
- **Description:** A review of the research literature and methods relevant to the individual as a consumer in our society. Emphasis on methods of measuring attitudes, values, and behavior of people when functioning as consumers.

#### 326. Principles of Personnel Interviewing (3)
- **Prerequisite:** Psychology 101.
- **Description:** Psychological factors in interviewing; interviewing techniques. Supervised practice in interviewing for purposes of personnel selection, appraisal and development.

#### 330. Developmental Psychology (3) I, II
- **Prerequisite:** Psychology 101.
- **Description:** The psychological development of the normal individual from conception through childhood, adolescence, maturity, and old age. Stress is laid upon the interdependence of the various periods of the individual's life. Not open to students with credit in Elementary Education 372 and Family Studies and Consumer Sciences 270.

#### 335. Psychology of Later Maturity (3) II
- **Prerequisite:** Psychology 101.
- **Description:** The psychological, physiological, and sociological factors influencing behavior in the later years of life.

#### 340. Social Psychology (3) I, II
- **Prerequisite:** Psychology 101.
- **Description:** The major problems and findings concerning group behavior and group membership, the socialization of the individual, and processes of social interaction. Not open to students with credit in Sociology 440.

---

#### 415. Experimental Psychology: Personality and Clinical (4) I, II
- **Prerequisites:** Psychology 350 and 410.
- **Description:** Experimental and theoretical literature, assigned and original laboratory projects in the field of personality and clinical psychology.

#### 416. Experimental Psychology: Learning (4)
- **Prerequisites:** Psychology 350 and 410.
- **Description:** Learning and six hours of laboratory. Experimental literature, assigned and original laboratory projects in the field of learning.

#### 417. Experimental Psychology: Primate Behavior (4) I, II
- **Prerequisites:** Psychology 350 and 410.
- **Description:** A series of six weekly lectures by visiting psychologists. Methods, techniques and principles used in the scientific study of child behavior.

#### 419. Experimental Psychology: Memory and Cognition (4)
- **Prerequisites:** Psychology 350 and 410.
- **Description:** An intensive study and evaluation of research methodology and current literature concerning the normal, abnormal, and dysfunctional processes in perception, learning, memory, and other cognitive activities.

#### 432. Advanced Developmental Psychology (3) I, II
- **Prerequisite:** Psychology 330.
- **Description:** Selected topics in the areas of infancy, childhood and adolescence.

#### 446. Advanced Topics in Social Psychology (3)
- **Prerequisites:** Psychology 210 and 340.
- **Description:** An intensive exploration of selected areas within social psychology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

#### 452. Introduction to Counseling and Therapy (3) I, II
- **Prerequisites:** Twelve upper division units in psychology to include Psychology 351 or 386 and 350.
- **Description:** Twelve upper division units in psychology to include Psychology 351 or 386 and 350. A survey of theory, methods and research in psychological approaches to personality and behavior change. Practice in basic interviewing techniques and critical analysis of interviews. Not open to students with credit in Psychology 650 or Counselor Education 660.

#### 453. Advanced Abnormal Psychology (3)
- **Prerequisite:** Psychology 350.
- **Description:** An intensive study and evaluation of research methodology and current literature concerning the neureoses, psychoses, aphasias, ataxia, mental defect, and concerning the neuropsychopharmacology.

#### 454. Mental Deficiency (3) I, II
- **Prerequisite:** Elementary Education 362 and 380.
- **Description:** One of the following: Psychology 330, Elementary Education 362 and 380.

#### 455. Psychology of Human Sexual Behavior (3)
- **Prerequisites:** Psychology 330 and 350.
- **Description:** An intensive study and evaluation of research methodology and current literature concerning the human sexual behavior, including description of available treatment methods.

#### 480. Physiological Psychology (3) I, II
- **Prerequisites:** Psychology 210 and 260 and three units of biology, or nine units of biology.
- **Description:** An evolutionary approach to the development of complex behavior in higher organisms. An evolutionary approach to the development of complex behavior in higher organisms. The neurophysiology of emotion, sleep, bodily needs, instinctive patterns of and man. The neurophysiology of emotion, sleep, bodily needs, instinctive patterns of and man. The neurophysiology of emotion, sleep, bodily needs, instinctive patterns of and man. The neurophysiology of emotion, sleep, bodily needs, instinctive patterns of and man.
416 / Psychology

461. Neural Bases of Behavior (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 260 or six units in the biological sciences, and consent of instructor.
Elements of neurology and psychobiology with emphasis on sensory, central, and motor mechanisms. (Formerly numbered Psychology 561.)

462. Neonatal Psychology (3)
Prerequisites: Psychology 260 or consent of instructor.
Study of normal and abnormal developmental processes, in a variety of species, emphasizing relations between cognition, behavior, and the environment. (Formerly numbered Psychology 472.)

463. Developmental Psychology (3)
Prerequisites: Psychology 260 or consent of instructor.
Study of normal and abnormal development over the life cycle. (Formerly numbered Psychology 480.)

464. Theories of Perception (3)
Prerequisites: Psychology 410.
Study of research and theory in the areas of sensation, perception, and attention.

466. Selected Topics in Psychology (1-4)
Prerequisites: Six units of psychology.
Intensive study in specific areas of psychology, topic to be announced in the course schedule. Maximum credit six units.

467. Senior Project (1-3)
Prerequisites: Twelve units of psychology and consent of instructor.
An individual investigation and report on a research project. Maximum credit six units.

499. Special Study (1-3)
Prerequisite: Consent of department chair.
Individual study, including library or laboratory research and a written report. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

517. Psychology of Verbal Behavior and Learning (3)
Prerequisites: Psychology 210 and 270.
Analysis of linguistic and cognitive processes within the context of social behavior. (Formerly numbered Psychology 317.)

551. Clinical Psychology: Theory and Practice (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Psychology 350, 405 and consent of instructor.
Clinical assessment, theory and practice of behavior change, and professional ethics.

570. Advanced Statistics (3) I, II
Prerequisite: Psychology 270.
Further study of quantitative methods in psychology with emphasis on methods of correlation, chi-square, and contingency, and an introduction to the analysis of variance. (Formerly numbered Psychology 470.)

571. Correlational Analysis (3)
Prerequisites: Psychology 270 and consent of instructor.
Quantitative methods in psychology with emphasis on methods of correlation, multiple correlation, partial correlation, and factor analysis.

680. History of Psychology (3) I, II
Limited to psychology majors with senior standing or graduate students.
The historical background of modern psychology.

587. Advanced Principles of Learning (3)
Prerequisites: Psychology 210, 270 and consent of instructor.
Study of verbal data, basic principles and theoretical positions of major learning theorists.

590. Special Topics in Psychology (3)
Prerequisite: Six units of psychology.
Intensive study in specific areas of psychology. Topic to be announced in the class schedule. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Public Administration and Urban Studies
In the College of Professional Studies

Public Administration and Urban Studies is a member of the National Association of Schools of Public Affairs and Administration

Faculty
Emeritus: Love
Chair: Kitchen
Professors: Bigger, Clapp, Gazell, Gilbreath, Gilchof, Kitchen
Associate Professors: Boostrom, Dutton, Hamilton
Assistant Professors: Corso, Gupta, Perez, Rea, Ross, Stock, Walshok

Offered by the School of Public Administration and Urban Studies
Master of City Planning degree.
Master of Public Administration degree.
Master of Science degree in criminal justice administration.
Major in criminal justice administration with the B.S. degree in applied arts and sciences.
(Refer to this section of the catalog on Criminal Justice Administration.)
Major in public administration with the A.B. degree in applied arts and sciences.
Minor in public administration.

Public Administration Major
With the A.B. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major. Political Science 102, Economics 101 and 102, one additional 3-unit social science course, Business Administration 210A-210B or 212, Business Administration 186, a course in statistics (3 units) and Public Administration 220. (25 units.)

Major. A minimum of 36 upper division units to include Public Administration 301, 330, 341, 350, 360, 370 or 315, 317, 318, 319 or 325, 331, 349, 497 or 498, and 18 units selected with the approval of the student's major advisor from the Public Administration faculty. Within this program, students may emphasize such areas as personnel and labor relations, urban management, urban planning, metropolitan and regional management, and management of social services. Interested students must seek guidance from the appropriate major advisor. A master plan of the courses taken to fulfill the major must be approved by a Public Administration program faculty advisor and filed with the Evaluations Office one semester before graduation.

Public Administration Minor
The minor in public administration consists of 24 units to include Political Science 102 and 103, Economics 101 and 102, one course in statistics or Business Administration 186, Public Administration 301, 310 or 312, or a course in urban planning, and one course in criminal justice administration. (24 units.)

Certificate in Public Administration
This certificate is designed primarily for persons who hold administrative or managerial experience but may be used to satisfy preparation for the major and general education requirements, if applicable.

Certificate in Public Administration
This certificate is designed primarily for persons who hold administrative or managerial experience but may be used to satisfy preparation for the major and general education requirements, if applicable.

For further information, consult the director, School of Public Administration Certificate Program.

The department's undergraduate courses fall into three main areas:

1. Criminal Justice. Most relevant are courses numbered Criminal Justice Administration 301, 310, 320, 321, 330 and 531.

14-73960
and the physical, economic, social and political dimensions of contemporary American cities utilizing a multidisciplinary approach.

441. Mathematical Notation in Public Administration (3) I, II
Prerequisite: Public Administration 301.
Mathematics and mathematical notation for analysis of public administration systems. Use of public administration literature to define and illustrate utilization of mathematical forms and expressions.

LOWER DIVISION COURSES

220. Administrative Report Writing (3)
Study and practice of various methods used to develop effective writing skills applicable to communication in the public sector. This course will not satisfy the general education requirement in English composition.

UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

510. Intergovernmental Relations in the United States (3) II
Prerequisite: Public Administration 310 or 312 or 315. Constitutions, political and administrative characteristics of American federalism, including regionalism, interstate compacts, and grants-in-aid.

512. The Metropolitan Area (3) I, II
Prerequisite: Public Administration 310 or 312. Problems of government and administration arising from population patterns and physical and social structures of metropolitan areas.

520. Decision Making in the Urban Community (3) I, II
Prerequisite: Public Administration 310. Processes of decision making in the management of urban communities.

530. Negotiation and Bargaining in the Public Service (3)
Prerequisite: Public Administration 301. Specific issues such as the effects of threat, the physical setting, use of a third-party observer and theories of advocacy. Emphasis on analyzing simulations of the bargaining process and developing effective negotiation skills.

531. Governmental Employer-Employee Relations (3) I, II
Prerequisite: Public Administration 330. Emphasis on California local government employment-employer relationships; emphasis on collective bargaining.

540. Public Administrative Systems Analysis (3)
Prerequisites: Public Administration 301 and a statistics course. Systems and organization analysis, work standards and units, procedures analysis, administrative planning.
570. Administrative Law (3) II
Prerequisite: Public Administration 301.
The law of public office and public officers, powers of administrative authorities, scope and limits of administrative powers, remedies against administrative action. (Formerly numbered Public Administration 470.)

580. Comparative Public Administration (3) II
Prerequisite: Public Administration 301.
Administrative organization and process of selected foreign and American governments. Analysis of the cultural basis of administrative systems.

GRADUATE COURSES
For graduate courses in Public Administration and Urban Studies and City Planning, refer to the Graduate Bulletin.

Recreation Administration Major
With the A.B. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
The major in recreation administration may be planned with an emphasis in one of the following four areas: (1) Youth-Family Agency Leadership, (2) Outdoor Recreation, (3) Park and Recreation Management, or (4) Recreation Rehabilitation.
A minor is not required with this major.

Emphasis in Youth-Family Agency Leadership
Preparation for the major. Recreation 101, 104, 107, 110, 208, 284; Physical Education 141; Psychology 101; Sociology 101; Speech Communication 191. (29 units)
Major. A minimum of 40 upper division units to include Recreation 340, 464, 465, and 484 or 498; Health Science and Safety 330; Industrial Arts 301; Journalism 480; Psychology 330; nine units selected from Psychology 340, 347, 351, 454; Sociology 513, 514, 525, 557; and eight units selected from Recreation 351; 485, 548, 549, 575; Art 387; Drama 310; Industrial Arts 402; Music 344, 345; Physical Education 322, 341C, 3450, 3451, 345J.

Emphasis in Outdoor Recreation
Preparation for the major. Recreation 101, 104, 110, 205, 284; Biology 100, 101L, 130; Geography 101; Geological Sciences 100, 101, 107. (29 units)
Major. A minimum of 36 upper division units to include Recreation 465, 485, 486, 575; Geography 370, 575; Health Science and Safety 330; Zoology 314; and 12 units selected from Anthropology 441; Biology 320, 526; Botany 312; Business Administration 350, 351; Journalism 480; Psychology 340; Recreation 484, 498, 548, 549; Zoology 430, 517, 518.
*Prerequisite of Recreation 107 waived for students in this major.

Emphasis in Park and Recreation Management
Preparation for the major. Recreation 101, 104, 107, 110, 284; Psychology 101; Sociology 101; six units selected from Art 101; Business Administration 210A, 290; English 100 or 101; Economics 100; Music 102; Physical Education 132A, 133A, 133B; Political Science 103; Recreation 208; Speech Communication 191. (27 units)
Major. A minimum of 38 upper division units to include Recreation 340, 465, 484 or 498, 575; Journalism 480; Public Administration 301, 310; 12 units selected from Industrial Arts 301, 310; 12 units selected from Industrial Arts 301; Psychology 330; Public Administration 320, 330, 431, 450; Sociology 514, 525, 557; six units selected from Botany 312; Geography 370, 371, 575; Health Science and Safety 330; History 540; Recreation 351, 361, 485, 548, 549.
Emphasis in Recreation Rehabilitation

PREPARATION FOR THE MAJOR: Recreation 101, 104, 107, 110, 208, 284; Business Administration 290; English 100 or 101; Physical Education 138; Psychology 101; Speech Communication 191; Zoology 108. (35 units.)

MAJOR: A minimum of 42 upper division units to include Recreation 351, 361, 371, 452, 465, 498 (12 units); Biology 362; Health Science and Safety 330; and nine units selected from Recreation 340, Drama 310; Journalism 480; Music 344; Physical Education 322, 341A, 341B, 345D, 345E, 345F; Psychology 330, 335; Sociology 523, 527.

Recreation Minor

The minor in recreation consists of a minimum of 23 units in recreation to include Recreation 101, 104, 107, 110, 208, 340, 465, and three units selected from Recreation 101, 148, 548, 549, 575.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. Community Recreation (3) I, II
Scope of community recreation; basic philosophy of leisure time agencies; organizations for youth; program planning; playground practices; basic systems of organizational and policy formation.

104. Challenges of Leisure (3) I, II
Study of leisure and its impact on contemporary life; issues affecting recreation in today's urbanized society.

107. Recreation Leadership (3) I, II
Two lectures and three hours of laboratory.
Program planning, principles of group leadership, conduct of social recreation, low organized games and special events, playground management.

110. Camp Leadership (3) I, II
Principles of camp counseling and campcraft skills. Practical sessions aimed at preparing leaders for all aspects of organized youth camping. Required attendance at two week-end outings.

205. Wilderness and the Leisure Experience (3) I, II
Use and abuse of natural resources for recreational purposes. Firsthand study of the effects of increased leisure on wilderness areas. Field experiences required.

208. Recreational Arts (3) I, II
Two lectures and three hours of laboratory.
Theory and practice in activity areas such as elementary handicrafts, puppetry, song leading, rhythmics, recreational dramatics and storytelling.

284. Supervised Field Work (3) I, II Cr/NC
Prerequisites: Credit or concurrent enrollment in Recreation 107 and 275 hours experience in recreation leadership.
Observation and participation in community recreation leadership. Practical experience in a variety of recreational settings. Minimum of one hour per week in class plus eight hours per week at an agency.

UPPER DIVISION COURSES

(2) I, II
Two lectures plus outside practical experience in the conduct of recreational sports programs.
Organization of competition, community sports programs, administration of intramural athletics, and techniques of officiating.

300. Honors Course (1-3) I, II
Refer to Honors Program.

340. Conduct of Recreational Sports (2) I, II
Two lectures plus outside practical experience in the conduct of recreational sports programs.

351. Recreation for Special Populations (3) I, II
Two lectures and three hours of laboratory.
Analysis of the sociopsychological aspects of special populations and their implications for leisure time pursuits. Field experience is included.

352. Clinical Methodology of Recreation Therapy (3) I, II
Prerequisites: Recreation 350, 351. 371
Integration and application of clinical principles and therapeutic procedures. Emphasis on methodology and refinement of skills.

353. Administrative Supervision of Recreation Therapy (3) I, II
Prerequisites: Recreation 101, 284.
Administrative, personnel, and supervisory responsibilities in supervision of recreation therapy programs. Field experience in community recreation and training centers.

354. Recreational Leadership (3) I, II
Prerequisites: Recreation 101, 284.
Supervised leadership experience in public and private recreation agencies. Maximum credit six units.

355. Non-Urban Recreation Resources (3) I, II
Nature and scope of recreation in nonurban areas. Public demand for recreation and its impact on natural resources. Management, planning, research and operation of regional and national park and recreation areas.

356. Interpretative Techniques in Outdoor Recreation (3) I, II
Prerequisites: Consent of special study adviser. Individual study. Maximum credit six units.

357. Planning and Administration (3) I, II
Prerequisites: Recreation 101, 284.
Planning and administration of recreation programs. Field experience in community recreation and training centers.

358. Internship in Recreation Administration (6) I, II, S Cr/NC
Minimum of 40-40 laboratory hours per week.
Prerequisites: Fifteen units in recreation courses including Recreation 465.
Students will be assigned to various governmental and private agencies conducting recreation programs. Variety of experiences in supervision and administration. An intensive experience supervised by college and agency personnel. Maximum credit twelve units.

359. Special Study (1-3) I, II
Prerequisites: Consent of special study adviser. Individual study. Maximum credit six units.

UPPER DIVISION COURSES

(ALSO ACCEPTABLE FOR ADVANCED DEGREES)

448. Aquatic Administration (3)
Management of swimming pools, beaches, lakes and marinas; safety factors; legal requirements; health standards; facilities and programming. (Formerly numbered Recreation 448.)
549. Camp Administration (3)  
Prerequisite: Recreation 110.  
Operation of resident, day, and travel camps. Staff management, health and safety, finances, food services, maintenance, planning, and publicity. (Formerly numbered Recreation 449.)

575. Management of Recreation Areas and Facilities (3) I, II  
Prerequisite: Recreation 455.  
Role of the recreation administrator in the planning, acquisition, development, financing, staffing, and maintaining of recreational lands, waters, and structures. Use of natural and man-made resources in the environment. (Formerly numbered Recreation 475.)

580. Leisure and the Aging Process (3)  
Concepts of the relationship between leisure and gerontology are examined. Influence of leisure and recreation on work and life satisfaction of older adults.

GRADUATE COURSES  
Refer to the Graduate Bulletin.

Religious Studies  
In the College of Arts and Letters

Faculty  
Chair: Downing  
Professors: Anderson, Friedman, Jordan  
Associate Professors: Downing, Khalil, Sparks, Szyhart  
Lecturers: Berthrong, Hamdoun, Sizer

Offered by the Department  
Major in religious studies with the A.B. degree in liberal arts and sciences.  
Teaching major in social science (emphasis in religious studies) for the single subject teaching credential. Refer to section on Social Science.

Minor in religious studies.

Religious Studies Major  
With the A.B. Degree in Liberal Arts and Sciences  
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."  
A minor is not required with this major.

Preparation for the major. Religious Studies 101, 201; Philosophy 101 or 102. (9 units.)

Foreign Language Requirement. Competency equivalent to that which is normally attained through three consecutive semesters of college study is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in religious studies to include either Religious Studies 301 or 305, at least three units from courses listed in Western Religious Traditions below, at least three units from Eastern Religious Traditions, at least three units from Religion and Culture, and Religious Studies 498. Six of the 24 upper division courses required for the major may be taken from those courses other than religious studies courses which are included in Religion and Culture below.


(Anthropology 424, Philosophy 535, Sociology 538 may be substituted with permission of department chair. These courses have prerequisites for which no religious studies credit is given.)

Religious Studies Minor  
For the Single Subject Teaching Credential in Social Science  
For a description of the social science major for the single subject teaching credential with an emphasis in religious studies, refer to this section of the catalog under Social Science.

Religious Studies Minor  
The minor in religious studies consists of a minimum of 15 units to include at least three lower division units in religious studies, and 12 units from one of the three areas listed below.

Western Religions: Religious Studies 301 or 305, 310, 312, 314, 316, 318, 330, 340, 520, 522.


(Anthropology 424, Philosophy 535, Sociology 538 may be substituted with permission of department chair. These courses have prerequisites for which no religious studies credit is given.)

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.
LOWER DIVISION COURSES

101. World Religions (3) I, II
  Major figures, attitudes and teachings of world religions. (Formerly numbered Religious
  Studies 100.)

201. Ways of Understanding Religion (3)
  Examples of major approaches to study of religious phenomena, and central issues in
  methodology. (Formerly numbered Religious Studies 200.)

299. Experimental Topics (1-4)
  Selected topics. May be repeated with new content. See Class Schedule for specific
  content. Limit of nine units applicable to a bachelor's degree in courses under this number of
  which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Intended for Undergraduates)

300. Honors Course (1-3) I, II
  Refer to Honors Program.

301. Hebrew Scriptures (3) I, II
  Prerequisite: Three units of religious studies.
  Readings in patristic thought from Ignatius of Antioch through Augustine.

305. New Testament (3) I, II
  Prerequisite: Three units of religious studies.
  The problems of composition and historical significance in the context of religious
  meanings.

310. Greek and Latin Fathers (3)
  Prerequisite: Three units of religious studies.
  Readings in patristic thought from Ignatius of Antioch through Augustine.

312. The Eastern Orthodox Tradition (3)
  Prerequisite: Three units of religious studies.
  Major doctrines, practices and developments in the Eastern Church from the Patristic
  period to the present.

314. Medieval Western Christianity (3)
  Prerequisite: Three units of religious studies.
  Readings in source materials illustrative of the doctrinal and institutional development of
  the Western Church during the medieval period to early stages of the Reformation.

316. The Reformation and Beginnings of Modern Christianity (3)
  Prerequisite: Three units of religious studies.
  Readings in source materials illustrative of the doctrinal and institutional development of
  the Western Church during the Reformation and the Enlightenment.

318. Recent Christianity (3)
  Prerequisite: Three units of religious studies.
  Themes in the development of Christian institutions and doctrines in the 19th and 20th
  centuries.

330. Topics in Judaism (3)
  Prerequisites: Religious Studies 101, 201, 301.
  Selected topics such as early Hebrew religion, medieval religious thought, mysticism,
  modern Judaism from the emancipation to the Holocaust, contemporary thought. May be
  repeated with different content for up to six units. See Class Schedule for specific content.

331. The Talmudic Period (3)
  Background and development of Talmudic literature emphasizing the history of the literary
  process; the Mishnah and the Gemara; ethical and legal textual materials in translation.

340. Islam (3)
  Prerequisite: Three units of religious studies.
  Major doctrines, practices and developments from the time of Mohammed to the present.

350. Dynamics of Religious Experience (3)
  Prerequisite: Six units in humanities or social sciences.
  Chief data and major approaches in the study of individuals' religious behavior and
  experiences. Special attention to relevant problems in world religions and philosophical views
  of man.

351. Theory and Practice of Worship (3)
  The symbolic structure of devotional performance.

353. The Human Dimension of Religion and Psychology (3) I
  Prerequisite: Three units of religious studies.
  The meeting of religion and psychology. Selected religious thinkers and selected
  psychologists and personality theorists from the psychoanalytic, behavioral and humanist
  traditions. May be repeated with new content. See Class Schedule for specific content.
  Maximum credit six units. (Formerly numbered Religious Studies 353A-353B.)

354. Religion and Society (3)
  Prerequisite: Three units of religious studies.
  Theological and religious interpretations of the social dimension of human existence.
  Critique of social science inquiry into traditional and contemporary forms of religious life.

360. Religion, Music and the Plastic Arts (3)
  The relations between religion, music, painting, sculpture and other visual arts in major
  cultural traditions.

361. Religion, Literature and Drama (3)
  The relations between religion, literature and drama in major cultural traditions.

363. Religion and Science (3)
  Prerequisite: Religious Studies 101 or 201.
  A critical exploration of the relation of science to religious conceptions of human nature
  and destiny.

365. Religion and Ethical Problems (3)
  Prerequisite: Three units of religious studies.
  A critical exploration of the modern understanding of scriptural traditions in relation to
  individual and social ethical concerns.

480. Ways of Spiritual Transformation (3)
  Doctrines and practices of metaphysical self-transformation; studies in readings selected
  from various world religions.

496. Experimental Topics (1-4)
  Selected topics. May be repeated with new content. See Class Schedule for specific
  content. Limit of nine units applicable to a bachelor's degree in courses under this number of
  content. No more than three units may be applicable to general education requirements.

498. Senior Project (3)
  Prerequisites: Twelve upper division units in religious studies with at least three units from
  Western Religious Traditions, three units from Eastern Religious Traditions, and three units
  from Religion and Culture.
  Individual conference and project plus seminar workshop in the comparative study of
  religious practices, doctrines, themes (such as religious ethics, mysticism),
  phenomenological studies in religions, etc.

499. Special Study (1-3) I, II
  Prerequisite: Twelve upper division units in religious studies.
  Individual study. Maximum credit six units.

UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

501. Religions of India (3)
  Prerequisite: Three units of religious studies.
  Phenomenological studies in the major religious traditions of India, especially Hinduism
  and Buddhism.
503. Religions of the Far East (3)
Prerequisite: Three units of religious studies.
Phenomenological studies in the major religious traditions of East Asia, especially China and Japan.

506. Scriptures of India (3)
Prerequisite: Three units of religious studies.
The religious and philosophical modes of thought and ways of life in India as reflected in major scriptures; reading and analysis of primary texts in translation.

508. Scriptures of Far Eastern Traditions (3)
Prerequisite: Three units of religious studies.
The religious and philosophical modes of thought and ways of life in East Asia, especially China and Japan; reading and analysis of primary texts in translation.

518. The Oracular Tradition (3)
Prerequisite: Three units of religious studies.
Oracular traditions of East and West, with special attention to the I Ching and the Tarot.

520. Religious Consciousness in American Society (3)
Prerequisite: Three units of religious studies.
Critical investigation of the traditions which have helped to shape religious pluralism within American society.

522. Religion in America (3)
Prerequisite: Three units of religious studies.
Selected topics in religion in America, such as Deism, transcendentalism, pragmatism, church-state relations, Jewish identity, etc. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

524. Religion and Public Education (3)
Prerequisite: Valid teaching credential or enrollment in a credential program.
Examination of federal and state legislation and guidelines of boards of education affecting the teaching about religion in the public schools. Teaching materials and curriculum will be evaluated in the light of these contexts.

580. A Major Figure (3) I, II
Prerequisite: Three units of religious studies.
Life, works and significance of one major figure in a religious tradition. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

581. A Metaphysical Doctrine (3) I, II
Prerequisite: Philosophy 102, Religious Studies 101 or 201, and three upper division units in religious studies.
Systematic study of a selected theme or problem basic to the teachings of one of the major religious traditions. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

---

**Russian Major**

**With the A.B. Degree in Liberal Arts and Sciences**

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." Students majoring in Russian must complete a minor in another field to be approved by the departmental adviser in Russian.

**Preparation for the major.** Russia 101, 102, 201, 202, 211 and 212. (20 units)

**Foreign Language Requirement.** The foreign language requirement for graduation is automatically fulfilled through course work for preparation for the major.

**Major.** A minimum of 24 upper division units in Russian to include Russian 301, 302, 305A-305B; and 12 units in period literature, or six units in period literature and six units in Russian linguistics.

**Russian Minor**

For the Single Subject Teaching Credential in Foreign Languages

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education.

**For the A.B. degree in liberal arts and sciences.** A minor in another field approved by the departmental adviser in Russian is required for the degree.

**Preparation for the major.** Russia 101, 102, 201, 202, 211, and 212. (20 units)

**Proficiency Examination:** Before taking a student teaching assignment in Russian, the candidate for the credential may be required to pass an oral and written proficiency examination in the language, administered by the Department of Germanic and Slavic Languages and Literatures. The candidate must consult with the chair of the Department of Germanic and Slavic Languages and Literatures concerning this examination.

---

**High School Equivalents**

High school foreign language courses may be used for purposes of placement in college and may be counted toward meeting the foreign language requirement in various majors. These high school courses will not count as college credit toward graduation. The first two years of a high school Russian may be counted as the equivalent of Russian 101, 102; and four years of the equivalent of Russian 201, 202. The last year course taken by a student in the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work.
LOWER DIVISION COURSES

Native speakers of Russian will not receive credit for taking lower division courses in Russian except with advance approval from the department.

No credit will be given for Russian 101, 102, 201, 202, 301, 302 taken out of sequence.

101. Elementary (4) I, II
Four lectures and one hour of laboratory.
Prerequisites: Russian 101.
Not open to students who have completed three years of high school Russian.

102. Elementary (4) I, II
Four lectures and one hour of laboratory.
Prerequisite: Russian 101.
Continuation of Russian 101. Not open to students who have completed four years of high school Russian.

201. Intermediate (4) I
Prerequisite: Russian 102 or three years of high school Russian.
Practical application of the basic principles of the language. Oral practice, reading in Russian of cultural material. (Formerly numbered Russian 203.)

202. Intermediate (4) II
Prerequisite: Russian 201.
Continuation of Russian 201. (Formerly numbered Russian 204.)

211. Conversation (2) I
Prerequisite: Russian 102 or three years of high school Russian.
Practice in the spoken language with emphasis on the articulation of Russian sounds; practical vocabulary; conversation on everyday cultural topics. (Formerly numbered Russian 210.)

212. Conversation (2) II
Prerequisite: Russian 201 or 211, or four years of high school Russian.
Continuation of Russian 211. (Formerly numbered Russian 211.)

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

555A-555B. The Russian Short Story, Drama and Poetry of the Nineteenth Century (3-3)
Development of the Russian short story, drama and poetry of the nineteenth century.

561A-561B. The Russian Novel of the Nineteenth Century (3-3)
Development of the Russian novel of the nineteenth century.

563. Russian Literature of the Twentieth Century (3)
Poetry, prose and drama of the twentieth century.

570. Slavic Linguistics (3)
Prerequisites: Russian 202 and 212.
Structural and comparative Slavic linguistics.

580. Russian Syntax and Stylistics (3)
Prerequisites: Russian 202 and 302.
The structure of contemporary Russian.

581. Russian Phonetics and Morphology (3)
Prerequisites: Russian 202 and 212.
The sounds and forms of contemporary Russian.

GRADUATE COURSES

Refer to the Graduate Bulletin.
Major. A minimum of 30 upper division units, selected with the consent of the adviser, to include at least 15 units in anthropology, economics, geography, history, political science or religious studies, or a combination of 15 units in art, comparative literature and religious studies. Required courses: Anthropology 449 or 474 or 479; Economics 469; Geography 335; six units from History 573A, 573B, 574, 575A and 575B; and Political Science 364 or 563. In addition, the following courses are recommended: Anthropology 330, 424, 426, 429, 522; Art 566, 568, 569, 570; Comparative Literature 535; Economics 365, 489; History 505, 539A-539B; Political Science 381, 561; Religious Studies 312, 330, 340.

Emphasis in Environment

The advisers for this emphasis are Dr. Warren Johnson, Department of Geography, and Dr. Douglas Strong, Department of History.

Preparation for the major. Biology 100 and 100L, a six-unit sequence in each of three of the following fields: (1) anthropology, (2) economics, (3) geography, (4) history, (5) political science, and (6) sociology. (22 units) Courses recommended for these sequences are as follows: Anthropology 101 and 102, Economics 101 and 102, Geography 101 and 102, History 105A-105B or 110A-110B or 115A-115B, Political Science 101 and 102, Sociology 101 and 110. Additional recommended courses include Biology 130 and Geological Sciences 100 and 101.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section on catalog on "Graduation Requirements."

Social Science Major

For the Single Subject Teaching Credential

All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education. This major may be used by students in teacher education as an undergraduate major for the A.B. degree in liberal arts and sciences.

Preparation for the major. Mathematics 119 or other statistics course offered for a social science department; a six-unit sequence in each of three of the following fields to be selected from the courses indicated: (1) Anthropology 101, 102; (2) Economics 101 and 102; (3) Geography 101, 102; (4) History 105A-105B, 110A-110B, 115A-115B; (5) Mexican-American Studies 110A-110B, 115A-115B; (6) Political Science 101, 102, 103; (7) Sociology 101, 110. Social Science 105A may be substituted for one of the three-unit courses except in the area of upper division concentration. Statistics courses taken in a social science department may not be used in fulfillment of that department's six-unit sequence.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section on catalog on "Graduation Requirements."

Spanish is recommended for those planning to work in this part of the United States. A minor is not required with the major. Students in this major may wish to consider a minor in Jewish Studies.
Preparation for the major: Anthropology 102; six units selected from economics, Sociology 101; Psychology 101; Social Welfare 110, 120. (21 units) Recommended: Biology 100 and 101.

Foreign Language Requirement for Liberal Arts and Sciences only. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."


Recommended: Biology 362 and 462L, Psychology 330, Sociology 422, and courses from anthropology, literature, history, philosophy, political science, economics, psychology and sociology. Students should consult with their adviser in social welfare for selection and arrangement of courses.

Social Welfare Minor

The minor in social welfare consists of 24 units to include Social Welfare 110, 120; Sociology 101; Psychology 101; and Social Welfare 360A, 370A, 381, 496 or 499. Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

Human Services Paraprofessional Certificate Program

This certificate is designed primarily for indemnified ex-offenders and ex-substance abusers who seek paraprofessional positions in human services. A certificate in human services paraprofessional may be sought by ex-offenders and ex-substance abusers who:

(a) do not meet the prerequisite requirements for a major in social welfare for the A.B. degree, but who are interested in pursuing a paraprofessional career in human services;
(b) are not interested in or able to complete non-professional offerings which are part of the regular degree program;
(c) have already earned a bachelor's degree and are not interested in pursuing a second degree.

Students who meet these criteria may be admitted to the certificate program.

Student must apply to the program as well as to the university. Candidacy for the certificate program will be established by the Coordinator of the Undergraduate Social Welfare Program.

Awards of the certificate requires completion of an approved pattern of ten courses (30 units) with a minimum grade point average of 2.0, to include Social Welfare 360A, 381, 382, 489A-490B. Course offerings under this program may only be taken in the on-campus program. All students must complete Social Welfare 381 Seminar in Basic Skills in Assessment and Interviewing before taking Social Welfare 482A and 489A for 482B.

LOWER DIVISION COURSES IN SOCIAL WELFARE

110. Human Societies and Social Problems (3) I, II
Perspectives on problems of human societies and their relation to contemporary social problems and issues. Emphasis on sociological problems and forms of stratification. Not open to students with credit in Sociology 110 or Mexican-American Studies 110A-110B.

120. Explorations in Human Services (3) I, II
Two lectures and three hours of field work. Orientation to the field of human services. Readings, class discussions and participation in social welfare activities on campus and in the community. Work as a volunteer in the agency is required in a variety of field settings. Scheduling is flexible.

130. Marriage and Contemporary Human Relationships (3) I, II
Developing understanding and ability to evaluate various concepts, attitudes and value systems as they relate to marriage and other contemporary human relationships. This course is open to students with credit in Family Studies and Consumer Sciences 135.

299. Experimental Topics (1-4) CR/NC
Selected topics. May be repeated with content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES IN SOCIAL WELFARE

(350. Cultural Pluralism (3) I, II
Understanding of the American society as a culturally pluralistic social process and an understanding of social work as a culturally directed profession with emphasis on the concept of cultural identities created by one's values, ideologies, knowledge and behavior.

351. Perspectives on Life in Urban Communities (3) I, II
Characteristics and processes of contemporary urban communities as they shape the lifestyle of people. Urban communities examined in terms of their functional and dysfunctional capacities for meeting human needs.

360A. Perspectives on Human Behavior (3) I, II
Prerequisites: Psychology 101 and Sociology 101. Interdisciplinary, comparative, and critical approach to explanatory theories of human behavior. Focus on interrelatedness of factors that affect the nature and quality of human life with linkage to the social welfare of individuals, families and communities.

360B. Perspectives on Behavioral and Social Change (3) I, II
Change mechanisms affecting individuals, families, and communities. Course is interdisciplinary and comparative. Examines the role of situational contexts giving rise to the need for change, and methods employed to alter behavior or social systems.

370A. Social Policies and Social Issues (3) I, II
Prerequisites: Social Welfare 110 or Sociology 110 or Mexican-American Studies 110A-110B; Social Welfare 120.

370B. Social Policy and Program Evaluation (3) I, II
Prerequisite: Social Welfare 370A.

378. Seminar in Basic Skills in Social Work Practice (3) I, II
Prerequisite: Social Work 381.

381. Seminar in Intermediate Skill Development for Social Workers (3) I, II
Prerequisite: Social Work 381.

482A-482B. Social Work Practice (3-3) I, II
Prerequisites: Social Welfare 360B, 370B, 381 and a 2.0 grade point average in all junior level social welfare courses required in the major; concurrent registration in Social Welfare level social welfare courses required in the major; concurrent registration in Social Welfare 482A and 489A for 482B.

483A-483B. Integrating Seminar (3-3) I, II
Prerequisites: Social Welfare 380B and 370B and a 2.0 grade point average in all junior level social welfare courses required in the major; concurrent registration in Social Welfare level social welfare courses required in the major; concurrent registration in Social Welfare 482A and 489A for 483A;

483A and 489A for 483B; concurrent registration in Social Welfare 482B and 489B for 483B.

The integration of social work theory, principles and practice techniques.
489A-489B. Field Experience in Social Welfare (3-9, 3-9) I, II
Prerequisites: Social Welfare 3608 and 3708; arrangement in prior semester with Undergraduate Field Coordinator; and a 2.0 grade point average in all junior level courses required in the social welfare major. Concurrent registration in Social Welfare 482A and 483A for 489A; concurrent registration in Social Welfare 482B and 483B for 489B. A minimum of twelve units in Social Welfare 489A-489B (sixteen hours per week for two semesters or equivalent in the senior year) of practice field assignments in selected social welfare agencies or settings. Three units by permission of Chairman of Department.

490A-490B. Methods of Social Work Research (3-3) I, II
Prerequisites: Social Welfare 3606 and 3708. Definition and purpose of research in social welfare and social work. Formulation of research problems, selecting a design and methodology, techniques of collecting, organizing, interpreting and analyzing data.

49B. Experimental Topics (1-4) Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

497. Investigation and Report (3) I, II
Prerequisite: Consent of instructor. Analysis of special topics in social welfare.

499. Special Study (1-3) I, II Cr/NC
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

520. Seminar in Contemporary Issues and the American Family (3)
Prerequisite: Upper division, undergraduate social welfare major; or classified graduate standing in the School of Social Work; or classified graduate standing in other programs of study and unclassified standing with the consent of the director. Explores and analyzes a myriad of areas within the context of change of the family as a social institution. The family is viewed systemically. Such factors as industrialization, cybernetics and the changing nature of the marital bond are included.

530. Seminar in History of Social Work (3)
Prerequisite: Upper division, undergraduate social welfare major; or classified graduate standing in the School of Social Work; or classified graduate standing or unclassified standing with consent of the director. Development of social welfare institutions as a function of industrial society in America. Historical trends in politics, economics, migration, and life styles are examined in relation to the development of social institutions for responding to human need including the development of the profession of social work.

540. Seminar in Social Effects of the Legal Process (3)
Prerequisite: Upper division, undergraduate social welfare major; or classified graduate standing in the School of Social Work; or classified graduate standing or unclassified standing with consent of the director. Structure and functions of law as it bears upon such groups as defendants in criminal prosecutions, recipients of welfare programs, conservatees in mental health hearings, children in juvenile court dependency proceedings. The legal conflicts social workers may encounter between their ethics and their duties to clients and agency. The relationship between the development of social policy and its actual implementation through program development and delivery of human services. Administrative actions including decision making, communication with regulatory and legislative bodies, and budget development are considered in the ways that policy is shaped and reflected through social programs.
Sociology

In the College of Arts and Letters

Faculty
Emeritus: Bamhart, Kirby, Klapp, Milne, Somerville
Chair: Weeks
Professors: Cottrell, Daniels, Delora, El-Assal, Gillette, Johnson, Mouratides, Sandlin, Schulze, Sorensen, Wendling, Winslow
Associate Professors: Bloomberg, Buck, Chandler, Emerick, Hohm, Kennedy, Scheck, Weeks, Werner, Wood
Assistant Professors: Barclay, Gay, Ima, Kirkpatrick, Kolody, Preston, Robinson, Sanders, Schmidt, Stephenson
Lecturer: Clanton

Offered by the Department
Master of Arts degree in sociology.
Major in sociology with the A.B. degree in liberal arts and sciences.
Minor in sociology.

Sociology Major

With the A.B. Degree in Liberal Arts and Sciences

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

Students majoring in sociology must complete a minor in another field.

Preparation for the major. Sociology 101, 110 and 201. (9 units)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in sociology to include three units in theory (400, 401 or 403); three units in research methods (460, 464 or 465); three units in Social Psychology 440; and three units in Social Organization (404, 422, 424 or 432).

Sociology Minor

The minor in sociology consists of 15-21 units, twelve of which must be in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."

Students majoring in sociology must complete a minor in another field.

Preparation for the major. Sociology 101, 110 and 201. (9 units)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units in sociology to include three units in theory (400, 401 or 403); three units in research methods (460, 464 or 465); three units in Social Psychology 440; and three units in Social Organization (404, 422, 424 or 432).

UPPER DIVISION COURSES

(7)

Sociology of Organizations and Institutions: Prerequisites: Sociology 101*, 201. Sociology 400, 401, 403, 405.

Power Relations and Inequality: Prerequisites: Sociology 101*, 201. Sociology 422, 440. Sociology 424, 512, 525, 533, 537, 546, 547, 557. (Sociology 422 is prerequisite to 537; Sociology 440 is prerequisite to 546)

Social Change: Prerequisites: Sociology 101*, Sociology 404, 406, 506, 508, 519, 546, 547, 550, 557. (Sociology 440 is prerequisite to 546).

Deviance and Criminology: Prerequisites: Sociology 101*, Sociology 440, 510, 512, 513, 514, 523.

Health and Illness: Prerequisites: Sociology 101*, Sociology 510, 523, 526, 527, 528, 534, 550.

Sociology of Organizations and Institutions: Prerequisites: Sociology 101*. Sociology 422, 432, 440, 520, 521, 538, 539, 548. (Sociology 440 is prerequisite to 548).

Social Interaction and Intimate Relations: Prerequisites: Sociology 101*, Sociology 440, 533, 534, 535, 536, 548. (Sociology 440 is prerequisite to 548).

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. Introductory Sociology (3)

This course is prerequisite to all upper division courses in sociology. Basic Theoretical perspectives, concepts, and methods of sociology applied to analysis of social issues and processes. Selected topics include, e.g., social stratification, social organization, minority-majority relationships, social change, deviant behavior.

105. Sociological Laboratory I (1)

Three hours laboratory. Prerequisite: Must be taken in conjunction with a three-unit lower division course. Application of experimental, quantitative and qualitative methods to sociological problems and the use of experimental, social simulation teaching techniques.

110. Contempo/ary Social Problems (3)


164. Sociological Analysis (3)

Prerequisite: Sociology 101. Development and use of fundamental procedures of sociological investigation.

201. Elementary Social Statistics (3)

Prerequisites: Sociology 101 and Mathematics 103 at this University or qualification on the Mathematics Placement Examination. Analysis and presentation of elementary materials in the fields of sociology and social work. Tabular and graphic presentation, analysis of frequency distribution, trends, simple correlation, sampling and reliability techniques. Not open to students with credit or concurrent registration in another course in statistics. (Formerly numbered Sociology 160)

299. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of content. No more than three units may be applicable to general education requirements.

300. Honors Course (1-3)

Refer to Honors Program.

400. History of Social Thought (3)

Prerequisite: Sociology 101. Development of social thought prior to the appearance of sociology as a distinct scientific discipline. Major emphasis on European contributions.

401. Classical Sociological Theory (3)

Prerequisite: Sociology 101. Theories of the major early European and American sociologists, including Marx, Weber, Durkheim, Pareto, Cooley, Mead and others.

403. Contemporary Sociological Theory (3)

Prerequisite: Sociology 101. Types and trends of contemporary sociological theory. Selected theoretical works.

404. Social Change (3)

Prerequisite: Sociology 101. Social change at the interpersonal, institutional and societal levels in a comparative perspective. Detailed analysis of modernization.

405. Sociological Laboratory II (1)

Three hours of laboratory. Prerequisite: Must be taken in conjunction with a three-unit upper division course. The application of experimental, quantitative and qualitative methods to sociological problems and/or the use of experimental, social simulation teaching techniques.
406. Science, Technology and Social Dynamics (3)
Science and technology in social change. Case studies from preindustrial and early industrial societies. Effect of science and technology on contemporary social organization in developing and developed nations and implications for future.

422. Social Organization (3)
Prerequisite: Sociology 101.
Major forms of social organization such as institutions, associations, bureaucracy, primary groups and stratification. Study of underlying processes of development, social control and organizational change.

424. Social Stratification (3)
Prerequisite: Sociology 101.
Theories of stratification in society; studies in the American stratification system and its implications in the other areas of life. Introduction to the study of mobility. Comparison with other selected societies.

432. Formal Organization (3)
Prerequisite: Sociology 101.
The structure and dynamics of various types of complex formal organizations. Their development, internal structure and processes, external relations and function in contemporary society.

440. Social-Psychology: Sociological Approaches (3)
Prerequisite: Sociology 101.
Survey of the major theoretical frameworks, problems and findings of sociology and social-individual, and processes of social interaction. (Not open to students with credit in Psychology 340.)

460. Quantitative Methods in Social Research (3)
Prerequisite: Sociology 201.
The use of parametric and nonparametric techniques in the analysis of social research data; including analysis of variance, covariance, multiple and partial correlation techniques.

464. Survey and Experimental Research Methods (3)
Prerequisite: Sociology 201.
Examination of the research process from research design through data processing, analysis and interpretation. Emphasis on quantitative research techniques including sample surveys, questionnaire construction, scaling techniques and experimental designs.

465. Qualitative Research Methods (3)
Prerequisite: Sociology 201.
Examination of field research methods including interviewing, observation, participant observation, and analysis and interpretation of data.

496. Experimental Topics (1-4)
Prerequisite: Consent of the instructor.
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limited to nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

498. Special Study (1-3)
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

506. Modernization of Traditional Societies (3)
Prerequisite: Sociology 101.
Examines theories of social change relative to industrialization and urbanization of preindustrial societies. Comparative study of institutional and social-psychological change.

508. Sociology of the Future (3)
Prerequisite: Sociology 101.
Examines sociological aspects of alternative futures and the role of contemporary behavior in creating these futures. Analysis of projections in selected areas such as family, technology, work and leisure.

510. Sociology of Deviance (3)
Prerequisite: Sociology 101.
Survey of many alleged abnormal phenomena in society as seen in society today in various forms of individual, family, community and world disorganization, such as crime, prostitution, extreme alcoholism, migratory workers, divorce, revolution, war, etc.

511. Current Topics in Sociology (3)
Prerequisite: Sociology 101.
Selected specialized and controversial or currently relevant topics in sociology. Maximum opportunity provided for student initiative in determining course content and procedures. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

512. Sociology of Conflict (3)
Prerequisite: Sociology 101.
Conflict as a social process: background, forms and consequences at the interpersonal, intergroup, class and international levels from a sociological frame of reference. Major theories of social conflict.

513. Criminology and Penology (3)
Prerequisite: Sociology 101.
The extent and characteristics of crime; consideration of physical, mental, economic and sociological causes of crime; study of methods of penaltystatutory, prison labor, parole and probation, programs of prevention.

514. Juvenile Delinquency (3)
Prerequisite: Sociology 101.
The nature and causes of delinquency; the causative factors involved; methods of control and prevention, with special attention to the protective and remedial measures offered by the family, home, school, court, correctional institutions and camps, and parole and parole and school agencies.

519. Topics in Comparative Societies (3)
Prerequisite: Sociology 101.
Analysis of contemporary social structure, the process of modernization and current social behavior in creating those futures. Analysis of projections in selected areas such as family, technology, work and leisure.

520. Industrial Sociology (3)
Prerequisite: Sociology 101.
Study of industrial organization, authority, career structure, problems of leadership, morale and conflict. Some attention to the sociology of occupations and professions.

521. Sociology of Occupations and Professions (3)
Prerequisite: Sociology 101.
Division of labor, status ranking of occupations, authority structures, occupational and professional organizations, occupational socialization, problems of identity and role conflict.

523. The Sociology of Mental Illness (3)
Prerequisite: Sociology 101.
The social definition, ecology and control of mental illness across various societies. The implications of social differentiation, stratification and urbanization upon the incidence, prevalence and control of mental illness and the use of these empirical problems for sociological research.

525. Minority Group Relations (3)
Prerequisite: Sociology 101.
Theories of ethnic prejudice. Analysis of racial and ethnic discrimination. Analytical inquiry into sources of friction and consequences of conflict between majority and minority groups.
526. Medical Sociology (3)
Prerequisite: Sociology 101.
A sociological analysis of health and medical institutions. Cultural factors in conceptions of disease, health and healing. Social structure of medical facilities and the role of personnel in such institutions. Relation of illness to income, housing and other socioeconomic factors. Not open to students with credit in Health Science and Safety 561.

527. Sociology of Aging (3)
Prerequisite: Sociology 101.
Status and roles of men and women in the second half of the life cycle. Ethnic, sex and class variables in aging. Cross-cultural comparisons of occupational, educational, familial, recreational and political opportunities for the aging.

528. Sociology of Death (3)
Prerequisite: Sociology 101.
Examines sociological concepts and theories of the process of dying. Comparative study of death and dying with emphasis on social, psychological and social organization approaches. Consideration of contemporary social-ethical issues surrounding dying in our society.

533. Sex Roles in Contemporary Societies (3)
Prerequisite: Sociology 101.
Male-female relationships in occupational, educational and familial settings viewed historically and cross-culturally. Changing concepts of femininity and masculinity. Images of men and women in literature, in the mass media, and in laws and judicial decisions.

534. Sexuality in Modern Society (3)
Prerequisite: Sociology 101.
Analysis of landmark sex research and pornography in the United States and in selected other societies. Changing norms in premarital, marital and extramarital attitudes and behaviors. Implications for the individual, family and society.

535. The American Family and Its Alternatives (3)
Prerequisite: Sociology 101.
Analysis of contemporary dating, engagement, marriage, family, and other intimate relationships in the United States as they are affected by changes in the culture.

536. The Family in Cross-Cultural Perspective (3)
Prerequisite: Sociology 101. Recommended: Sociology 535.
Comparative study of selected family systems in the past and present. Family and parafamily forms in intentional communities of the 19th century compared with contemporary experiments. Ethnic and class differences in family organization. (Not open to students with credit in Family Studies and Consumer Sciences 536.)

537. Political Sociology (3)
Prerequisite: Sociology 422.
Social organization of political processes. Power and authority, social class, primary groups, collective behavior, social change and other sociological factors considered in their relationships to political processes.

538. Sociology of Religion (3)
Prerequisite: Sociology 101. Recommended: Sociology 401 and 546.
The role of religion in society as cult and institution, including primitive religion, modern sects and churches, ritual, secularization and religious movements.

539. Sociology of Education (3)
Prerequisite: Sociology 101.
Social organization of education, teaching as a profession. Class, ethnic and other social factors affecting the educational process. Educational institutions and the community.

540. Sociology of Mass Communication (3)
Prerequisite: Sociology 101. Recommended: Sociology 440 and 546.
Sociological analysis of the processes and effects of mass communications in different social systems, their functions and dysfunctions and their relationships to other social institutions.

541. Sociology of Mass Communication (3)
Prerequisite: Sociology 101. Recommended: Sociology 440 and 546.
The basic processes of social behavior in masses and groups, including crowd behavior, fads, fashions, crazes, panics, rumors; sects and cults; heroes and scapegoats; social movements; effects of mass communication.

542. Sociology of Social Movements (3)
Prerequisite: Sociology 101. Recommended: Sociology 422 and 545.
Revolutionary and reform movements in relationship to the larger society. Conditions leading to development of social movements. Emergence of leadership, ideologies, strategies, recruitment of members and social consequences, case studies in depth.

543. Small Groups (3)
Prerequisite: Sociology 440.
Processes, morale and organization of small groups; their role in society and institutions such as industry, military, recreation and education; recent studies and methods of research.

544. Sociology of Social Movements (3)
Prerequisite: Sociology 101. Recommended: Sociology 422 and 545.
Revolutionary and reform movements in relationship to the larger society. Conditions leading to development of social movements. Emergence of leadership, ideologies, strategies, recruitment of members and social consequences, case studies in depth.

545. Collective Behavior (3)
Prerequisite: Sociology 440.
The basic processes of social behavior in masses and groups, including crowd behavior, fads, fashions, crazes, panics, rumors; sects and cults; heroes and scapegoats; social movements; effects of mass communication.

547. Urban Sociology (3)
Prerequisite: Sociology 101.
The structure and function of the modern city; types of neighborhoods; forms of recreation; social forces in a metropolitan area; types of urban personalities and groups; rural-urban conflicts of culture. Practical field studies required.

553. The Logic of Sociological Inquiry (3)
Prerequisite: Sociology 201.
Systematic overview and analysis of explanation in the social sciences and history with emphasis on sociology. Problems of applying the natural scientific method to the social sciences, interpretation of meaning and objectivity.

554. Investigation and Report (3) I, II
Prerequisite: Fifteen units in sociology and consent of instructor.
Analysis of special topics in sociology. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Spanish

In the College of Arts and Letters

Faculty
Emeritus: Baker, Brown, Sender
Chair: Christiansen
Professors: Barrera, Case, Christiansen, Head, Jimenez-Vera, Lemus, Segade, Walsh
Associate Professors: O'Brien, Santalo, Talamanes, Weeter
Assistant Professors: Silverman, Young

Offered by the Department of Spanish and Portuguese Languages and Literatures
Master of Arts degree in Spanish:
Major in Spanish with the A.B. degree in liberal arts and sciences.
Teaching major in Spanish for the single subject teaching credential in foreign languages.
Minor in Spanish.

Spanish Major
With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements.

Preparation for the major, Spanish 101, 102, 201, 202, 211, and 212. (20 units.)

Foreign Language Requirement. The foreign language requirement for graduation is automatically fulfilled through course work for preparation for the major.

Major. A minimum of 24 upper division units in Spanish to include Spanish 301, 302, 305A-305B, 306A-306B; and six units of electives with no more than three units from Spanish 440, 441, 442.

Spanish Language: Six units selected from Spanish 305A, 305B, 306A, 306B; Spanish 490, 548 or 549; and six units of electives.

Spanish Major
For the Single Subject Teaching Credential in Foreign Languages
All candidates for a teaching credential must complete all requirements as outlined in this section of the catalog under the College of Education.

This major may be used by students in teacher education as an undergraduate major for the A.B. degree in liberal arts and sciences. A minor in another field approved by the departmental advisor in Spanish.

Preparation for the major, Spanish 101, 102, 201, 202, 211, and 212. (20 units.)

Major. A minimum of 30 upper division units to include Spanish 301, 302, 305A-305B, 490, 548, two courses from 440, 441, or 442; and six units of upper division electives from any of the departmental offerings.

Spanish Minor
The minor in Spanish consists of a minimum of 15 units in Spanish, six units of which must be in upper division courses.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

High School Equivalents

High school foreign language courses may be used for purposes of placement in college courses and may be counted toward meeting the foreign language requirement in various majors. These high school courses will not count as college credit toward graduation.

The first two years of high school Spanish may be counted as the equivalent of Spanish 101; three years the equivalent of Spanish 102; and four years the equivalent of Spanish 201. The last year-course taken by a student in the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work. Students entering San Diego State University with five or six years of high school Spanish may enroll in Spanish 202; the department recommends, however, that they take Spanish 301.

LOWER DIVISION COURSES

Native speakers of Spanish from foreign countries will not receive credit for taking lower division courses in Spanish, except with advance approval from the department.

No credit will be given for Spanish 101, 102, 201, 202, 301, 302 taken out of sequence.

101. Elementary (4) I, II
Four lectures and one hour of laboratory.
Prerequisite: Spanish 101 or two years of high school Spanish.

102. Elementary (4) I, II
Four lectures and one hour of laboratory.
Prerequisite: Spanish 102 or three years of high school Spanish.

201. Intermediate (4) I, II
Prerequisite: Spanish 102 or three years of high school Spanish.
A practical application of the fundamental principles of grammar. Reading in Spanish of material, short stories, novels or plays; oral practice; outside reading with oral and written reports. Special sections available for the Spanish speaking. (Formerly numbered Spanish 203).

202. Intermediate (4) I, II
Prerequisite: Spanish 201 or four years of high school Spanish.
Continuation of Spanish 201. Special sections available for the Spanish speaking. (Formerly numbered Spanish 204).

211. Conversation and Writing (2)
Prerequisite: Spanish 202 or three years of high school Spanish.
Emphasis on the spoken language with a modicum of writing practice; practical emphasis on the spoken language with a modicum of writing practice; practical emphasis on the spoken language. (Formerly numbered Spanish 210)

211-Y. Intermediate Conversation and Writing in Mexico (3)
Prerequisite: Spanish 211. (Formerly numbered Spanish 210-Y)

212. Writing and Conversation (2)
Prerequisite: Spanish 201. Emphasis on the written language with supporting practice in the spoken language; directed written composition on social, cultural or literary topics with stress on clarity and thoroughness of thought; all class discussion conducted in Spanish. (Formerly numbered Spanish 211).

Spanish / 447
## UPPER DIVISION COURSES

### 301. Advanced Conversation and Writing (3)
- Prerequisites: Spanish 211 and 212, or five years of high school Spanish or near native-level proficiency.
- Emphasis on the spoken language with supporting practice in the written language; conversation on assigned social, cultural, or literary topics at an advanced level; all class discussion conducted in Spanish.
- Not open to students with credit for Spanish 301-Y.

### 301-Y. Advanced Conversation and Writing in Mexico (3)
- Prerequisite: Spanish 211 or 211-Y and 212, or five years of high school Spanish or near native-level proficiency.
- Emphasis on the spoken language with supporting practice in the written language; conversation on assigned social, cultural, or literary topics at an advanced level; all class discussion conducted in Spanish; course arranged in four fashion in Mexico during winter interim or pre-summer period. Not open to students with credit for Spanish 301.

### 302. Advanced Writing and Conversation (3)
- Prerequisite: Spanish 301 or near native-level proficiency.
- Emphasis on composition on social, cultural, or literary topics at an advanced level; all class discussion conducted in Spanish.

### 305A-305B. Survey Course in Spanish Literature (3-3)
- Prerequisite: Spanish 202.
- Important movements, authors, and works in Spanish literature from the Middle Ages to the present. (Formerly numbered Spanish 311A-311B.)

### 306A-306B. Survey of Spanish-American Literature (3-3)
- Prerequisite: Spanish 202 and 212.
- Reading from representative Spanish-American authors during colonial, revolutionary, and modern periods. (Formerly numbered Spanish 312A-312B.)

### 440. Spanish Civilization (3)
- Prerequisites: Spanish 202 and 212.
- Spanish culture of the past and present, with emphasis on literature, philosophy, and arts. Not open to students with credit in European Studies 350.

### 441. Spanish-American Civilization (3)
- Prerequisites: Spanish 202 and 212 (except at the Imperial Valley Campus).
- Spanish-American cultures, with emphasis on literature, philosophy and the arts. Not open to students with credit in Latin American Studies 341.

### 442. Mexican Civilization (3)
- Prerequisites: Spanish 202 and 212.
- The major currents and characteristics of Mexican culture, as expressed through the centuries in literature, philosophy and the arts. Not open to students with credit in Latin American Studies 346.

### 499. Special Study (1-3) I, II
- Prerequisite: Consent of instructor.
- Individual study. Maximum credit six units. This course is intended only for students who are currently enrolled in or who already have credit for all upper division courses in Spanish available in any given semester.

### UPPER DIVISION COURSES

#### (Also Acceptable for Advanced Degrees)

### 510A-510B. Modern Spanish Drama (3-3)
- Prerequisites: Spanish 305A-305B.
- The development of the drama of Spain from the beginning of the nineteenth century to the present time.

### 515A-515B. Mexican Literature (3-3)
- Prerequisites: Spanish 305A-305B.
- Aspects of Mexican culture. Semester I: A rapid survey of Mexican literature from the pre-colonial period to the twentieth century. Semester II: The twentieth century, with emphasis on the contemporary Mexican novel and theater.

### 520. Caribbean Area Countries Literature (3)
- Prerequisites: Spanish 305A-305B.
- Literature of Caribbean Islands, Central America, Colombia and Venezuela, from colonial period to present. Special emphasis on contemporary era.

### 522. Andean Countries Literature (3)
- Prerequisites: Spanish 305A-305B.
- Literature of Ecuador, Peru, Bolivia and Chile from the period immediately preceding the Spanish conquest to today.

### 524. River Plate Literature (3)
- Prerequisites: Spanish 305A-305B.
- Literature of Argentina, Paraguay and Uruguay from colonial period to present.

### 530. Nineteenth Century Spanish Novel and Short Story (3)
- Prerequisites: Spanish 305A-305B.
- The development of the novel and short story in Spain in the nineteenth century.

### 532. Twentieth Century Spanish Novel and Short Story (3)
- Prerequisites: Spanish 305A-305B.
- The development of the novel and short story in Spain to 1936, with emphasis on the novel of the generation of 1898.

### 553. Contemporary Spanish Novel (3)
- Prerequisites: Spanish 305A-305B.
- The development of the novel and short story in Spain since 1936.

### 548. Spanish Linguistics (3)
- Prerequisite: Spanish 302.
- Structural, historical and applied Spanish linguistics.

### 549. Phonetics and Phonemics (3)
- Prerequisite: Spanish 302.
- The sounds of Spanish, and Spanish phonemic systems, with special attention to the problems involved in the teaching of Spanish pronunciation to English-speaking students.

### 550. Golden Age Literature I (3)
- Prerequisites: Spanish 305A-305B.
- Major writers and works, concentrating on prose and lyric poetry.

### 560. Golden Age Literature II (3)
- Prerequisites: Spanish 305A-305B.
- Major writers and works, concentrating on drama.

### 570. Spanish-American Poetry (3)
- Prerequisites: Spanish 306A-306B.
- Spanish-American poetry of the 19th and 20th centuries.

### 571. Spanish-American Short Story (3)

---

Topics in Spanish or Spanish-American language, literature, culture, and linguistics. See Class Schedule for specific content. Maximum credit six units.
Speech Communication
In the College of Professional Studies

Faculty
Emeritus: Ackley
Chair: King
Professors: Adams, Benjamin, King, Mills, Samovar
Associate Professors: Sanders, Weitzel
Assistant Professor: Lustig
Lecturer: Williamson

Offered by the Department
Master of Arts degree in speech communication.
Major in speech communication with the A.B. degree in applied arts and sciences.
Teaching major in speech communication for the single subject teaching credential in
English/Speech.
Minor in speech communication.
The Speech Communication Department conducts a number of activities such as the
Forensics Program and the Readers Theater Program as performance laboratories. These
activities are an extension of classroom instruction, and credit may be allowed upon approval
by the instructor in charge.

Speech Communication Major
With the A.B. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation
requirements listed in the section of this catalog on "Graduation Requirements."
A minor is not required with this major.

Preparation for the major. Speech Communication 105, 111A, 135, 160, and three units
of electives. (15 units.)

Major. A minimum of 27 upper division units to include Speech Communication 350, 535
and 592; three units selected from Speech Communication 362, 391, 392 and 508; and 15
units selected from 300—500-numbered Speech Communication courses. No more than nine
units from the following Speech Communication courses: 300, 301, 309, 361, 400, 496, 499.

Speech Communication Major
For the Single Subject Teaching Credential in English/Speech
All candidates for a teaching credential must complete all requirements as outlined in this
section of the catalog under the College of Education.
This major may be used by the students in teacher education as an undergraduate major
for the A.B. degree in applied arts and sciences.

units.)

Major. A minimum of 24 upper division units in speech communication to include Speech
Communication 362, 391, 392, 508, 530; 537 or 354; and six units selected from any
combination of Speech Communication 301, 309 (intercollegiate forensics experience), 361
and 400.

Credential requirements. Eighteen units to include:
(A) Language: 3 to 6 units from Linguistics 101, 520, 524 or 550.
(B) Literature: 6 to 9 units from English 250, 260A-260B, or other literature courses
approved by the Speech Communication Department Chairman.
(C) Composition: 6 to 9 units from English 200 and 300, Journalism 120 or 320, University
Studies 150.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Speech Communication Minor

The minor in speech communication consists of a minimum of 24 units to include 12 units selected from Speech Communication 104, 111A, 135, 160 and 191; and 12 units of electives most appropriate to the student's major selected in consultation with the undergraduate adviser from the following areas:

- Communication Forms: Speech Communication 308, 362, 391, 392 and 508.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

103. Oral Communication (3) I, II
Training in fundamental processes of oral expression, method of obtaining and organizing material, outlining, principles of attention and delivery, practice in construction and delivery of various forms of speeches. Speech Communication 103 recommended in general Studies 111A or Speech Communication 104.

104. Public Speaking (3) I, II
Practice in extemporaneous speaking on subjects of current interest, both national and local, with stress on organization and delivery. Not open to students with credit in Mexican-American Studies 111A.

105. Introduction to Speech Communication (3) I, II
Investigation of the status of the discipline and analysis of interrelationships among varied specialties within the field. Intended for students who are either considering or who are committed to a speech communication major or minor.

111A. Fundamentals of Interpretation (3) I, II
Prerequisite: Speech Communication 103. Theory and practice of oral interpretation with emphasis on vocal performance, physical performance, and other aspects of delivery. Practice through recording and live presentation of readings, group speaking, and readers theater. Outside activity required.

111B. Intermediate Interpretation (3)
Prerequisite: Speech Communication 111A. Theory and practice of oral interpretation with emphasis on vocal performance, physical performance, and other aspects of delivery. Practice through recording and live presentation of readings, group speaking, and readers theater. Outside activity required.

135. Principles of Communication (3) I, II
Identification, description, and study of fundamental communication principles such as definitions and models, coding, meaning, organization, Emphasis on applying principles to personal, organizational, literary and political human interactions.

160. Argumentation (3)
Obtaining and organizing of evidence and the construction and use of the brief; study and discussion of current issues; the presentation of formal and informal debates. Participation in intercollegiate debate optional.

161. Intercollegiate Forensics (1) I, II
Two field trips required.
Three hours of activity and two coaching hours to be assigned. Credit for participation in intercollegiate program. Maximum credit four units for Speech Communication 161 and 361.

191. Group Discussion (3) I, II
Role of group discussion in a democratic society. Principles and methods of group policy and controversial issues. Development of skills in discussion preparation, participation and leadership.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.
UPPER DIVISION COURSES

(PREREQUISITE: Six units of speech communication. Special emphasis on various communication theories and models, the relationships of mental variables such as perception, roles and status, behavior change, language and motivation to the entire communication process.

537. Empirical Study in Speech Communication (3 I, II)
Prerequisite: Speech Communication 135. Philosophy of social science and application to current research in speech communication. Theories and constructs related to communication: analysis of current research literature.

540. Communication and Politics (3)
Prerequisite: Speech Communication 103 or 104. Contemporary political communication events and processes, with a focus on speeches, debates, and campaigns.

549. Ethics of Speech Communication (3)
Prerequisite: Six upper division units in philosophy or speech communication. Classical and modern ethical concepts applied to oral persuasion.

552. Persuasion (3 I, II)
Prerequisite: Speech Communication 103 or 104. Persuasion with emphasis on psychological principles. Research project on a significant problem.

GRADUATE COURSES
Refer to the Graduate Bulletin.
3. Admission to the program for the Single Subject Credential (Secondary) or Multiple Subjects Credential (Elementary) — or —

A basic teaching credential

Students should consult with appropriate advisers in the College of Education for specific requirements.

4. Students applying to the program at the postbaccalaureate level must satisfy the admission requirements of the department for classified graduate standing.

Program

Persons interested in the Special Education Specialist Credential shall:

1. Concurrently or prior to completion of the specialist credential, complete the single subject credential (preliminary or clear) or the multiple subjects credential (preliminary or clear). Students may choose to pursue either a or b:\n   a. Major in Liberal Studies (offered by the College of Education) in conjunction with specific specified speech pathology and audiology courses.
   b. Pursue a departmental major, complete specified prerequisites for the College of Education; pass the National Teacher Examination prior to entering the College of Education professional education sequence.

2. Complete a minimum of one year of study, including:
   a. The Special Education generic course work: Special Education 500, 501, 502.
   b. Advanced work in the area of specialization in the Department of Communicative Disorders including:
      (2) Additional course work required for the specific area of emphasis within the credential (Severe Oral Language, Deaf, Deaf-Blind, Speech and Hearing) selected by the student in conjunction with an adviser.

Clinical Rehabilitative Services Credential

Clinical-Rehabilitative Services (C-RS) Credentials are available in the following areas:

- Language, Speech and Hearing (LSH)
- Audiology
- Severe Language Handicapped/Aphasic (SLH)

The Ryan Credential Program is competency based; that is, specified competencies have been identified as requirements for areas of specialization by the State Commission of Communicative Disorders. Candidates may satisfy institutional requirements, therefore, by either a or b:

a. Satisfy all course work requirement or their equivalency, or by demonstrating satisfactory completion experience by examination. Candidates may enter the C-RS Credential Program at a minimum of one year of study, including:
   a. The Special Education generic course work: Special Education 500, 501, 502.
   b. Advanced work in the area of specialization in the Department of Communicative Disorders including:
      (2) Additional course work required for the specific area of emphasis within the credential (Severe Oral Language, Deaf, Deaf-Blind, Speech and Hearing) selected by the student in conjunction with an adviser.

Certificates and Licensure

Preparation Leading to the Certificate of Clinical Competence from the American Speech and Hearing Association

Students may complete the academic and practicum requirements leading to the Certificate of Clinical Competence in Speech Pathology (CCC-Sp) or to the Certificate of Clinical Competence in Audiology (CCC-A) given by the American Speech and Hearing Association. The certificate requires 50 units of course work, 30 units of which must be completed at the graduate level; 300 clock hours of supervised clinical experience, 150 hours of which must be completed at the graduate level; a clinical fellowship year; and a national examination. The academic and practicum requirements must meet certain specifications. Consult an advisor in the area in which certification is desired for specific information.

Preparation Leading to the State Credential and the Professional Certificate from the Council on Education of the Deaf

Students may complete the academic and practicum requirements leading to the State Credential and the Professional Certificate given by the Council on Education of the Deaf. The Professional Certificate requires a specific pattern of courses and teaching experiences and evidence of successful classroom teaching following completion of the academic requirements. Consult an advisor in the Program for Education of the Deaf for more information.

Preparation Leading to State Licensure in Speech Pathology or Audiology

Students may complete the academic and clinical practicum requirements leading to the California State Licensure in Speech Pathology or Audiology, a legal requirement for all California professionals employed in nonpublic school settings. The Speech Pathology and Audiology Examinating Committee which operates within the California State Board of Medical Examiners examines professionals in speech and hearing. The Certificate of Clinical Competence (CCC-Sp) or the Certificate of Clinical Competence (CCC-A) given by the American Speech and Hearing Association is the basis for certification. The Speech Pathology and Audiology Credential Program offers the Certificate of Clinical Competence (CCC-Sp) or the Certificate of Clinical Competence (CCC-A) given by the American Speech and Hearing Association. The program requires 50 units of course work, 30 units of which must be completed at the graduate level; 300 clock hours of supervised clinical experience, 150 hours of which must be completed at the graduate level; a clinical fellowship year; and a national examination. The academic and practicum requirements must meet certain specifications. Consult an advisor in the area in which licensure is desired for specific information.

LOWER DIVISION COURSES

104. Voice and Articulation (3) I, II
Vocal and articulatory dynamics as bases of standard and nonstandard oral language. Prerequisite: 457.

105. Introduction to Audiology (2) I, II
Prerequisites: Credits or concurrent registration in Physics 201. Aural and audiological assessment and tuning fork tests. Materials and instruments of audiology and audiometry. The role of research in audiology.

106. Communicative Disorders (3) I, II
Prerequisite: Consent of instructor. Aural and audiological assessment and tuning fork tests. Materials and instruments of audiology and audiometry. The role of research in audiology.

107. Management of Clinical Activities (1) I, II Cr/NC
Prerequisite: Consent of instructor. Aural and audiological assessment and tuning fork tests. Materials and instruments of audiology and audiometry. The role of research in audiology.

456 / Speech Pathology and Audiology

In addition to the generic program, the Advanced Specialization Program in Audiology requires the following courses within the Department of Communicative Disorders: Speech Pathology and Audiology 356, 433 (Audiology sections for courses in this track), 520, 522, 533, 543, 547, 550, 552, 553, 644, 649 (Pediatrics), 656 and 657.
108. Oral Communication Laboratory (1-3) I, II Cr/NC
Two hours of laboratory.
Individual laboratory training on specific speech problems. Student chosen through testing by Department of Speech Pathology and Audiology.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

**UPPER DIVISION COURSES**
(Items for Undergraduates)

305. Speech and Language Development and Communication Disorders (3) I, II
Normal development of speech and language, identification, prevention and remediation of speech, hearing and language disorders. Five hours of observation required. Not open to speech pathology and audiology majors.

320. Phonetics (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Speech Pathology and Audiology 104.
Auditory, kinesthetic and visual analysis of the sounds of the English language, including regional and foreign dialect and disordered speech. Competency in IPA broad transcription and introduction to narrow transcription.

321. Anatomy and Physiology of Speech (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Psychology 260 or Zoology 108.
Anatomy and physiology of the speech-related structures of the head, neck and thorax. Laboratory exercises and demonstrations using charts, models, histological materials and cadavers. (Formerly numbered Speech Pathology and Audiology 323).

321. Functional Communication Disorders (3) I, II
Prerequisite: Speech Pathology and Audiology 323.
Speech disorders of emotional etiology, including stuttering. Genetic and cultural aspects of speech and language; phenomena of human communication, including theories of learning and behavior, relation between disorders of personality and difficulties in communication.

323. Organic Communication Disorders (3) I, II
Study of audiology and speech disorders of organic etiology. Survey of aphasia, cerebral anatomy and physiology of the human, I the ear survey of current audiometric pathology and surgery of the ear, survey of current audiometric techniques and diagnostic implications of basic test battery.

340. Audiometry: Principles (3) I, II
Prerequisites: Speech Pathology and Audiology 105 and Psychology 260.
Anatomy and physiology of the human ear; theories of hearing, transmission, measurement of sound, medical aspects, pathology and surgery of the ear, survey of current audiometric techniques and diagnostic implications of basic test battery.

341. Techniques of Audiometry (3-1) I, II
Three hours of laboratory per unit.
Prerequisites: Credit or concurrent registration in Speech Pathology and Audiology 340. Provides the laboratory experience necessary for the California School Audiologist Certificate when taken concurrently with Speech Pathology and Audiology 340. Provides five hour screenings for ASHA credit. May be used to duplicate case audiometry experiments when taken in conjunction with Speech Pathology and Audiology 453, 547, 640, 644, or 649. (Formerly numbered Speech Pathology and Audiology 342)

342. Audiology: Application (3) I, II
Two lectures and two hours of activity.
Prerequisite: Speech Pathology and Audiology 340.
Speech testing, masking, tests for nonorganic and for sensorineural hearing loss. (Formerly numbered Speech Pathology and Audiology 341)

345. Clinical Practice in Audiolinguistic Assessment (1) I, II, S
Study of some problem in the area of language disorders of organic etiology. Survey of aphasia, cerebral anatomy and physiology of the human, I the ear survey of current audiometric pathology and surgery of the ear, survey of current audiometric techniques and diagnostic implications of basic test battery.

346. Clinical Practice with the Deaf (3) I, II
Supervision of direct clinical practice.
Prerequisites: Speech Pathology and Audiology 326 and 351.
Supervised practice with hearing clients. Up to three units may be taken concurrently, maximum credit three units. Project required. One unit represents 26 hours of direct clinical practice.

356. Clinical Practice with the Deaf (1) I, II
Three hours of laboratory.
Prerequisites: Concurrent registration in Speech Pathology and Audiology 356 and 357.
Supervised practice with hearing clients. Up to three units may be taken concurrently, maximum credit three units. Project required. One unit represents 26 hours of direct clinical practice.

358. Manual Communication for the Hearing Impaired (2) I, II Cr/NC
Prerequisites: Demonstrated professional need and consent of instructor.
Speech and hearing impairment.

390. Workshop in Speech Pathology and Audiology (1-3) I, II
Study of some problem in speech pathology or audiology. See Class Schedule for specific content. Maximum credit six units.
460 / Speech Pathology and Audiology

433. Clinical Practice in Public Schools (4) I, II Cr/NC
Prerequisites: Speech Pathology and Audiology 529, four units of practica, and postbaccalaureate standing. Prior to admission applicants must receive departmental approval.
Clinical practice in elementary or secondary schools or community colleges in speech pathology and audiology. One hundred twenty hours practicum required. Applies only toward Competency in Speech Pathology.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

527. Diagnostic Methods in Speech Pathology (3) I, II
Prerequisites: Speech Pathology and Audiology 320, 323, and 340, and credit or concurrent registration in Speech Pathology and Audiology 326.

528. Diagnostic Practicum in Speech Pathology (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Speech Pathology and Audiology 527 and passage of a competency examination.
Supervised clinical practice in diagnostic methods. Experience in multidisciplinary assessment.

529. Orientation to Public School Practicum (3) I, II
Prerequisites: Speech Pathology and Audiology 324 and 527. Minimum of 50 hours of supervised clinical practicum. Prior to admission, applicants must receive departmental approval.
Goals, materials and procedures for organizing and administering speech, language and hearing programs in the school. Fifteen hours of observation and fifteen hours of screening Special Education 480E (severe oral language or speech and hearing emphasis). (Formerly Speech Pathology and Audiology 329)

530. Family Communication Dynamics (3)
Prerequisites: Speech Pathology and Audiology 322 and 326.
The communication environment in the home. Parent-child interaction in relation to the origin and alleviation of functional and organic speech disorders.

531. Language Structure (3)
Prerequisite: Speech Pathology and Audiology 106.
Systematic study of the design features of language as they relate to communication behavior. The primary focus is the role of language structure in disordered communication.

532. Assessment of Language Disorders (3) I, II
Prerequisites: Speech Pathology and Audiology 531.

533. Neuropathologies of Speech, Hearing and Language (3) II
Prerequisites: Speech Pathology and Audiology 321 and 340. Recommended: Speech Pathology and Audiology 323.
Research and theory concerning the nature, etiologies and principles of treatment of disorders of speech, hearing and language resulting from pathologies of the nervous system.

543. Hearing Amplification (1 or 3) I
Prerequisites: Speech Pathology and Audiology 340. Module II: Speech Pathology and Audiology 342.
Module I includes hearing aid components, functions, trouble shooting and client orientation to amplification (1 unit). Module II includes hearing aid evaluations, fittings, and electroacoustical hearing aid analysis (2 units). Students may elect Module I (1 unit) or Modules I and II (3 units).

547. Hearing Conservation (3) II
Prerequisite: Speech Pathology and Audiology 341.
Noise measurement, analysis and reduction and its effects on hearing and communication. Damage risk criteria and methods of hearing protection.

550. Problems of Deafness (3) I
Educational programs, services and resources for hearing impaired; historical background, philosophy, sociological and psychological problems.

551. Speech Reading and Auditory Training (3) I, II
Theory and methods of speech reading; auditory rehabilitation methods including survey of amplification systems. Fifteen hours of observation in program for deaf, severely hard of hearing.

552. Articulation Disorders and Methods (3) II
Prerequisites: Speech Pathology and Audiology 321 and 351.
Significant theories and research in prevention and remediation of articulatory disorders. Includes emphasis on application to hearing impaired individuals.

553. Language Disorders and Methods (3) I, II
Prerequisites: Speech Pathology and Audiology 531 and 551.
Significant theories and research in language development and remediation. Includes emphasis on language development and remediation.

596. Selected Topics in Speech Pathology and Audiology (1-4) I, II
Prerequisite: Twelve units in speech pathology and audiology.
Specialized study of selected topics from the area of speech pathology and audiology. See Class Schedule for specific content. Maximum credit six units. Maximum credit three units applicable on a master's degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Study Skills

In the College of Arts and Letters

Faculty
Chair: Basile
Associate Professors: Basile, Denman, Macdonald
Lecturers: Albanese, Corona, Fink, Hallahan, Johns, Johnson, M., Johnson, P., Linthicum, Miller, Mullenberg, Padilla, Potts, Stromberg, Sweedler, Weston

Offered by the Study Skills Center
Courses in reading, writing and learning skills.
Major or minor work in study skills is not offered.

LOWER DIVISION COURSES
The Study Skills Center, located in Library East, offers courses and individual assistance to all students at any university level, including bilingual and international students, who wish to improve reading, writing or other skills, or obtain help with study problems or writing projects. Course work leading to satisfaction of the graduation requirement in writing competency is offered in the Center.
Study skills courses may not be used to satisfy general education requirements and no more than six units may be applied towards a bachelor's degree.

100. English Fundamentals (3) I, II Cr/NC
Practical grammar - including usage, sentence structure, syntax, punctuation and rhetoric.

111. Reading Development (3) I, II Cr/NC
Two lectures and three hours of laboratory.
Improvement of individual reading effectiveness: speed and comprehension, reading for the main idea, skimming, scanning, and word power.

131. Fundamentals of English for International or Bilingual Students (3) I, II Cr/NC
A first course in English intended to develop speaking and listening abilities and elementary reading and writing skills. Satisfactory completion of this course qualifies a student to take Study Skills 132, or, at the discretion of the instructor, Study Skills 133. (Formerly numbered English 1X.)

132. English for International or Bilingual Students (3) I, II Cr/NC
Intermediate course in English with emphasis on the listening, reading, and writing skills necessary for academic study. Satisfactory completion of this course qualifies a student to take Study Skills 133. (Formerly numbered English 1Y.)

133. English for International or Bilingual Students (3) I, II Cr/NC
Advanced listening, reading, writing and research skills. Writing of a short research paper in the student's area of interest. (Formerly numbered English 1Z.)

141. Mini-Course: Selected Topics (1) Cr/NC
Assorted short courses which will meet three hours a week for five weeks and will cover a variety of academic skills through intensive lectures and laboratory work.
Suggested topics: Research paper, communication skills, research tools, vocabulary development, learning skills, spelling, grammar, and speed reading. See Class Schedule for specific content.

143. Adjunct Writing: Selected Topics (1) Cr/NC
Instruction in basic writing skills required of a particular discipline. Writing assignments in this course will be coordinated with those from designated lower division courses in selected disciplines; students will learn to refine papers for mechanics, rhetoric, and style within the context of the specified discipline. See Class Schedule for specific content.

150. Writing Development (3) I, II Cr/NC
One lecture and four hours of laboratory.
Instruction in basic writing skills, supervised practice, and frequent individual conferences. Open to students at any level of college work. (Satisfies writing competency requirement.) (Formerly numbered Study Skills 101.)

151. Technical Writing (3) Cr/NC
A comprehensive course in preparing and writing technical papers and reports. Emphasis on style, organization and techniques used in composing scientific and technical communications. Analysis of technical publications and the variety of methods used in compiling data and presenting graphic material.

299. Experimental Topics (1-3) Cr/NC
Selected topics. May be repeated with new content. See Class Schedule for specific content.
Telecommunications and Film
In the College of Professional Studies

Faculty
Chair: Jones
Professors: Anderson, Heighton, Jameson, Johnson, Jones, Lee, Madsen, Steen, Wylie
Associate Professors: Martin, Meador, Misiorowski
Assistant Professor: McKee

Offered by the Department
Master's Arts degree in radio-television.
Major in radio-television, with the A.B. degree in applied arts and sciences.
Major in radio-television, with the B.S. degree in applied arts and sciences.
Major in drama, with emphasis in design for television. See Drama.
Minor in radio-television.

Radio-Television Major
With the A.B. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
The A.B. degree is designed for students interested in developing a more liberal education as they develop competency in, and understanding of, radio, television and film. The A.B. degree permits flexible programs utilizing courses in and out of the department which will prepare students in such broad areas as design for television and film, media communications theory, broadcast advertising, instructional radio and television, and the like.
A minor is required with this major.
Preparation for the major. Telecommunications and Film 100, 110, 120, 121, 122, 123, and 160. (21 units.)
Major. A minimum of 24 upper division units in telecommunications and film to include Telecommunications and Film 500 or 505 and 21 units of electives selected with the approval of the department. No more than 48 units in telecommunications and film may be counted toward the 124 units required for graduation.

Radio-Television Major
With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements."
The B.S. degree is designed to prepare students for professions in radio, television and film or for occupations where extensive knowledge of these media is required.
A minor is required with this major.
Preparation for the major. Telecommunications and Film 100, 110, 120, 121, 122, 123, and 160. Telecommunications and Film 500 or 505 and 21 units of electives selected with the approval of the department. No more than 48 units in telecommunications and film may be counted toward the 124 units required for graduation.

Radio-Television Minor
The minor in radio-television consists of a minimum of 15-24 units, 12 units of which must be in upper division. The minor is a focused pattern of courses selected with the approval of the departmental adviser for minors. Areas include:
Film as Art and Communication: Telecommunications and Film 160, 363, 562, 563, and three units of electives.
Broadcast Station Practices: Telecommunications and Film 100, 500, 505, 530, 535, and 540.
Performance: Telecommunications and Film 390, 391, 420, and Drama 105, 130, 450.
Communication: Telecommunications and Film 146, 147, 148, 149, 150, 151, 152, and 153.
Research Methods: Psychology 322, 323, 324, 405, Journalism 500, Sociology 460, 464.
Scene Design: Telecommunications and Film 550, Drama 440, 448.

Lower Division Courses
100. Backgrounds in Broadcasting (3) I, II
Theory and operation of the broadcasting industry to include the history and regulation of the broadcasting industry, the social and economic setting of American broadcasting and the broadcasting stations and their operations.
110. Broadcast Writing (3) I, II
Prerequisite: Successful completion of the University's writing competency requirement.
Preparation: Successful completion of the University's writing competency requirement.
Practicum: Limited to telecommunication and film majors.
The minor in radio-television consists of a minimum of 15-24 units, 12 units of which must be in upper division. The minor is a focused pattern of courses selected with the approval of the departmental adviser for minors. Areas include:
Film as Art and Communication: Telecommunications and Film 160, 363, 562, 563, and three units of electives.
Broadcast Station Practices: Telecommunications and Film 100, 500, 505, 530, 535, and 540.
Performance: Telecommunications and Film 390, 391, 420, and Drama 105, 130, 450.
Communication: Telecommunications and Film 146, 147, 148, 149, 150, 151, 152, and 153.
Research Methods: Psychology 322, 323, 324, 405, Journalism 500, Sociology 460, 464.
Scene Design: Telecommunications and Film 550, Drama 440, 448.

Allied Professional Sequences. (Courses taken in Core Professional Sequences cannot be counted toward the Allied Professional Sequence.)
Advertising: Telecommunications and Film 540, 541, Business Administration 370, 373, 374, 375, 376.
Journalism 460, 466, 480, Psychology 322.
Art: Art 341, 440, 441, 590, and Industrial Arts 315.
Communication: Speech Communication 535, Psychology 500, 503, 508.
Criticism: Comparative Literature 552, Music 351, Philosophy 542, and Speech Communication 354.
Education: Telecommunications and Film 570, Education 383, Educational Technology and Librarianship 540, 541, 544, and Elementary Education 362, 372.
Industrial Arts: Industrial Arts 361, 462, 563.
Information Systems: Business Administration 380, 385, 480, 482.
International Media: Telecommunications and Film 363, 590, and Journalism 505.
Law and Government: Telecommunications and Film 505, Journalism 502, Political Science 335, 546, 547A-547B.
Management: Telecommunications and Film 500, Business Administration 350, 351, 352, 453.
Mass Communication: Journalism 500, 508, Psychology 542, Sociology 545, 546, and Speech Communication 535.
News: Telecommunications and Film 310, 505, and Journalism 474, 475, 502.
Performance: Telecommunications and Film 390, 391, Drama 431, 432, and Speech Communication 508.
Playwriting: Telecommunications and Film 510, Drama 420, English 527, 581.
Research Methods: Psychology 322, 323, 324, 405, Journalism 500, Sociology 460, 464.
Scene Design: Telecommunications and Film 550, Drama 440, 448.
121. Audio Production (3) I, II
Two lectures and more than three hours of activity.
Prerequisite: Telecommunications and Film majors.
Theory of sound production and techniques of electrical sound recording.
Practical experience in University sponsored productions.

122. Film Techniques (3) I, II
Two lectures and more than three hours of activity.
Prerequisite: Telecommunications and Film majors.

160. Cinema as Art and Communication (3) I, II
Two lectures and more than three hours of activity.
Preparation of filmed materials. ANALYSIS of cinematic devices, techniques of directing.

280. Television Production and Directing (3) I, II
Two lectures and more than three hours of activity.
Preparation of filmed materials. Television control room, studio, and auxiliary equipment.

466. Telecommunications and Film (3) I, II
Two lectures and more than three hours of activity.

500. Broadcast Management (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

599. Special Study (1-3) I, II
One to three hours of activity.
Special study. Individual study. Maximum credit six units.

UPPER DIVISION COURSES

365. International Cinema (3) I
Two lectures and more than three hours of activity.
Preparation of international cinema and its cultural significance.

370. Broadcasting Practices (3)
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

390. Broadcast and Film Performance (3) I
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

485. Workshop in Broadcasting (1-3) I, II
Study of some problem or problem area. Individual study. Maximum credit six units.

505. Regulation of Broadcasting (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

530. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

535. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

553. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

688. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

698. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

700. Broadcast Management (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

705. Regulation of Broadcasting (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

730. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

735. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

753. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

758. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

788. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

800. Broadcast Management (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

805. Regulation of Broadcasting (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

830. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

835. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

853. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

858. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

888. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

900. Broadcast Management (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

905. Regulation of Broadcasting (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

930. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

935. Radio Programming (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

953. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

958. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.

988. Telecommunications and Film Production (3) I, II
Two lectures and more than three hours of activity.
Preparation of radio, TV and film programs. Practical experience in radio, TV and film production.
535. Television Programming (3) I, II
Prerequisites: Telecommunications and Film 100.
Structure of television programming. Problems such as ratings, advertisers and scheduling.
Social effects and criticism of television programming.

540. Broadcast Advertising (3) I, II
Prerequisites: Two courses in broadcasting or journalism.
Theory, procedures, and the role of broadcast advertising, including marketing and media research, campaign planning, media strategy, time purchasing, and evaluation.

541. Broadcast Commercial Practices (3)
Prerequisites: Telecommunications and Film 121, 280, 540, and permission of instructor.
Planning and execution of broadcast advertising and promotion campaigns; creative strategy and production techniques; use of research; campaign evaluation.

550. Advanced Lighting and Staging for Television and Film (4) I, II
One lecture and more than nine hours of activity.
Prerequisites: Telecommunications and Film 120, 122, 123.
Production elements of television and film, to include lighting and staging techniques, art and graphics, scene design and scene decoration. Practical experience in University-sponsored productions.

560. Film Production (3) I
One lecture and more than six hours of activity. Practical experience in University-sponsored productions.
Prerequisites: Telecommunications and Film 260, 510, and 520.
Advanced practicum in film production. Cameras, lighting, design, sound techniques for super-8 and 16mm productions. (Formerly numbered Telecommunications and Film 560A.)

561. Film Direction (3) II
Two lectures and more than three hours of activity.
Prerequisites: Telecommunications and Film 501, 550, and 560.
Studio and location work in the preparation of dramatic and nondramatic films. Practical experience in University-sponsored productions. (Formerly numbered Telecommunications and Film 560B.)

562. Documentary and Propaganda Film (3) I, II
Prerequisite: Telecommunications and Film 180.
Viewing and analysis of the major conceptual forms and cinematic techniques of these genres from 1922 to the present.

563. Film Classics (3) I, II
Prerequisite: Upper division standing.
Viewing and analysis of those American and foreign theatrical films, particularly of the sound era, which represent milestones in the development of the cinema. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units. (Formerly numbered Telecommunications and Film 560A.)

565. Animated Film Techniques (3) II
Two lectures and more than three hours of activity.
Screening of representative examples and production of a filmograph or animated motion picture. Practical experience in University-sponsored productions.

570. Educational Telecommunications (3) I, II
Prerequisite: Telecommunications and Film 100.
The role of instructional and public broadcasting in the United States; utilization of telecommunication in the classroom and industrial training programs.

580. Advanced Programming and Development for Television (3) I, II
One lecture and more than six hours of activity.
Prerequisites: Telecommunications and Film 280, 510, and consent of instructor.
The development of program ideas into formats for television productions of all types. Practical experience in developing and producing programs for University-sponsored productions.

581. Advanced Television Directing (3) I, II
One lecture and more than six hours of activity.
Prerequisites: Telecommunications and Film 100, 280, 520 and consent of instructor.
Presentational techniques and individual projects in the direction and production of television programs. Practical experience in University-sponsored productions.

590. International Broadcasting (3)
Prerequisite: Telecommunications and Film 100 or 315, or Journalism 100.
Comparative study of broadcasting in various world areas; economic, social and political determinants of broadcasting patterns.

598. Selected Topics in Telecommunications and Film (1-3) I, II
Prerequisite: Twelve units in telecommunications and film.
Specialized study of selected topics from the areas of telecommunications and film. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units. (Formerly numbered Telecommunications and Film 496.)

GRADUATE COURSES
Refer to the Graduate Bulletin.
University Studies

The University offers a number of courses which are not part of a regular departmental curriculum. They provide students with opportunities for achieving academic credit through experimental and nontraditional course work and through courses designed to improve the academic capabilities of students.

General Courses

LOWER DIVISION COURSES

142. Exploring the University (1) Cr/NC
A five-week mini-course to prepare new students academically and ease the transition into the university through instruction in the principles of effective learning, clear thinking, and disciplined study. An orientation to the general nature of higher education and the opportunities it offers for learning.

200. Selected Activities (1-3) Cr/NC
Prerequisites: Twelve units of college credit and a minimum grade point average of 2.0. Supervised experience in college or community activities.

275. Honors Special Study (1)
Prerequisite: Admission to the University Honors Program. Special study associated with a lower division course offered as an honors section, and serving as an extension of the course.

UPPER DIVISION COURSE

(Intended for Undergraduates)

400. Selected Activities (1-3) Cr/NC
Prerequisite: A minimum grade point average of 2.0. Supervised experience in college and/or community activities.

Innovative Courses

The University Curriculum Committee sponsors University Studies courses (250, 350, 550) among which are interdisciplinary courses and courses characterized by new methods of teaching and learning. These courses are proposed by faculty or by students acting through a course in the University Curriculum Committee. After receiving approval from the departments and dean, proposals for such courses are submitted to the University Curriculum Committee, which is authorized to grant up to four semesters' approval subject to periodic review. Questions about individual courses should be directed to the department or departments listed immediately after the University Studies number (250, 350, 550) in the Class Schedule; general inquiries about University Studies courses (250, 350, 550) as a whole should be directed to the chair of the University Curriculum Committee.

Students interested in enrolling in University Studies courses (250, 350, 550) should be directed to the chair of the University Curriculum Committee. Application must be submitted to the Undergraduate Division for information. Applications must be submitted to the Undergraduate Division prior to the end of the first week of classes. These courses may not be used to satisfy course requirements for the major or minor. No combination of University Studies 200 and 400 in excess of six units may be counted for credit on a bachelor's degree program.

Women's Studies

In the College of Arts and Letters

Faculty

Chair: Boxer
Associate Professor: Boxer
Assistant Professors: Horst, Huckle, Rotella, Watson
Lecturers: Fisher, Zimmerman

Offered by Women's Studies

Minor in women's studies.
Courses in women's studies.
Major work in women's studies is not offered.

Women's Studies Minor

The minor in women's studies consists of 18 units to include Women's Studies 101 or 330, and 201; the remaining 12 units should include at least one course from three of the following groups.

Group A: Courses which investigate the experience of women in cultures or eras distinct from our own—Women's Studies 310, 340, 341A-341B.

Group B: Courses which examine biological, psychological and sociological influences on women's personality and behavior—Women's Studies 320, 325, 360, 390.

Group C: Courses which explore artistic expression by and about women—Women's Studies 351, 352, 353.

Group D: Courses which examine the roles of women in political and economic life—Women's Studies 370, 380, 385.

Students planning graduate work in women's studies should include Women's Studies 595.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

101. Introduction to Women's Studies (3) I, II
Overview of the women's movement and women's studies program with emphasis on the relationship between students' personal experiences and their cultural context. Formerly numbered Women's Studies 110.

21. Sexism and the Social Sciences (3) I, II
Images of women and men and their roles in society viewed through a feminist critique of conventional, biased concepts and modes of thought in disciplines dealing with human interaction; also proposing alternative strategies for research.

259. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of content. No more than three units may be applicable to general education requirements.

UPPER DIVISION COURSES

(Indennted for Undergraduates)

310. Women in Comparative Cultures (3) I, II
Women from an anthropological perspective, social, economic, legal and ideological aspects of women's position in selected preindustrial or transitional compared with industrial societies.

320. Socialization of Women (3) I, II
Theories of socialization; summary of studies on the impact of formal and informal social institutions on female development.

325. Psychology of Women (3) I, II
Theories of the psychological development of woman; investigation of biological and cultural factors influencing personality and behavior.
330. Contemporary Issues in the Liberation of Women (3) I, II
Intensive study of the contemporary women's movement; feminist views of political, economic and social institutions which affect women's lives. Not open to students with credit in Women's Studies 101. (Formerly numbered Women's Studies 330A-330B.)

340. Women in History (3) I
Social, cultural, economic, political and intellectual aspects of women's history in Western civilization, with emphasis on impact of modernization on women's roles in family and society.

341A-341B. Women in American History (3-3)
Survey of the social, cultural, economic, political and intellectual history of women in America. Semester I: From colonization to 1860; Semester II: 1860 to present.

351. Women in the Arts (3)
Images of women in society as reflected in the plastic, graphic and performing arts; artistic contribution of women. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

352. Women in Literature (3) I
Definitions of women in society as reflected in literature and literary criticism. (Formerly numbered Women's Studies 350A.)

353. Women Writers (3) II
Women writers as literary artists and social critics. (Formerly numbered Women's Studies 350B.)

360. Women's Sexuality (3)
Current research and theories on the psychological, social, and psychophysiological aspects of women's sexuality; examination of the relationships among social expectations, sexual customs and traditions, and sexual behavior, responses, identity.

370. Women and the Law (3) I, II
Legal factors affecting women in employment, education, health and welfare, property ownership and criminal justice, including investigation of public policy issues which affect women's lives.

380. Women and Political Systems (3) II
Comparative analysis of the place of women in various political theories, political and economic systems, and the processes which determine political power.

385. Women's Economic Roles (3)
Economic factors which affect women's lives. Topics will include economic analyses of marriage, divorce, fertility and child care; women's occupations, earnings and education; the economics of sex discrimination; government economic policies and women's welfare.

390. Women and Education (3)
The educational process and female role socialization; research into personnel policies and curriculum. New learning methods and environments, e.g., women's studies programs, child care centers, and "free" schools.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of which no more than three units may be applicable to general education requirements.

498. Field Experience (3) I, II
Prerequisite: One upper division course in women's studies. Observation and analysis of public and private agencies in the San Diego area which deal primarily with women.

499. Special Study (1-3)
Prerequisites: Three upper division units in women's studies and consent of the chair and instructor. Individual study. Maximum credit six units.

595. Seminar in Women's Studies (3)
Prerequisites: Six upper division units in women's studies. Directed research in women's studies. Field of investigation will vary with instructor. Methods of investigation, development of bibliography, presentation of paper based on original research. See Class Schedule for specific content. (Formerly numbered Women's Studies 495.)
Zoology

In the College of Sciences

Faculty
Emeritus: Crouch, Harwood, Kasten, Norland
Chair: Atkins
Professors: Atkins, Bohnsack, Carpenter, Chen, Cohn, Collier, Dexter, Estes, Etheridge, Huffman, Hunsaker, McLean, Monroe, Olson, Wilson
Associate Professors: Avila, Cooper, Krekorian, Plymale
Assistant Professor: Novacek
Lecturers: Mahr, Metten

Offered by the Department
Master of Arts degree in biology with an emphasis in zoology.
Master of Science degree in biology with an emphasis in zoology.
Major in zoology with the B.A. degree in liberal arts and sciences.
Major in zoology with the B.S. degree in applied arts and sciences.
Single subject teaching credential in life sciences in the area of zoology.
Minor in zoology.

Zoology Major

With the A.B. Degree in Liberal Arts and Sciences
All candidates for a degree in liberal arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Preparation for the major. Biology 215; Botany 200; Chemistry 200, 200L, 201, 201L, and either 230, 230L or 231, 231L; Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 200. (38-39 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. It is recommended that students select French, German or Russian to satisfy this requirement. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 24 upper division units to include either Biology 411, 430, 501, or Biology 411, 502, 503, and 12 units of zoology selected from 400- or 500-level courses at least two of which must include a laboratory.

Zoology Major

With the B.S. Degree in Applied Arts and Sciences
All candidates for a degree in applied arts and sciences must complete the graduation requirements listed in the section of this catalog on "Graduation Requirements." A minor is not required with this major.

Preparation for the major. Biology 215; Botany 200; Chemistry 200, 200L, 201, 201L, and either 230, 230L or 231, 231L; Mathematics 121 and 122, or 150; Physics 125A-125B and 194A-194B; Zoology 200. (38-39 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive semesters of college study) is required in one foreign language as part of the preparation for the major. It is recommended that students select French, German or Russian to satisfy this requirement. Refer to section of catalog on "Graduation Requirements."

Major. A minimum of 36 upper division units to include either Biology 411, 430, 501, or Biology 411, 502, 503; Microbiology 310; plus a minimum of 12 upper division units of zoology to include any two of Zoology 503, 506, 507, 510, 521, 540 or 570; and five units of electives selected in consultation with the Life Sciences Teaching Credential Adviser.

Zoology Minor

The zoology minor is intended to provide recognition for a reasonable amount of study in zoology and related fields by students majoring in other subjects. The student completes a total of 40 units in the biological sciences to include Botany 200, Zoology 200, and 12 units in the upper division, at least seven of which must be in zoology.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable.

LOWER DIVISION COURSES

100. Evolution and Diversity of Animals (3)
Animal adaptation and diversity and their relationship to the development of evolutionary theory.

100L. Evolution and Diversity of Animals Laboratory (1)
Prerequisite: Credit or concurrent registration in Zoology 100. Laboratory course on evolution and diversity of animals involving field trips and laboratory investigations.

108. Human Anatomy (4) I, II
Two lectures and six hours of laboratory. Gross and microscopic anatomy of the human body.

200. Introduction to Zoology (4)
Three lectures and three hours of laboratory. Prerequisite: Botany 200. Zoology for life sciences majors. Animal diversity and evolution, development, morphology of animals in human affairs.

299. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number of units.

UPPER DIVISION COURSES

(Reserved for Undergraduates)

300. Honors Course (1-3)
Refer to Honors Program.
314. Natural History of the Vertebrates I, II
Two lectures and three hours of laboratory.
Prerequisite: One semester of college biology or zoology.
Natural history, distribution and classification of vertebrate animals; emphasis on local forms. Not open to zoology majors.

330. Life in the Sea I, II
Prerequisite: College level course in the biological sciences.
Overview of complexity of marine life: Diverse interactions of organisms in the intertidal zone, over the continental shelves and in the open oceans. Current controversies concerning the marine biosphere. Course cannot be used by majors in biological sciences to satisfy upper division major requirements.

340. Sociobiology I, II
Prerequisite: Anthropology 102 or Biology 100 or Psychology 101 or Zoology 100.
Biological bases of social behavior with emphasis on evolution, cooperation, and adaptive significance of social behavior. Not open to biological sciences majors.

430. Insects in Perspective I, II
Prerequisite: Biology 100 or Zoology 100 or 200.
The role of insects in global ecosystems with emphasis on medical and economic aspects, adaptations of insects for these roles, and analysis of current problems and tactics in pest management. (Formerly numbered Zoology 330)

450. Invertebrate Zoology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Survey of structure, function, ecological significance, and phylogenetic relationships of invertebrate animals. Not open to students with credit in Zoology 150.

460. Vertebrate Zoology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
An introductory course in the biology of the vertebrates with emphasis on the vertebrate organism as a whole; anatomy, physiology, development of evolution. Not open to students with credit in Zoology 160.

490. Senior Investigation and Report In Invertebrate Zoology I
Prerequisite: Consent of instructor.
Investigation and report on the current literature of invertebrate zoology.

496. Experimental Topics I, II
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units applicable to a bachelor's degree in courses under this number.

498. Methods of Investigation I, II
One discussion and three additional hours to be arranged.
Prerequisite: Consent of instructor.
Selection and design of individual research in zoology; oral and written reports. Maximum credit four units for Zoology 498 or a combination of this course with Microbiology 495.

499. Special Study I, II
Prerequisites: Fifteen units in biological sciences with a grade of A or B and consent of instructor.
Individual study. Maximum credit six units.

503. Embryology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Studies in comparative gametogenesis, morphogenesis, and reproductive physiology.

506. Comparative Anatomy of the Vertebrates I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Dissection, study and comparison of organ systems of representative vertebrates.

508. Histology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200. Recommended: Microbiology 310 or Zoology 108.
Descriptive microscopic anatomy of cells, tissues and organs of mammals with special emphasis on human systems.

510. Marine Invertebrate Zoology I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 411 and Zoology 450.
Ecology, morphology, behavior and physiology of marine invertebrates. Frequent field trips to local marine environments.

515. Ichthyology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Identification, systematics, evolution, structure, physiology, behavior and ecology of fishes.

516. Herpetology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200 and consent of instructor.
The study and identification of amphibians and reptiles of the world.

517. Ornithology I, II
Two lectures, six hours of laboratory or field excursions, and a field project.
Prerequisites: Zoology 200 and consent of instructor.
The study and identification of birds, especially those of the Pacific Coast and the San Diego region.

518. Mammalogy I, II
Two lectures and six hours of laboratory.
Prerequisites: Zoology 200 and either Zoology 506 or consent of instructor.
The evolution, systematic, distribution and ecology of mammals of the world.

521. General Entomology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Structure, physiology, natural history and classification of insects.

522. Special Topics in Entomology I, II
Two lectures and three hours of laboratory.
Prerequisite: Zoology 521.
Treatment of some aspect of entomology, such as biological control, microbial control of forest entomology, not covered in regularly scheduled courses. See Class Schedule for specific content. Maximum credit nine units. Maximum credit six units applicable to a master's degree.

523. Immature Insects I, II
Two lectures and three hours of laboratory.
Prerequisite: Zoology 521.
Collection, preservation, identification and biological study of the immature stages of the different insect orders. Course designed to meet the needs of students specializing in invertebrate zoology, agricultural and medical entomology, parasitology, and systematics.

524. Insect Ecology I, II
Prerequisite: Zoology 411 and Zoology 521.
Ecological principles as applied to insects, including consideration of crop ecosystems in relation to insect and mite outbreaks.

525. Economic Entomology I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 521.
Course designed for students of entomology or agriculture and horticulture. Emphasis is placed on determination and control of insects affecting plants. Quarantine measures are also studied.
526. Medical Entomology (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Zoology 200 or Microbiology 310. Zoology 521 required for students in entomology.
The role of insects and other arthropods in the transmission and causation of human diseases and the important diseases of domesticated animals.

527. Biological Control (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 521.
Theory and implementation of biological control of arthropods and weeds. Emphasis on role of natural enemies, including insect pathogens, in the regulation of pest populations. Recommended for students specializing in entomology, botany or applied ecology.

528. Insect Physiology (4) I
Two lectures and six hours of laboratory.
Prerequisites: Zoology 521 or an upper division course in physiology, and Chemistry 230, 230L or 231, 231L.
Description, theory and experimental analysis of all major physiological processes in insects.

530. Advanced Invertebrate Zoology (3)
One lecture and six hours of laboratory.
Prerequisite: Zoology 200.
Selected topics in advanced invertebrate zoology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

535. Parasitology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200 or Microbiology 310.
Study of animal parasites with special reference to those of man. Laboratory including identification of important parasites of man, and collection and preservation of local forms.

540. Physiological Zoology (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Zoology 200.
A comparative and evolutionary study of the functions of organ systems and their environmental significance.

555. Principles of Taxonomy, Systematics and Phylogeny (4)
Two lectures and six hours of laboratory.
Prerequisite: Any one of the following: Zoology 200; Botany 501, 502, 503.
Basis for the classification of organisms. Modern concepts and their application in zoology. Specific problems in laboratory and field.

560. Lower Vertebrate Paleontology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 506.
Advanced studies in the evolution of nonmammalian vertebrates, including relations to earth history and topics in paleoecology and functional morphology. Field and laboratory techniques and exercises in identification are included.

561. Mammalian Paleontology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 506.
Advanced studies in the evolution of mammals, including relations to earth history and topics in paleoecology and functional morphology. Field and laboratory techniques and exercises in identification are included. Zoology 561 need not follow in sequence with Zoology 560.

570. Animal Behavior (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 215; Zoology 200 or Psychology 210 and 260 for psychology majors.
Biological bases of animal behavior with emphasis on the ethological approach, including the evolution and adaptive significance of behavior.
ADDENDA

Faculty and Administration

Index
Faculty and Administration 1978 – 1979

DAY, THOMAS B. (1978) President, Professor of Physics
B.S. University of Notre Dame; Ph.D., Cornell University.

ABBOTT, MITCHEL L. (1964) Professor of Chemistry
B.Sc., Ph.D., University of California, Los Angeles.

ACKERLY, ROBERT S. JR. (1963) Professor of Geology
B.S., San Diego State University, MA, Ph.D., University of Texas at Austin.

ABBOTT, PATRICK L. (1971) Associate Professor of Accounting
B.S., M.B.A. University of Cincinnati.

ADELSTEIN, MITCHELL (1964) Associate Professor of Economics
B.S., M.A. University of Michigan.

ADAMS, JAMES P. (1976) Associate Professor of Biological Sciences
B.A., Stanford University; M.D., Stanford University.

ADAMS, STEVEN ALEXANDER, JAMES V. (1967) Associate Professor of Political Science
B.A., MA, University of California, Berkeley.

AJEMIAN, JAMES A. (1970) Assistant Professor of English
B.A., M.A., University of Massachusetts, Amherst.

ANDERES, EUGENE A. (1977) Associate Professor of Microbiology
B.S., M.S., San Diego State University, MA, Oregon State University.

ANDERSON, ALLAN W. (1962) Associate Professor of Political Science

ANDERSON, DAVID T. (1969) Associate Professor of Social Work
B.S., Nebraska State Teachers College, MA, University of Minnesota.

ANDERSON, EVANS L. (1954) Professor of Elementary Education
B.A., MS., San Diego State College, MA, University of California, Los Angeles.

ANDERSON, HAYES L. (1966) Professor of Telecommunications and Film
B.S., Oregon State University, MA, Michigan State University.

ANDERSON, PAUL V. (1954) Professor of Music

ANDERSON, W. CARLISLE (1955) Associate Professor of Music
B.S., M.A., Teachers College, MA, University of Minnesota.

ANDRAN, CHARLES F. (1964) Professor of Industrial Studies
B.S., West Virginia University, M.A., Ph.D., University of California.

ANDRUS, RUTH (1962) Professor of Physical Education
B.S., Utah State University; M.S., Oregon College; Ph.D., State University of Iowa.

ANDRZEJEWSKI, NORMAN J. (1969) Professor of Astronomy
B.A., M.S., San Diego State University, Ph.D., University of Texas.

ANINGER, THOMAS (1967) Assistant Professor of English
B.A., M.A., Ph.D., University of California, Los Angeles.

ANNAS, ALICIA M. (1970) Associate Professor of Drama
B.A., University of Detroit; MA, University of Texas.

ANTHONY, SALLY M. (1965) Associate Professor of Business Administration
B.A., MA, California State College, MA, University of California, Los Angeles.

APPLEBY, ANDREW B. (1973) Professor of Secondary Education
B.A., M.A. University of California, Los Angeles.

APPLEBY, DOUGLAS V. (1967) Professor of History
B.A., Stanford University; MA, University of California, Santa Barbara; Ph.D., Claremont Graduate School.

ARCHER, ELLIS C. (1956) Professor of History
B.S., Northwestern State College, MS, University of Kansas; Ed.D, Stanford University.

AULD, THOMAS (1978) Associate Professor of Science
B.S., University of Wisconsin, MA, University of California, Berkeley.

AYALA, MARTA B. (1977) Professor of English
B.S., University of Minnesota, Minneapolis; MS, University of Arizona.

AYALA, ROLANDO (1969) Associate Professor of Geography
B.S., University of California, Berkeley; MA, Ph.D., University of Texas.

Baker, JAMES P. (1976) Professor of Economics
B.S., MA, Stanford University; M.A., University of California, Berkeley.

Baker, JAMES R. (1957) Professor of English
B.A., MA, Ph.D., University of Denver.

Baker, KEEFE L. (1965) Professor of Art
B.F.A., University of Colorado; M.F.A., University of Iowa.

Baker, RICHARD J. (1978) Associate Professor of Economics
B.A., MA, Kansas State University; M.F.A., University of Cincinnati.

Baker, WILLIAM S. (1973) Professor of Political Science
B.S., University of Oregon; MA, University of Oregon.

Baldwin, ELMER D. (1963) Professor of Psychology
B.S., M.A., University of Washington; Ph.D., University of Utah.

Ball, JOSEPH W. (1975) Associate Professor of Anthropology
B.A., MA, University of Wisconsin, MA, University of Wisconsin.

Banks, JAMES H. (1976) Professor of Anthropology
B.S., University of Minnesota; MA, Ph.D., University of Wisconsin.

Baral, DAVID P. (1976) Professor of Economics
B.A., MA, Stanford University, Ph.D., University of Arizona.

Barbeau, WILLIAM F. (1958) Associate Dean for Student Affairs, College of Business Administration

Barclay, ROBERT E. (1955) Associate Professor of Business Administration
B.S., University of North Dakota; M.S., Columbia University; Ph.D., University of Illinois.

Barclay, A. BERNICE S. (1960) Associate Professor of Sociology
B.S., San Diego State University; M.A., Ph.D., Michigan State University.

Barrett, CAROLIA, J. (1971) Associate Professor of Biostatistics
B.A., MA, University of Arizona; H.S.D., Indiana University.

Barrett, DAVID L. (1968) Associate Professor of Business Administration
B.A., MA, University of California, Santa Barbara; MA, Stanford University.

Barrett, VERNON F. (1971) Associate Professor of History
B.S., MA, University of California, Berkeley; MA, University of Texas.

Bartholomew, ALBERT M. (1958) Associate Professor of Psychology
B.A., MA, University of Colorado; MA, University of Minnesota.

BAVER, WALTER S. (1963) Associate Professor of Education
B.S., MA, University of Oregon.

Becker, WILLIAM W. (1959) Associate Professor of Economics
B.S., M.S., San Diego State University, MA, Stanford University.

BEATRIZ, ALICIA M. (1970) Associate Professor of Education
B.S., University of California, Santa Barbara; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.

BEEFING, GEORGE A. (1958) Associate Professor of English
B.A., MA, Stanford University; MA, Stanford University.
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree(s)</th>
<th>Institution(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BURTON, CHARLES R. (1958)</td>
<td>A.B., M.A., University of Kansas; M.A., Ph.D., University of California.</td>
<td></td>
</tr>
<tr>
<td>BUTLER, HARRY (1975)</td>
<td>Dean, College of Human Services; Associate Professor of Social Work</td>
<td></td>
</tr>
<tr>
<td>CANNON, DONA H. (Mrs. R.C.)</td>
<td>A.B., M.S.W., University of Cincinnati; M.S.S.W., University of Louisville; St. Louis</td>
<td></td>
</tr>
<tr>
<td>CARRIELE, RICHARD L. (1975)</td>
<td>A.B., University of California, Irvine, M.A., M.S., University of California, Los Angeles</td>
<td></td>
</tr>
<tr>
<td>CARLSON, B. ROBERT (1987)</td>
<td>M.S., Louisiana State University, M.Ed., Ph.D., University of Texas, Austin.</td>
<td></td>
</tr>
<tr>
<td>CARMICHAEL, NANCY M. (1958)</td>
<td>Assistant Professor of Botany</td>
<td></td>
</tr>
<tr>
<td>CARNEVALE, JAMES P. (1967)</td>
<td>Professor of Counseling Education</td>
<td></td>
</tr>
<tr>
<td>CARPENTER, JOHN (1975)</td>
<td>Chief of Public Safety</td>
<td></td>
</tr>
<tr>
<td>CARPENTER, ROGER E. (1983)</td>
<td>A.B., University of Arizona, Ph.D., University of California, Los Angeles.</td>
<td></td>
</tr>
<tr>
<td>CARTER, J. R. LINDSAY (1957)</td>
<td>Professor of Physical Education</td>
<td></td>
</tr>
<tr>
<td>CAUDELL, PATRICIA O. (1977)</td>
<td>B.F.A., Rhode Island School of Design; M.F.A., University of Wisconsin, Madison</td>
<td></td>
</tr>
<tr>
<td>CHAMBERLAIN, NORMAN R. (1972)</td>
<td>Professor of Afro-American Studies</td>
<td></td>
</tr>
<tr>
<td>CHAN, LILLIAN L. (Mrs. S.Y.)</td>
<td>A.B., University of California; M.A., M.D., Arizona State University.</td>
<td></td>
</tr>
<tr>
<td>CHANG, CHUNG S. (Mrs. M.J.)</td>
<td>A.B., M.S., University of Michigan.</td>
<td></td>
</tr>
<tr>
<td>CHASE, WINFRED WONG (1973)</td>
<td>B.S., University of Wisconsin.</td>
<td></td>
</tr>
<tr>
<td>CHATFIELD, DALE A. (1978)</td>
<td>A.B., M.S., Oakland University, M.D., University of North Carolina, Chapel Hill</td>
<td></td>
</tr>
<tr>
<td>CHAVES, FELIX J. (1978)</td>
<td>A.B., University of Puerto Rico, M.S., University of Southern California, Los Angeles</td>
<td></td>
</tr>
<tr>
<td>CHERN, CHI-CHI (1969)</td>
<td>B.S., National Taiwan University, M.S., University of Alaska; Ph.D., University of San Diego.</td>
<td></td>
</tr>
<tr>
<td>CHEN, LO-CHI (1969)</td>
<td>B.S., National Taiwan University, M.S., University of Alaska; Ph.D., University of San Diego.</td>
<td></td>
</tr>
<tr>
<td>CHEN, MILTON L. (1973)</td>
<td>B.S., University of Iowa; M.B.A., University of Illinois; Ph.D., University of Illinois.</td>
<td></td>
</tr>
<tr>
<td>CHEUH, FANO H. (1990)</td>
<td>B.S., National Taiwan University, M.S., University of Minnesota; Ph.D., Northwestern University; Registered Professional Engineer.</td>
<td></td>
</tr>
<tr>
<td>CHRISTENSEN, CLAY B. (1968)</td>
<td>B.A., M.A., Brigham Young University, Ph.D., University of Washington.</td>
<td></td>
</tr>
<tr>
<td>CHIU, PAOCHI (1966)</td>
<td>B.S., National Taiwan University, M.A., M.F.A., University of Pennsylvania.</td>
<td></td>
</tr>
<tr>
<td>CLANTON, GORDON (1975)</td>
<td>A.B., Louisiana State University; B.S., Indiana University; Ph.D., University of Iowa.</td>
<td></td>
</tr>
<tr>
<td>CLAPP, JAMES A. (1968)</td>
<td>B.S., The Ohio State University; M.P., Pennsylvania State University.</td>
<td></td>
</tr>
<tr>
<td>CLARK, MARVIN (1969)</td>
<td>A.B., University of California; M.A., University of California.</td>
<td></td>
</tr>
<tr>
<td>CLEMENT, HAROLD C. (1962)</td>
<td>B.S., Arizona State University, M.S., University of California, Los Angeles.</td>
<td></td>
</tr>
<tr>
<td>COBB, C. JAMES (1965)</td>
<td>A.B., M.A., University of Iowa.</td>
<td></td>
</tr>
<tr>
<td>COFFEE, DENNIS J. (1968)</td>
<td>B.S., Alcorn State College; B.S., Ph.D., University of Texas.</td>
<td></td>
</tr>
<tr>
<td>COHEN, JESSIC A. (1970)</td>
<td>B.S., University of Southern California; Ph.D., University of Southern California; Oak Ridge College; M.S., University of Tennessee and Oak Ridge Institute; M.S., University of Tennessee and Oak Ridge Institute.</td>
<td></td>
</tr>
<tr>
<td>COHEN, LEONARD J. (1973)</td>
<td>B.S., M.Ed., University of Southern California; Ph.D., University of Southern California; Oak Ridge College; M.S., University of Tennessee and Oak Ridge Institute.</td>
<td></td>
</tr>
<tr>
<td>COHEN, LEONARD J. (1973)</td>
<td>B.S., M.Ed., University of Southern California; Ph.D., University of Southern California; Oak Ridge College; M.S., University of Tennessee and Oak Ridge Institute.</td>
<td></td>
</tr>
<tr>
<td>COHEN, LEONARD J. (1973)</td>
<td>B.S., M.Ed., University of Southern California; Ph.D., University of Southern California; Oak Ridge College; M.S., University of Tennessee and Oak Ridge Institute.</td>
<td></td>
</tr>
<tr>
<td>COHEN, LEONARD J. (1973)</td>
<td>B.S., M.Ed., University of Southern California; Ph.D., University of Southern California; Oak Ridge College; M.S., University of Tennessee and Oak Ridge Institute.</td>
<td></td>
</tr>
<tr>
<td>COHEN, LEONARD J. (1973)</td>
<td>B.S., M.Ed., University of Southern California; Ph.D., University of Southern California; Oak Ridge College; M.S., University of Tennessee and Oak Ridge Institute.</td>
<td></td>
</tr>
</tbody>
</table>
FaCUlty I 489
488

I FaCUlty

CRAWFORD, PATRICIA A 1\961)
,0",8" M,A. Unlversityol
R
CRrSlE-Y, CO~NELlUS
J, 11962~,
DONALD

Ph.D.

-University

h:"MlS"'"

A,8.Un,ve~ltyoIPittsbu
CROWLEY,

he ster;


.•

AB .. UnlversityotCalilornia:iNi

CarnegIe

':

Institute

,'

ne.

CRUI\1 CLYDE E. 11955) ... ,...

""n',;,;;ol;,:·····
,,ot Teciloo.;g:,.:·

of

,,
-

.

MA" UnIVersity of California,

.

~~~~~~:

M.·S: tin'lve;';;'ty

-

e
MORRIS ~ (~:;;~n.,~y

DARLEY,

,Soulllem
RICHARD

Methodist
D. (1961)

U.~i""rsity;
Unl""rs!'

M.i=:,i,,: Syrac~;e

B.S,CorneIIUniversity;MS··U·"
,.
DAUB, CLARENCE T, JR. (1967) • nl""rSltyol
A.B, Carleton Coli
.
.,.
.,.
DAUGHERTY. WAY~E, F.e~~: r,~g6IuniversityOI

,

A, UnIversity
H. (19S7)

..

of Nebraska'

B.S, Oregon StateUniversii',
DAVIS, GLOVER T. II (19SS)
_

....
"....

.
Los' A;-,Qeie,":soClal8
- ..•..•

wj~~nSiri.··

MA.

PhD.

University

;;,- Chicalio

DAVIS. JEFFREY A 11977) ..
O""'~ B~S. Rensselaer Polylechnic
'" '" "ONALD
W. 11968)
AB.

.".

F:';'; Li~;"""rsitY·oi·I;""'·a.

owllng

af POlitical

Prolessor

i····,'·

•..

SCienca

of Cr.emISlr~
in Arl

01 SociOlogy

_ Professol

of Ma,kellng

Professor

01 Astronomy

,
....

Associale
.......

.,

A.ss"tanl

Proles50r

of 8,oI0lll'

ProleS50r

of Hlslory

Profassor

01 8iol09l'

.
..•.
Assoclll'lr8

Prolessor

ProfeS50'

of Engllsn

01 Social

Prtlfessor

WorK

E~~1fJ~~r

DESSE~BN~~~nF

Ph,D. Universi"r;

'Te~~'s. ., ... , ...
.•

Professor

oJ Mathemallc:s

Profassor

of MathemallCS

• ..•..

Assoeiale

Prolessor

........•

01 iii~ois"
.. , ...••

~iegO Stale ·univarsitY.

Aasociale

AB, M,A. Ph.D G~~~r;
",
..
DETWEILER, ROBERT C (19~~}') 01 Iowa,
.......
AB, Humboldt Slate C lie'
.
A
..
DEXTER, DEBORAH
ge: M.A. San Fran.::lscO '$OClale Dean, Coile
AB., MA, Slan~~l~n
'.'.
State Unl""rs<l~
PhD~U~~V~I~

of ?-sychrJOi1l'

DICKERSON.MARYE(ll16
B.S, M.S, Kansas

"II, Madras.lndi~;

M'" ,...

°

,n""sota

Sla;~ U",'

DICKINSON,
FIDELIA R. (1966) nlverSlly,
AB., M.A" Imm~cul~le
H

DIEHL

°

WIUIAM
P. (1968)
B.S. Unive,sit}' of Ari~or,a

DIETZ.JAMESC,(1972)
B.S. Southern

OIa On C'··

...

A

'

,

..

Sk~ls Cenwr--

SIOO}'

0'

Nalural

ScIences

Prolessor

of Englneerl'll

" •......

01 Famil}'

of Athlelics

0 Wasll,nglon.
..••.
Professor

, .. P
of Illinois,
lofesso'

SSISlanl Professor

Professor

01 HIstory
01 Zoology
MechanicS

of psychoiOllY

Stool
as and Consumer

' ..... of" Cai;i';;rii~'
,. ' ..0....Umversily

M'CS'

Ph'

Santa Barbara:·'i..ii·p'·'··
(196B)
..
•

s.)

ashlnglOn,

"'

, .••

•

e.

"'i',s:

• oa

oi'·····
or

.••

SCiences
n

.
Unlver&lty

University.

, .....

01 California,

P,olessor

of Engll.h

. •.

, H\IIId COIIch. 8as8'b811
llan

'

Ed:6: 'Uiah Slat'

"-,

a

,',' ProfullOl
university.

,..

...
, .....
of Celifornia,

OOWNING,
CHRISTINE R 11974) .. ,'"
AB" Swarthmore
College: Ph.D,
• DRAKE, GLENDON
F, (1966) .. ' ,

, ...
Sante

.• Aunclale
01 Induslr~1

t1blS
Siudies

leclure<

,""'"
State Universil}'.

crew

,

of Special

Associate

Pro/essill

, ,
',
Slate UnlvelSity,
Prolessor of FamilY Sludles

'...

SAUL

I. (1963)

., ...

B,S .. MA" Ph.D .. University
DUCKWORTH.JOSEPHB.(1968)."
AB"

Oglethorpe

College;

DuFAULT.DAVIDV,(1962)
AB .. MA.. Occldenlal

'"

..

and Consumer

Associate

prctesso'

of Nelural

Professor

01 RaligiouS

',

,
MA

. ......

"

SClllOClls

. Associale

..."

........

Geology

Prolessor

..

...

' Ptolesso

SdeflC8'
Slud,es

of Llngulsllc.
Eogl".",rlng

of Mathematics

of Te.as: Post·DoclO1el
Fellow, Rice University.
.. ' .. " ,.,"
""
.... , .. ,,"
.......
MAT .. Oberlin

... , ...
College:

DUKAS,V\'TAS(1959)
AB .. MA (Russian),

........

Educallon
of

.. Assistant P1o'eiSill ol Accounllng
Unlver.il~
01 Dregon; Cert~ied Public

"
.....
Barba'" .

. , .....
, ..
Univarsity.

ProfeS-ilI

A,B .. Ml8mi Unlverslly.
Ohio; MA, OklahOma Stale University; PIl.D. Unlvllisity of Michigan.
DRAKE. KENNETH w, (1973).
..
,." .. , .. "
.. ,....
.
Assislant professor 01 Electrical
B.S .• Michigan Stale Univenily;
MS .• University of New MBlCicO: Ph,D, Stale University of New YOrl!.
r
DROBNIES.

In",rt

Prole&sor of Linguistics

...LeClurerinMalhemallcs

B.S. Southern Illinois University; M,S, Un,versilY 0' IliioolS,
DOUGLAS. SHARON M, (1977)
...
, .. , .. " .. , .. ".
,"
.
.
B.S, Unilrersily
of Monlana;
M,S, San Diego seie Univi..-Bitv: Ph.D.
Accounlsnt.
OOWlER.MICHAELJ,(lg71)
AB .. Ph.D .• UniversifV

.. "'ssociata

8a1keley.

" .. "",
M.A, Ph.D" MiChigan

Unlvelsity:

,'"

Ohio: PtLD. Ohio Slate Unlve,sity,

DORMAN,CUVEE.(1S74),.,.,.
,
, .. "
,
,
A.B. University
of California,
Riverside; M.S. ph.D, O,egon
DORRiS. HELEN L (1952)
,.,.
., ....
,."
...
, ....
,......

CoIl.,..e:

sene

Ed.D .. We}'nB

, . Professor 01 5econda'1EdU<ation
Associate Prolessor 01 HlslO","
University .

, .. , .. , .. ' , ....
'
.. '
Ph,D .• UniverSIr; of OrBQOn,

'
(Germani,

,.".,
.. ,."
Ph.D" Universn)'

. .• Prolessor

"
.
ol MicMillan,

. As.i11anl

of Runlan

ProlesSor 01

An

DUMLAO. GERALD C. (1977) .. .. ....
. ... ,.,
.. , ... " .... ,' .......
, ....
B.F. ..." The Cleveland
Ins~lute ot Arl; M.F.A. Cranbrooll Academ}' of Rna Arl •.
ai
DUNCAN.MARYR.(Mrs.lllS73)
,
' ."
,
,
" .",.AsSociataProles.orofRacreabon
AB .. San Diego
Unlversit}': MS" San FrancieCO SJale university: Ph.D. United Slates Int","allon
UnIV"ISlty •

sere

HARVEY

1.(1963)

,.'

A.B.. New York UnivelSir;:
DUNN,RO$SE.(19681
A,B .. Slale University
DUSTIN, DANIEL L. (1977)

MA.

."

""

Ph,D" Unlversir;

····..
.
of New Yo,k at Alban}':
.....
"., .. '

A,B" University
ol Missoori.
EBERT,THOMASA.(1969)

,

,.

. AssoclatePlolassorolGermsn
..•
pro1es.Or 01 HlstO!'>'

01 Calilornia.
..
"
MAo Ph.D, Unive<sn}'

.
of Wiscon.ln.
..•

r
Assislanl.ProlessO

",

"

.,

.........•....

Associal"

M.s. Ph,D .. universitY

bOlllllli"

'M'j,: 'Ph,D .. Siar,iQ;duriiV

El.ASSAL
MOHAMED M. E.(1967)
.
.. MA" PhD
.. Indiana
ELGIN, M,S
PATRICIA
A. (Mrs.
G. NJUnivf!lsll}'.
(1972)

Pro/esso

01 PublIC Admlnl.tralion

ol New York. 6ultalo,
. ..

ProleSSOlo1BIOIOllY

of Orllllon.

ECKBERG, CARL F, (1969)
.. ,."."
.. "., ....
,' .......
A.B .• Cornell Unive,sily:
M.S" Ph.D" purdue University,
EIDEMILLER,
DONALD I. (1956)
.....
, ...
'
...
, ... ,......
AB., San Dfeg<> State Unlversil}';
M.A. UnlverSny 01 California;
EISNER ROBERT E ( 970)
A,B" St. Peleis

01 Recreauon

r

Columb<a; M.A. Ph,D .. Stafe Univers~}'
,
,.",
.,
,........

ol WiSCOnsin;

Ph'D: ·Ii.dians'

....SIIY:

. Professor of Geograph}'
lcS
ur,ive;;iiy.
• Associate Professor of Cla.S
. Professor 01 Soclolog)'
r

...,

.'

•

.Associale

Prolesso

in Linguistics

A.9.. California
State universlly.
Chico; MA. Ph.D. Unlvers,ty ol California. ale
San DIBQO.
ELLIOTT, ROSALIE C. (1966)
, .•....
" '
" _
'
Auocl
Pro1euor 01 ElemenlalY EducatiOn
A.B .. Mounl HoI}'oI<e College; MA, Bryn Mawr COllege; Ph,D" Claremont GiaduateAssociate
SChool. l'Io/\I8s0r 01 SoCial Work
ELLIS, ARTHUR L.(197B) ....
,"
.. ''''
A.B" Tl1e Cil}' CoIl69!' of New York: MS-W
ELWIN,JOHND.(19S9),
.,"
, ...•.
,
,
6.S .. UniversiW

01 WasMington;

Ph.D .. Oregon

DSW.
,

Coi..-.lb,a
'.
.

Slat"

Unwer.itY,

,"O_,'W,

alc
or
I
Assoc'ate l'IofessOl 01 Malnem •
. Associate DeRn, Studenl "flail.

SchOO """""a

. Associale

Pro1essor 01 Soclolog'f

EMERICH, CARL F, (1974) .. '"
.....
""
..
A.B .. M,S., University of Southern Ceilfornla.
EMERICK,ROBERTE.(1968)
A,B" Unive<Sity of California. Santa Barbara:

"
"
PM,D. NQrthWstern

ERICKSON
PAUL (1963)
...
' .... , ........
A.B 'Arlzona Slale Unive<slt}'· MA Sfenford
ERICKSON, WilLIAM
L (1964).
•

, ...
, .......
, .. , ..... ' .- ... "p,ol~S5r
.
Univers~}': Er:I.D. univers,t1 of Southern
al,IOI",e.
.. Viotl p,esi""n!
for 8 .... lnes.

AB .. sacr"mento
ERZEN,l~~~~I;e;;I~:~r

ngeles.
Senior Aaa;sllInl
Ubra,tan
"'noel8le
ProleslIOI ol Biology

,.. ,.,',. ,~."

,

, ... , .. , ....

Ph.D. Unlve,slty

DOORLAG,DONALDH.(1970)
B,S, Cenual Michigan

,

State,

Slale
ESPiNOSA,
AB.

''','''';'UnlverSlly.

wa~hirllii';';:'M:a:A:

U'~i;'e;~it;

Oi 'DenV;";

Assislanl

RU6ENW,(1976)
.,.,
".'
.. , ... ,,, .......
, ... ,'".,
Univelsity 01 California, RiverSide; MA. p!l.D. StRnlOrd UniverSIty,
B. (19,751

, .....

, .. , '"

B,F.A, Unloer"ty
of iowa; B,S., "en
University of California. Los Angeles.

,.•

,.,

',,'

',;,'is',;,;: MA-

~ e e "n<

.,.

Education

y
.
.
& F,nanclal

In Social SCience. Imperial

M.s~'''1; F'orce ~Z'11ru:

Univelsily,

ESSER, JANET

0 01 secondar

,r

tlbraria

of

'tini'v'··',
..... ~~:
•.
elllfV
Carolornla

ieachera
..··"··..
Coilitil'a:

Alaociele

rlgelel.
.~ •• , •..••

•..••.••
" •.• ,
n a. Lo. Angeles.

M,S" Ph.D, candidat"u""':"""
.. "...
.....
niverSlly

DIRKSEN. DENNIS A. (1969)
..
ornla. Los Angeles;
AB" McPhe<.on Coli""''''
",'';' ,/.
'. ' ...
,
~~-.
.~. "ansu
Siaia

Los 'i,'"

, .••.
,....
'
h,D. Unlverl~}' of 'eaiiio"~la'l"

•...•

h.D.Univ8lsitY'~ICalilo.·i·
""
.. ,.,.,

DINTRONE. CHARLES v,g(197fJllege;
A.B .. M.A. UnivalSlt}' of Calif":

Ph.D: ,lversl!1
'u~'

'

,

'p ... '....
;

I
arOllna,

....,

'i

__ ' orne,
Un~;"s\~rsi
~

lLeiters

,..

DICKINSON
JOHN W (
eart College;
._
AB. Universify of b9a~~)
DICKINSoRpAUtiN
AB. M,LS.

Professor,

;nd

NOIfh'C'
MS.

Direclor

Professor

°

DICKEN. CHARLES F, 11962)
AB, M.A, Ph.D. Universily"j

... ,

....

, .. ,

M,A., Miam;

.,

College;

B.S .. UniversitY

U..... ',"..........

DHARMARAJAN,
SANGIAH ~~S~~',PhD
UnlverslfVol
B,Eng" ColI.,..e 01 E"IIineeli"
1960) .. ".......

UnlVersily:

0.(1978)

Har~ard

,.,

01 f'Ill"'lCS

• owll"ll Green Slate Unl""rs'li','
M""""
.. , .•...
DelORA
MARGAREr J. (19751
)',
A, Western Rese",e 0~i~e"''''''''
......
ProlElS
.
DEMP:E , Univers<fy of Callforni~: B'erke'le;:
S
rSlly; Ph.D. Mict.igan 'Sia'le UniV:::.ri~.1 SoclrJO\I'/
S
_ _
A:' ~E?R~~.WARREN
11S7S) " .. '
'.
nl""rs,tyof
San Francisco
. Assistant
Prolessor 01 Nursing
DENMAN,'j:;l,l;l,

JOHN

S. (196B)

A,B" WILLIAM
M,S .• University
of Michigan.
DUTTON.
,

Green Sti"te·u~i~ri,iY.

M

".

THOMA~

DUNKLE,

n

..

.. ",.:'

Educallon

U;'I~~liY.

D'1,o\A
'8' ... ,.....

"

".
0 nlSlory

of Socordary

Ass-oclale

DEATON. EDMUND I. (1960)
,
__
A~Ldi'l-Si!!>..mons
U~'i~;sii',
" .• " ... ",
."
DemAN.
RICHARD H; (19701.".
-::y,
P.h.D. Unlversil}-'~i
A,B. LO}'oia UmversB)" M.A Ph
R. (1S55)

Profes·~'
~

Prolessor

Ph.D. UniversllYo"r"C~oradO

DeLORB':sJ~CK

Educati""

Lecturer

. .......•
, ... ,., ..
.Ph,D. Co'~ei"

Education

of Counselor

Ass<lclale

.
U·
n versuy.
., ......••

.

I nSlit~ie

Sci!!llce

........•

N'~w'ik'';,i:O:'

' Ph.D. uni""rsitY'OI

..of LOS." Angeles,
.,.'

DONA~~E,
DONALD.

Physiclll Education

• Professor
Texa;

"'.'
" ... ,....
I\hsou,i,
Ph,D. P~jd;""

...
...
Fresno

01

Proles"""

" .. , ...
"
.... ,
y, M.S, Ph,D. Uni""rsll}'
01 wasi'li,QiO'

AB,CalitorniaSII
:
",'
DAVIS, INGERP, (197j~ e Unlva,slt)',

. Professor

tale Unlversily
. ..• -'ssocia~

AB" California Siale universily' i: .. ,...
. ... ,
DAVIES. THOMASM
J'"
• ongBeach;Ph.D,
Jorm
.
AB M
.'
". 19S51
'
sHopklnsUnl"ei&i~·:
DAVIS, CRAIG

In Polilical

Uniw,·rSily:······················

. "., .... ,,, .... ,,, ..
ty, M.A. Ph.D. Universityot

Llbrari,.,

Prolessor 01 5ec0llda"1

IS' P,ofes.sor

giln

.S,Coll.,..eofSlThom
,p
.", ...
" ......
DANIE~]
.tA~i~g~
G (19771 as:. ,h:~., ,MI.chlllan State uniVe"r~ir;.·
DANiEn:

Assistanl

RI.Ei's·i(s;,'·

.

DOMINGUEZ,
JESUSOtis
Y. (1976),.
B.F.A, M.F.A,
Aliinslitute

AB"

oi soothe":'·Caiiio;~i"";'Ph.ri:M;'~~'

,M.A., Unlltl!lslty
of Calilornia'
Ph'ri'"
..: ... , .... ".......
ARTHUR S. (19721 ,
,,'
"
Um""rslty
of California:

DAHM~

Senior
tecnner

·c·'olle\le;.."Ed.D..
,. unli.ei!i~;;i
,
.
doioradO"·······
8.S.lIhno'sSlsleUniversit·"iA"'·:··;
,--,
CUMM~NS. EMERY J. (1966)
. y. '" Unlvers,lyof
lows; PhD. ·uni.:e,~iiyoi 'Iili':;;';;'
, M.A. COIOISdo Stale Coil
.. "......,....
CURRY. JOAN F. (1972)
ege; Ph,D. Univelsity of Texa';,"
A8 MS C'
... , ..• ,.
'
, IlyUniversltyofNew·YO;k'·'E"··
CUTTE~BCHARlES
H, 11968).",
.. " ... , • d.D, BOSlon Unilrersily.

01 Phllosop1y

• Denison

•........

BS.M.S,KansasSlaleTeach
CULLEN,
F. PATRICIA (19641 ..
ers

_CUNN~~'~~~o~

Professor

'Cailiouii8

of Technology:
Professor

Mairs
Valley

Ph.D. M;:higan

01 Muitlcultural

n

EducallO

.. tent Pto/\ISSill of Art
s'tan; 'u'~~e;,;liY~sLO'"og

Beach;

Ph.D.


JAMESON, K. CHARLES (1965) Professor of Telecommunications and Film
AB, M.A., University of Michigan; Ph.D., University of Southern California.

JANISH, HENRY J. (1959) Professor of Political Science
AB, M.A., University of Oklahoma; Ph.D., University of California.

JENKINS, CLINTON C. (1966) Professor of Economics
AB, University of Colorado; M.A., Ph.D., University of California.

JENSEN, REILLY C. (1950) Professor of Chemistry
BS, M.S., S. U., University of Arizona; Ph.D., University of Arizona.

JIMENEZ, VERA ARTURO (1970) Professor of Spanish
BS, San Diego State University; MA, Arizona State University; Ph.D., University of Arizona.

JOHNS, ANN M. (1975) Director, International Programs, College of Extended Studies
AB, Carlton; MA, University of Chicago; MA, University of Caro.

JOHNSON, DAVID W. (1960) Professor of Political Science
AB, Dartmouth College; M.A., Ph.D., University of Chicago.

JOHNS, GERALD E. (1967) Senior Assistant Librarian

JOHNSON, JONETTE JOSEPHINE (1970) Associate Professor of Biology

JOHNSON, JOHN W. (1968) Professor of Telecommunications and Film
BS, University of Utah; Ph.D., Michigan State University.

JOHNSON, KENNETH D. (1970) Professor of Botany
Ph.D., University of California, Santa Barbara.

JOHNSON, PHILIP E. (1958) Professor of Civil Engineering
B.E.E., University of Idaho; M.S.E., California University, Registered Professional Engineer.

JOHNSON, WARREN A. (1969) Professor of Geography
BS, University of California; M.S., Ph.D., University of Michigan.

JONAS, E. FRANKLIN (1966) Financial Aid Counselor
BS, Ed.M, Oregon State University.

JONES, KENNETH H., JR. (1948) Professor of Telecommunications and Film
BS, A.B., William and Mary; M.A., Virginia Commonwealth University; Ph.D., University of California, Los Angeles.

JONES, SANDRA J. (1969) Lecturer in Social Work
AB, University of San Francisco; M.S.W., D.S.W., University of California, Berkeley.

JONES, WALTER D. (1962) Professor of Chemistry

JONES, WOODROW (1947) Assistant Professor of Political Science
AB, University of New Mexico; MA, Ph.D., University of Oregon.

JORDAN, G. RAY, JR. (1966) Professor of Religious Studies
AB, Duke University; MA, Ph.D., University of Southern California.

JOSEPH, DESIBRE J. (1975) Professor of Family Studies and Consumer Sciences
BS, Pennsylvania State University; M.S., Ph.D., University of Minnesota.

JOY, NED V. (1953) Professor of Political Science
AB, Western Reserve University; MA, Ph.D., University of California.

KAATZ, JAMES M. (1967) Assistant Professor of Educational Administration
AB, Andrews University; MA, California State University, Long Beach; EDD, University of Southern California.

KAHN, MARK H. (1967) Professor of Social Work
BS, M.A., University of Michigan; MA, Ph.D., Columbia University.

KALL, MARYANN T. (1978) Assistant Professor of Microbiology
BS, M.S., University of Washington.

KANNER, MELVIN E. (1979) Lecturer in Information Systems
B.S.E.E., M.S.E.E., University of Washington.

KAPLAN, LEFFREY P. (1973) Lecturer in Linguistics
AB, University of Chicago; MA, University of Pennsylvania.

KAPLAN, ROBERT J. (1946) Professor of Psychology
AB, M.A., University of California, Los Angeles; Ph.D., University of California.

KAPLAN, ROBERT M. (1974) Associate Professor in Psychology
AB, San Diego State College; M.A., Ph.D., University of California, Riverside.

KAREN, ROBERT L. (1964) Professor of Psychology
AB, University of California; MA, Los Angeles; Ph.D., Arizona State University.

KARNAK, DAVID L. (1967) Assistant Professor of English
AB, University of Notre Dame; MA, Stanford University; Ph.D., University of Minnesota.

KARR, O. KENNETH JR. (1969) Professor of Physical Education
BS, Illinois State University; M.S., Ph.D., University of Illinois.

KARTMAN, ARTHUR E. (1968) Professor of Economics
AB, MacMurray College; MA, Ph.D., University of Washington.

KASCH, FREDERICK W. (1948) Professor of Physical Education
BS, M.S., University of Illinois; E.D.D., New York University.
MANDEL, JERRY E. (1977) - Dean, College of Professional Studies; Professor of Speech Communication
A.B., M.A., California State University, Long Beach; Ph.D., Purdue University
MANN, RICHARD L. (1968) - Associate Professor of Electrical Engineering
B.S., M.S.E., University of New Mexico; Registered Professional Engineer
MANSFIELD, GEORGE A., JR. (1968) - Associate Professor of Mechanical Engineering
B.S., University of Denver; M.S.M.E., San Diego State University; Registered Professional Engineer
MANNING, ROBERT A. (1976) - Assistant Professor of Art
A.B., St. Cloud State College; M.F.A., University of Massachusetts
MARCUS, CLARENCE (1966) - Associate Professor of Mathematics
B.S., M.S., University of Arizona
MARIN, FRANK (1973) - Professor of Public Administration and Urban Studies
A.B., M.A., Arizona State University; Ph.D., University of California, Berkeley
MARINO, LUCIANO R. (1973) - Associate Professor of Electrical Engineering
B.S., Carnegie Mellon University; M.S., Ph.D., Case Western Reserve University
MAROSZ, WANDA A. (Mrs. H.) (1967) - Assistant Professor of Mathematics
B.S., University of Chicago; M.A., University of Southern California
MARTIN, MARIE E. E. (1980) - Lecturer in Classical Languages and Literatures
A.B., M.A., State University of New York at Buffalo
MARTIN, CELIA L. (1973) - Assistant Dean for Student Affairs, College of Sciences
B.S., M.A., University of Arizona
MARTIN, HAROLD D. (1962) - Associate Professor of Industrial Studies
A.B., California State University, Chico
MARTIN, DONALD R. (1969) - Associate Professor of Telecommunications and Film
A.B., Oberlin College; M.A., Syracuse University; Ph.D., Ohio State University
MARTIN, JOHN E. L. (1970) - Professor of Civil Engineering
B.S., M.S., University of Idaho; Ph.D., University of Arizona; Registered Professional Engineer
MARTIN, K. D. (1910) - Assistant Professor of Family Studies and Consumer Sciences
A.B., University of Northern Iowa; M.S., Arizona State University; Ed.D., University of California, Los Angeles
MARTY, W. F. (1965) - Assistant Professor of Family Studies and Consumer Sciences
A.B., M.A., State University of New York at Buffalo
MARTINEZ, JULIO A. (1973) - Assistant Professor of Management
B.S., M.A., University of Washington; M.B.A., University of Michigan; M.A., University of Minnesota
MATSUKA, TAKASHI F. (1978) - Assistant Professor of Management
A.B., University of Kansas; M.S.A., University of Michigan; Ph.D., Indiana University
MATTHEWS, JERRY L. (1967) - Lecturer in Geodetic Science
B.S., Allegheny College; M.S., Kansas State University; Ph.D., University of California, Los Angeles
MATTHEWSON, JAMES H. (1964) - Professor of Chemistry
A.B., Harvard College; M.A., Johns Hopkins University
MAXT, STEVEN L. (1964) - Professor of French
A.B., San George Williams University, Canada; M.A., McGill University; M.Phil., University of California, Los Angeles
MAY, THOMAS L. (1963) - Associate Professor of Natural Science
A.B., M.A., Texas Christian University; M.S., Ph.D., University of Illinois
MAZZARO, HENRY J. (1970) - Professor of English
B.A., Wayne State University; M.A., University of Iowa; Ph.D., Wayne State University
MCDENNIS, JAMES E. (1966) - Director, University Advancing Center
A.B., Occidental College; A.M., Ph.D., University of Southern California
MCLAUGHLIN, LINDA L. (1977) - Dean, Imperial Valley Campus
A.B., Barnard College; Ph.D., Cornell University
MCLAUGHLIN, T. WAYNE (1966) - Assistant Professor of Educational Technology and Librarianship
A.B., Arizona State University; M.A., University of Denver
MARIN, PAPA, DAVID A. (1973) - Assistant Professor of Geography
B.S.C., University of New Zealand; M.Sc. (Hons.), University of Canterbury; Ph.D., Louisiana State University; Dip. in Geography, Churchill College, Cambridge
MCBRAIN, WILLIAM (1948) - Professor of Biology
A.B., San Diego State University; Ph.D., University of California, Los Angeles
MCCLURE, ROBERT E. (1968) - Professor of Secondary Education
A.B., Michigan State University; A.M., Ph.D., University of Michigan
MCCAFFREY, LAWRENCE F. (1976) - Assistant Professor of English
B.A., University of Notre Dame; Ph.D., University of Illinois
MCCARTY, DONALD (1966) - Professor of Special Education
B.S., John Carroll University; M.S., University of Minnesota
MCCLAUGHLIN, LEROY R. (1977) - Assistant Professor of Biology
B.S., Colorado State University; Ph.D., University of Kansas
MCCLURE, B. (1967) - Professor of Philosophy
M.D., University of Iowa; M.A., Ph.D., University of Chicago
MCLOUGHLIN, SHARON M. (1980) - Assistant Professor of Psychology
A.B., M.A., Ph.D., University of Colorado
MCCONNELL, ROBERT L. (1965) - Associate Director, Campus Information Systems; Institutional Research
A.B., University of Iowa; M.A., Ph.D., University of Minnesota
McDONALD, HARRY C. (1961) - Associate Professor of Political Science
A.B., M.A., University of California, Los Angeles; Ph.D., University of Chicago
MCDONALD, ROY D. (1963) - Associate Professor of Political Science
A.B., Ph.D., University of Texas
MECHLING, ROBERT J. (1962) - Associate Professor of Industrial Studies
B.S., M.S., Abilene Christian College; Ph.D., Texas A&M University
MELEVEN, ROBERT B. (1969) - Professor of Geology
A.B., M.A., University of California; Ph.D., University of Utah
MCKEE, FRED R. (1972) - Associate Professor of Drama
A.B., M.A., University of Michigan
MCKEON, MARGARITA (1971) - Associate Professor of Psychology
A.B., Lake Erie College, MA, Northwestern University, Ph.D., University of Michigan
MELEAN, NORMAN J. (1955) - Professor of Psychology
B.S., Ph.D., University of California
MCELROY, DAN D. (1964) - Professor of Mathematics
A.B., Pomona College; M.A., San Diego State University; Ph.D., Claremont Graduate School
MCELROY, DOUGLAS B. (1972) - Professor of Professional Education
A.B., University of North Dakota; M.A., Ph.D., University of Wisconsin
MECO, JOHN G. (1970) - Assistant Professor of Psychology
A.B., M.A., Victoria University of Wellington; M.Phil., Michigan State University
MCGILL, JAMES A. (1956) - Professor of Industrial Studies
A.B., B.S., M.S., University of Southern California
MECK, THOMAS C. (1966) - Associate Professor of Music
MEADOR, THOMAS C. (1966) - Associate Professor of Music
A.B., Michigan State University
MEADON, EDDIE S. (1972) - Associate Professor of Management
B.S., University of Utah; M.B.A., University of Michigan; Ph.D., Michigan State University
MEES, RONALD R. (1970) - Associate Professor of Telecommunications and Film
A.B., M.A., San Diego State University
MEDERO, FRANK A. (1977) - Associate Professor of Telecommunications and Film
A.B., M.A., San Francisco State University; Ph.D., Stanford University
MEDINA, FLORENCE (1970) - Dean, Imperial Valley Campus
M.D., University of Southern California; M.A., University of California, Los Angeles
MEEK, DORIS A. (1968) - C.P.A., Professor of Accounting
A.B., Mills College; Ed.D., University of California
MEIER, ROBERT A. (1972) - Professor of Accounting
A.B., DePaul University; M.B.A., University of Chicago
MEIER, ROBERT F. (1972) - Professor of Accounting
A.B., University of California, Berkeley; M.B.A., University of Southern California
MEISTER, CARY W. (1975) - Assistant Professor of Anthropology
A.B., Arizona State University; M.A., University of Michigan
MENDEZ, EDWARD R. (1972) - Dean, Imperial Valley Campus
A.B., M.A., San Diego State University
MENDOZA, JUAN F. (1976) - Assistant Professor of Finance
A.B., Pomona College; M.A., Ph.D., University of Wisconsin
MERCURIO, VINCENZO A. (1978) - Professor of Mathematics
B.S., Purdue University; M.A., Marist University
MERRIMAN, ALFRED H. (1974) - Assistant Professor of Educational Administration
A.B., M.S., New Mexico Western; Ed.D., University of Massachusetts
MERRITT, LEWIS E. (1965) - Assistant Professor of Geology
A.B., Michigan State University; M.A., University of California, Los Angeles; Ph.D., San Diego State University
MERRITT, RICHARD E. (1977) - Associate Professor of Geology
A.B., San Diego State University; M.S., University of California, Los Angeles
MICKELSON, BOB (1967) - Assistant Professor of Anthropology
A.B., Augustana College; M.A., University of Minnesota
MIYATA, KATHLEEN F. (1974) - Assistant Professor of Psychology
M.E., University of California, Los Angeles
MILES-ELLIOTT, W. (1966) - Assistant Professor of Education
A.B., California Institute of Technology; M.A., Loyola University; Ph.D., Claremont Graduate School
MILLER, PHILIP C. (1955) - Assistant Professor of Biology
A.B., Oberlin College; M.S., Iowa State University; Ph.D., Colorado State University
MILLER, PHILIP L. (1966) - Assistant Professor of Biology
A.B., Johns Hopkins College; New York; M.Div., Th.M., Princeton Theological Seminary; Ph.D., Michigan State University
MILLER, ROBERT H. (1977) - Assistant Professor of Biology
A.B., San Fernando Valley State College; M.S., Ph.D., University of California, Los Angeles
NIELSON, BURT (1957).......
B.S., M.S. (Astronomy); M.S. (Philosophy), Ph.D., University of Wisconsin...
Professor of Astronomy

NIELSON, HILDA B. (Mrs. B.) (1965)...
B.A., M.A., University of Wisconsin...
Professor of History

NIELSON, SHERWOOD M. (1956)...
B.S., M.A., University of California, Los Angeles; Ph.D., University of California...
Professor of Philosophy

NIELSON, THOMAS A. (1959)...
B.A., University of Oregon; M.A., University of California...
Professor of English

NIESCHLAG, ERNEST H. (1966)...
B.A., Iowa State University; M.A., University of Wisconsin...
Professor of History

NESVOLD, BETTY A. (Mrs. A.) (1967)...
B.A., San Diego State University; Ph.D., University of Minnesota...
Professor of Political Science

NEUBERGER, JAMES B. (1967)...
B.S., Nebraska State University; B.A., University of Nebraska...
Professor of English

NEUBERGER, M. R. (1959)...
B.A., State University of New York; M.A., University of Wisconsin...
Professor of Finance

NEUBERGER, RICHARD M. (1959)...
B.S., Utah State University; M.A., University of Washington...
Professor of Finance

NEUMAN, DONALD R. (1956)...
B.A., California State College; M.A., University of Pennsylvania...
Professor of English

NEUMAN, JOHN H. (1954)...
B.S., University of Alaska; M.A., University of California...
Professor of English

NEUMANN, ERNEST (1961)...
B.A., University of Wisconsin; M.A., University of Wisconsin...
Professor of English

NEUMANN, JACOB (1970)...
B.S., Montana State University; M.A., University of Montana...
Professor of Economics

NEUMANN, OTTO (1964)...
B.S., University of Wisconsin; M.A., University of Wisconsin...
Professor of Economics

NEUMANN, WALTER (1964)...
B.S., University of Illinois; M.A., University of Wisconsin...
Professor of Economics

NEUMANN, WERNER (1966)...
B.S., University of Wisconsin; M.A., University of Wisconsin...
Professor of Economics

NEUMANN, WERNER (1966)...
B.S., University of Wisconsin; M.A., University of Wisconsin...
Professor of Economics

NEUMAN, JOHN H. (1954)...
B.S., University of Alaska; M.A., University of California...
Professor of English

NEUMANN, JOHN H. (1954)...
B.S., University of Alaska; M.A., University of California...
Professor of English

NEUMANN, JOHN H. (1954)...
B.S., University of Alaska; M.A., University of California...
Professor of English

NEUMANN, JOHN H. (1954)...
B.S., University of Alaska; M.A., University of California...
Professor of English

NEUMANN, JOHN H. (1954)...
B.S., University of Alaska; M.A., University of California...
Professor of English

NEUMANN, JOHN H. (1954)...
B.S., University of Alaska; M.A., University of California...
Professor of English
OLSEN, ALBERT W. (1957)  Professor of Physical Education  A.B., M.A., San Diego State University; Ed.D., University of Oregon.

OLSEN, ELYSE I. (1961)  Professor of Physical Education  A.B., M.A., California State University, Chico; Ed.D, Teachers College, Columbia University.

OLSEN, ANDREW C., JR. (1946)  Professor of Zoology  A.B., San Diego State University; M.S., University of Idaho; Ph.D., Oregon State University.


OREILLY, NATHALIA CRANE (1958)  Assistant Professor of English  Special study: Brandeis University, University of Madrid, and Sorbonne.

OREILLY, PETER (1968)  Professor of Philosophy  A.B., M.A., S.T.B., St. Mary of the Lake Seminary; LMS., Pontifical Institute of Medieval Studies, Toronto; Ph.D., University of Toronto.

ORTIZ, ELIZABETH (1977)  Lecturer in Mexican-American Studies  A.B., California State College; M.A., United States International University; Ph.D., Union Graduate School West.

PALMER, DENNIS (1965)  Assistant Professor of French  B.S., Southern Methodist University.

PALSACIC, GERALD D. (1976)  Assistant Professor of Religious Education  S.S.C., B.S., University of British Columbia; M.A, San Diego State University.

PANDOS, NICHOLAS (1969)  Associate Professor of Electrical Engineering  B.S.E.E., Columbia University; M.S.E.E., San Diego State University. Registered Professional Engineer.

PAOLINI, PAU LO J., JR. (1970)  Professor of Biology  B.S., M.S., Riverside Polytechnic Institute, Ph.D. University of California, Davis.

PAPWORTH, FRANK R. (1967)  Assistant Professor of Art  A.B., San Diego State College; M.A., University of California, Los Angeles.

PARK CHONG JIN (1972)  Associate Professor of Mathematics  A.B., B.S., University of Washington; M.S., Kansas State University; Ph.D., University of Wisconsin.

PARK, CYNTHIA DARE (1978)  Assistant Professor of Secondary Education  A.B., California State College; M.S.W., A.B.D., Columbia University.

PADGETT, L. VINCENT (1971)  Professor of Political Science  B.S., Ph.D., Northwestern University.

PACIOLEZ, EUGENIO F. (1979)  Lecturer in Mexican-American Studies  A.B., California State College; M.A., United States International University; Ph.D., Union Graduate School West.

PALMER, DENNIS (1965)  Assistant Professor of French  B.S., Southern Methodist University.

PALSACIC, GERALD D. (1976)  Assistant Professor of Religious Education  S.S.C., B.S., University of British Columbia; M.A, San Diego State University.

PALMER, DANA (1957)  Professor of English  A.B., M.A., B.S., Teachers College, Columbia University. Assistant Professor of English.

PARK CHONG JIN (1972)  Associate Professor of Mathematics  A.B., B.S., University of Washington; M.S., Kansas State University; Ph.D., University of Wisconsin.

PARK CYNTHIA DARE (1978)  Assistant Professor of Secondary Education  A.B., California State College; M.S.W., A.B.D., Columbia University.

PARK, CYNTHIA DARE (1978)  Assistant Professor of Secondary Education  A.B., California State College; M.S.W., A.B.D., Columbia University.

PARKER, PETER (1968)  Assistant Professor of Social Work  B.S., M.S., Ph.D., University of California, Berkeley.

PARKER, RICHARD (1976)  Assistant Professor of History  A.B., M.A., San Diego State University; M.A., University of Oregon.

PARSONS, JOHN A. (1969)  Professor of History  A.B., University of Nebraska; M.A., University of Kansas; Ph.D., University of Wisconsin.

PATTERSON, EMILY H. (Mrs.) (1967)  Associate Professor of English  A.B., Bowdoin College; B.S., University of Illinois; B.A., University of Utah.

PATTERSON, ELIZABETH (1977)  Assistant Professor of English  A.B., M.A., M.I.T.; B.S., Physics, University of Minnesota.

PATTERSON, EMILY H. (Mrs.) (1967)  Associate Professor of English  A.B., Bowdoin College; B.S., University of Illinois; B.A., University of Utah.


PATTERSON, RICHARD H. (1976)  Assistant Professor of Philosophy  A.B., M.A., San Diego State University; M.A., University of Oregon.

PATRICK, PATRICIA L. (1969)  Assistant Professor of Counseling  B.S., M.S., University of Oregon; Ph.D., University of Oregon.

PATRICK, PATRICIA L. (1969)  Assistant Professor of Counseling  B.S., M.S., University of Oregon; Ph.D., University of Oregon.

PATTERSON, DONALD W. (1978)  Professor of Psychology  A.B., University of California, Berkeley; M.A., University of California, Davis; M.D., University of California, Davis.
SANDERS, WILLIAM B. (1977)  Assistant Professor of Sociology  A.B., University of California, Santa Barbara; M.A., San Francisco State University; Ph.D., University of California, Santa Barbara.

SANDLIN, JOANN (1967)  Professor of Sociology  A.B., MA, University of Texas at Austin.

SANDSTROM, JENNIFER A. (1956)  Professor of English  A.B., MA, Washington State College; Ph.D., University of Illinois.

SCHAEFER, RICHARD L. (1965)  Media Specialist  B.S., University of Iowa; M.A., Arizona State University.


SANTANGELO, GENNARO A. (1967)  Associate Professor of Marketing  A.B., B.A., Fordham College, MA, Ph.D., University of North Carolina.

SANTOROS, MINAS (1966)  Associate Professor of Social Work  A.B., BA, MCU, MA, University of Kansas.

SCHAPIRO, HARRIETTE G. (1965)  Associate Professor of Psychology  A.B., B.A., BA, MCU, MA, University of Minnesota.

SCHOPP, JOHN D. (1962)  Associate Dean, College of Sciences; Professor of Astronomy  A.B., MA, Ph.D., University of Washington.

SCHULTE, RICHARD H. (1965)  Associate Professor of Psychology  A.B., MA, Ph.D., University of Wisconsin.

SCIGLIMBIA, DONALD (1977)  Assistant Professor of English  A.B., San Diego State College; M.A., Ph.D., University of California, Santa Barbara.

SENN, KAREN L. (1977)  Assistant Professor of Special Education  A.B., MA, Ph.D., Indiana University.

SPEAR, JOHN M. (1962)  Assistant Professor of History  A.B., MA, University of California, Santa Barbara.

SHERA, DONALD W. JR. (1958)  Associate Professor of Education  A.B., University of California, Los Angeles; MA, Oregon State University; Ph.D., University of California, Los Angeles.

SHEEHAN, JOHN Z. (1976)  Associate Professor of Marketing  A.B., Skidmore College; M.A., University of Pennsylvania.

SHIN, MARTHA J. (1975)  Associate Professor of Spanish and Portuguese  A.B., M.A., University of California, Berkeley.

SHOW, HERBERT A. (1975)  Associate Professor of Biology  A.B., University of California; B.S., San Diego State University; MA, Ph.D., University of California, Los Angeles.

SHREEDER, RICHARD J. (1958)  Associate Professor of Management  A.B., MA, Ph.D., Stanford University.

SHUPP, CHERIE E. (1965)  Assistant Professor of Social Work  A.B., Washington College; MA, Rutgers University.

SHUPP, JOHN D. (1962)  Associate Dean, College of Sciences; Professor of Astronomy  A.B., Northwestern University; MA, Ph.D., University of Chicago.

SCHULTZ, RICHARD H. (1977)  Professor of Psychology  A.B., Michigan State University; MA, Ph.D., University of Illinois.

SCHULZ, WILLIAM A. (1966)  Professor of Political Science  A.B., Nebraska Wesleyan University; MA, Ph.D., Rutgers University.

SCHULZ, JOHN H. (1975)  Professor of Sociology  A.B., University of North Dakota; MA, Michigan State University.

SHELDON, JOHN P. (1968)  Professor of Psychology  A.B., MA, PhD, Wayne State University.

SHORT DONALD R. (1971)  Assistant Professor of English  A.B., Harvard College; M.A., PhD, University of Michigan.

SHERIDAN, JOHN R. (1969)  Associate Professor of Psychology  A.B., MA, University of Wisconsin; MA, University of Wisconsin, Madison.

SHORE, HERBERT A. (1967)  Associate Professor of English  A.B., Albion College; M.A., Ph.D., University of California, Berkeley.

SHELL, CHARLES M., JR. (1998)  Professor of Finance  A.B., M.S., University of Texas; MA, Ph.D., University of Utah.

SILL, DAVID A. (1974)  Assistant Professor of Education  A.B., MA, Ph.D., University of Toledo.

SMITH CHARLES R. (1969)  Professor of Science  A.B., University of California, Berkeley; MA, Pennsylvania State University, PhD, University of Chicago.

SMITH, JOANNE (1977)  Associate Professor of English  A.B., MA, University of California; B.S., MA, University of California, Davis.

SMITH, JAMES F. (1975)  Associate Professor of Sociology  A.B., M.S., University of California, Los Angeles.

SMITH, JONATHAN (1975)  Assistant Professor of Mathematics  A.B., Hebrew University; MA, University of Wisconsin, Madison.


SMITH, KENNETH J. (1972)  Assistant Professor of Economics  A.B., M.A., Harvard University, PhD, University of Michigan.

SMITH, JOSEPH A. (1975)  Associate Professor of Education  A.B., MA, University of California, Berkeley.

SMITH, JOSEPH J. (1970)  Professor of Education  A.B., MA, University of Minnesota; PhD, University of Wisconsin, Madison.

SMITH, JUNE K. (1972)  Assistant Professor of Education  A.B., MA, University of California, Los Angeles.

SMITH, JAMES C. (1971)  Associate Professor of English  A.B., MA, University of Pennsylvania; MA, Temple University, PhD, University of Missouri.

SMITH, JAMES E. (1969)  Associate Professor of Psychology  A.B., MA, University of Arizona.

SMITH, JAMES W. (1975)  Associate Professor of Education  A.B., MA, University of Michigan.

SMITH, J. MILLER (1974)  Associate Professor of Education  A.B., MA, University of California, Los Angeles.

SMITH, JOHN D. (1969)  Professor of Education  A.B., BA, University of California, Berkeley; MA, Temple University; PhD, University of Minnesota.

SMITH, JOHN R. (1967)  Professor of Education  A.B., Occidental College; MA, University of California, Los Angeles.

SMITH, JOSEPH C. (1975)  Associate Professor of Psychology  A.B., MA, University of California, Los Angeles.

SMITH, KENNETH J. (1971)  Associate Professor of Physics  A.B., MA, University of California, Berkeley.

SMITH, J. MILLER (1977)  Associate Professor of Education  A.B., MA, University of California, Berkeley.

SMITH, JOHN R. (1967)  Professor of Education  A.B., Occidental College; MA, University of California, Los Angeles.

SMITH, JOSEPH C. (1975)  Associate Professor of Psychology  A.B., MA, University of California, Los Angeles.

SMITH, J. MILLER (1974)  Associate Professor of Psychology  A.B., MA, University of California, Berkeley.

SMITH, JOHN D. (1969)  Professor of Education  A.B., BA, University of California, Berkeley; MA, Temple University; PhD, University of Minnesota.

SMITH, JAMES C. (1971)  Associate Professor of English  A.B., MA, University of Michigan.
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Date of Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAMES L CHAPMAN</td>
<td>Professor of Business Law</td>
<td>1957-1973</td>
</tr>
<tr>
<td>CLAYTON M GJERDE</td>
<td>Dean of Continuing Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>ROBERT L CRAIG</td>
<td>Assistant Professor of Physics</td>
<td>1957-1973</td>
</tr>
<tr>
<td>LOWELL KURT FRIEDRICH</td>
<td>Professor of Secondary Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>J. SHERRICK FISHER</td>
<td>Professor of Elementary Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>LEONARD E CHADWICK</td>
<td>Associate Professor of Economics</td>
<td>1957-1973</td>
</tr>
<tr>
<td>ELIZABETH E CHATER</td>
<td>Professor of English</td>
<td>1957-1973</td>
</tr>
<tr>
<td>WILLIAM M KIDWELL</td>
<td>Director of Placement and Financial Aid</td>
<td>1957-1973</td>
</tr>
<tr>
<td>EVERETT GEE JACKSON</td>
<td>Professor of Art</td>
<td>1957-1973</td>
</tr>
<tr>
<td>LYMAN C HURD</td>
<td>Professor of Music</td>
<td>1957-1973</td>
</tr>
<tr>
<td>ROBERT D HARWOOD</td>
<td>Professor of Zoology</td>
<td>1957-1973</td>
</tr>
<tr>
<td>BENJAMIN J KASTON</td>
<td>Professor of Zoology</td>
<td>1957-1973</td>
</tr>
<tr>
<td>JAMES S KINDER</td>
<td>Professor of Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>BERNARD C KIRBY</td>
<td>Professor of Sociology</td>
<td>1957-1973</td>
</tr>
<tr>
<td>ERNEST B O'BYRNE</td>
<td>Vice President for Planning and External Affairs</td>
<td>1957-1973</td>
</tr>
<tr>
<td>JOSEPH A. WILDER</td>
<td>Professor of History</td>
<td>1957-1973</td>
</tr>
<tr>
<td>WILLIAM H SCHUTTE</td>
<td>Professor of Physical Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>FRANK L SCOTT</td>
<td>Professor of Physical Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>J. SHERRICK FISHER</td>
<td>Professor of Elementary Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>CHRISTINE SPRINGTON</td>
<td>Professor of Music</td>
<td>1957-1973</td>
</tr>
<tr>
<td>HARRY C. STEINMETZ</td>
<td>Associate Professor of Psychology</td>
<td>1957-1973</td>
</tr>
<tr>
<td>HAMILTON L. STONE</td>
<td>Professor of Theatre</td>
<td>1957-1973</td>
</tr>
<tr>
<td>ZOE E STOUT</td>
<td>Assistant Professor of Family Studies</td>
<td>1957-1973</td>
</tr>
<tr>
<td>CURTIS R WALLING</td>
<td>Professor of Electrical Engineering</td>
<td>1957-1973</td>
</tr>
<tr>
<td>VIRGINIA FRANCES B. TORBERT</td>
<td>Professor of Management</td>
<td>1957-1973</td>
</tr>
<tr>
<td>DONALD WATSON</td>
<td>Vice President for Correctional Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>MARGERY B WARMER</td>
<td>Professor of Family Studies</td>
<td>1957-1973</td>
</tr>
<tr>
<td>L. S WITT</td>
<td>Dean of the School of Chemistry</td>
<td>1957-1973</td>
</tr>
<tr>
<td>IRIZARRY TOSSAS</td>
<td>Professor of Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>TOLLEFSEN</td>
<td>Professor of Physical Education</td>
<td>1957-1973</td>
</tr>
<tr>
<td>SENDER</td>
<td>Professor of Spanish</td>
<td>1957-1973</td>
</tr>
<tr>
<td>R. C. SULLIVAN</td>
<td>Professor of Science</td>
<td>1957-1973</td>
</tr>
<tr>
<td>G. M. SULLIVAN</td>
<td>Professor of Mathematics</td>
<td>1957-1973</td>
</tr>
<tr>
<td>BESSIE M. SULLIVAN</td>
<td>Professor of Mathematics</td>
<td>1957-1973</td>
</tr>
</tbody>
</table>

This table lists the faculty members and their respective titles and dates of employment.
### ADJUNCT FACULTY

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murray, Jr. Richard C.</td>
<td>PhD, Chemistry</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Neyendorf, Hans</td>
<td>David, Education</td>
<td></td>
</tr>
<tr>
<td>Oechel, Walter C.</td>
<td>David, Biology</td>
<td></td>
</tr>
<tr>
<td>Peck, Allan C.</td>
<td>David, Secondary Education</td>
<td></td>
</tr>
<tr>
<td>Perkins, Frances M.</td>
<td>David, Secondary Education</td>
<td></td>
</tr>
<tr>
<td>Powness, E. Kingsley</td>
<td>David, Speech Communication</td>
<td></td>
</tr>
<tr>
<td>Richman, Paul T.</td>
<td>David, Secondary Education</td>
<td></td>
</tr>
<tr>
<td>Riser, Jr. Arthur C.</td>
<td>David, Zoology</td>
<td></td>
</tr>
<tr>
<td>Schilder, Maurice</td>
<td>David, Communicative Disorders</td>
<td></td>
</tr>
<tr>
<td>Shaver, Gail R.</td>
<td>David, Biology</td>
<td></td>
</tr>
<tr>
<td>Shellhammer, Kenneth L.</td>
<td>David, Economics</td>
<td></td>
</tr>
<tr>
<td>Snowdon, Michael S.</td>
<td>David, Astronomy</td>
<td></td>
</tr>
<tr>
<td>Tabachnick, Stephen E.</td>
<td>David, English and Comparative Literature</td>
<td></td>
</tr>
<tr>
<td>Thompson, Muriel A.</td>
<td>David, Microbiology</td>
<td></td>
</tr>
<tr>
<td>Vails-Webbe, Dorothy M.</td>
<td>David, Public Administration</td>
<td></td>
</tr>
<tr>
<td>Van Olst, Jon C.</td>
<td>David, Biology</td>
<td></td>
</tr>
<tr>
<td>Varone, Jerome E.</td>
<td>David, Public Administration</td>
<td></td>
</tr>
<tr>
<td>Weiss, Herbert V.</td>
<td>David, Chemistry</td>
<td></td>
</tr>
<tr>
<td>Wells, Russell F.</td>
<td>David, Physical Education</td>
<td></td>
</tr>
<tr>
<td>Widung, Raymond E.</td>
<td>David, Biology</td>
<td></td>
</tr>
<tr>
<td>Yu, Elena S.</td>
<td>David, Sociology</td>
<td></td>
</tr>
</tbody>
</table>

### Index

- **Academic calendar:** 6
- **Academic credit:**
  - for military service, 63
  - through course work, 61
  - through examination, 62
- **Accountancy:** 170
- **Accounting:** 17, 174
- **Accreditation:** 24
- **ACT:** (see American College Test)
- **Advisory board:** 17
- **Advertise on:** 332
- **Advising:** 54
- **Advisory board:** 17
- **Aerospace engineering:** 241
- **Aerospace studies:** AFROTC curriculum in, 120
  - courses in, 121
- **Africa and the Middle East:** 432
- **African studies:** 323
- **African-American studies:** 122
- **AFROTC:** 120
- **Aging, University Center on:** 29
- **Alan Pattee scholarship:** 10
- **Alumns and associates:** 42
- **American Chemical Society certificate:** 184
- **American College Test:** 48, 49
- **American history requirement for graduation:** 83
- **American Indian studies:** 126
- **American institutions:** 83
- **American language institute:** 109
- **American literature:** (see English)
- **American studies:** 129
- **Annual calendar:** 5
- **Anthropology:** 131
- **Applied mathematics:** 344
- **Aquatics Center:** 41
- **Art:** 139
- **Asian studies:** 152
- **Center for:** 29
- **Astronomy:** 154
- **Athletics:** 107
- **Audiology Diagnostic Center:** 40
- **Audiovisual Center:** (see Learning Resource Center)
- **Auditioning:** 60
- **Astr. Center:** 41
- **Artic. Shops:** 41
- **Bachelor of arts degree:** 85
- **Bachelor of music degree:** 85, 363
- **Bachelor of science degree:** 85
National honor societies, 24
Native American studies—see American Indian studies
Natural science, 372
Navy Officer Programs, 44
New Hampshire exchange program, 94
News—editorial emphasis, 333
Oceanography, 38
Nondiscrimination on basis of sex, 58
Nonresident tuition, 53
Nursing, 376
Nutrition, 269
Paleontological and Geological Sciences. Center for, 29
Paleobiology Council, 31
Panhellenic, 43
Parent and recreation management, 421
Parking, 8, 43
Physical activities requirement for graduation, 84
Physical education, 366
Physical science—see natural science)
Teaching major, 372
Physics, 394
Placement Center, 39
Political science, 402
Portuguese, 409
Postbaccalaureate admission requirements, 51
Postgrad pany credit concurrent, 61
Predental, 104
Preeng, 104
Premedical, 105
Preparation for the major, 82
Preprofessional health advising office, 95
Preprofessional programs, 104
Prereq for courses, 118
Preprim, 105
Printing, 140
Privacy rights of students, 57
Probation, 66
Production and operation management minor, 174
Professional curricula, 25
Professors, grievance against, 66
Progress points, 66
Psychology, 411
Public administration and urban studies, 417
Public and Urban Affairs, Institute of, 31
Public Economics, Center for, 32
Public health, 358
Public relations emphasis, 333
Pupil personnel services credential, 225
Radiological physics, 334
Radio—television, 464
Radio—TV news emphasis, 333
Reading specialist credential, 226
Readmission, 85
Real estate, 173, 174
Recreation, 421
Recreation rehabilitation, 422
Refunds, 8
Regional Environmental Studies. Center for, 32
Registration, 52
advisers at time of, 54
dates of, 6
determination of, 53
for extension courses, 110
for Imperial Valley, 27
for summer session, 106
Regulations, 106
Rehabilitation counseling, 99
Religious studies, 425
Repeated courses, 61
Research bureaus and centers, 29
Residence, determination of, 53
Residence halls, 42
Residence requirements for bachelor's degree, 86
Retired adults program, 110
Retired faculty, 515
ROTC, 120
deposit, 8
Rush, formal fall, 43
Russian, 429
S and East European studies, 328
San Diego State History Research Center, 30
San Diego State University advisory board, 17
San Diego State University Foundation, 33
Scholarship requirements for graduation, 86
Scholarships, 34
Scholastic Aptitude Test, 48, 49
Scholastic disqualification, 66
School psychology credential, 227
Schools, colleges, departments, programs, 19
Schupine, 141
Second bachelor's degree, 87
Secondary education, 237
Services credential administrative services, 218
Single subject teaching credential, 222
Social science, 432
Africal and the Middle East emphasis, 432
environ men emphasis, 433
Social Science Research Laboratory, 32
Social security number, use of, 46
Social welfare, 435
Social work, 435
Sociology, 440
Sororities, 43
Spanish, 446
Spanish and Portuguese languages and literatures, 19
Special curricula, 91
Special education, 238
specialist credential, 227
special major, 91, 98
special programs and services, 29
Special sessions and travel study programs, 100
Special study, 119
Specialist credentials administrative services, 218
bilingual/bicultural, 224
early childhood, 224
health services, 224
library services, 225
PDAI personnel services, 225
Reading specialist, 226
School psychology, 227
Special Education communication handicapped, 227, 455
Gifted, 227
learning handicapped, 227
physically handicapped, 227
severely handicapped, 227
Speech and Hearing Clinic, 40
Speech communication, 451
Speech pathology and audiology, 455
State University and Colleges, The California, 12
Statistics, 345
Student activity fees, 8
centers, 41
classification, 63
discipline and grievances, 67
discipline and grievances, 67
services fee, 8
union, 4
Student centers (see Centers)
Student Resource Information Center, 40
Student services, 39
Student teaching—see College of Education
Students, 139
Study and consultation dates, 7
International, 66
Study skills, 464
courses in, 462
Summer and conferences, 108
Rates, 6
Survey Research Center for, 32
Teaching tests, 49, 219
Teaching credentials, list of, 92, 218
majors, 222, 223
Television, 464
design for, 304
Test office, 95
Tests, 48, 95
Title IX, 56
TOEFL, 48, 52
Transcripts fee, 8
for admission, 46
for record, 64
Transfer students admission of, 52
Transportation, 43
Traffic safety, 300
Trustees, 15
Tuition and fees, 8
Unclassified graduate student, 51
Undergraduate division honors program, 64
New Hampshire exchange program, 94
objectives and functions, 84
test office, 95
Units required for graduation, 86
University library, 23
University studies, 470
general courses, 470
innovative courses, 470
Unofficial withdrawal, 65
Upper division course credit, 204
units required for graduation, 86
Urban studies, 417
U.S. Constitution requirement for graduation, 83
U.S. Constitution test, 83
U.S. History test, 83
Vacations, 8
Veterans, 44
Vocational education, bachelor of, 228
Winter session, 111
Withdrawal, 85
Women's studies, 471
Writing competency test, 49
Youth-family agency leadership, 421
Zoology, 474