General Catalog

Announcement of Courses

Volume 70

1983-1984

San Diego State University
San Diego, California
92182

(619) 265-5200

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Annual Calendar

CALENDAR 1983

JANUARY

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CALENDAR 1984

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### 1983-84 Academic Calendar

#### SUMMER SESSIONS, 1983
- **May 30**
- **May 31-June 17**
- **July 4**
- **June 20-July 29**
- **June 20-July 22**
- **August 1-August 19**
- **May 31-July 8**

#### FALL SEMESTER, 1983
- **August 1**
- **August 5**
- **July 29**
- **August 22**
- **August 22**
- **August 23-24**
- **August 25-26**
- **August 29**
- **September 1**
- **September 3**
- **September 5**
- **September 12**
- **September 19**
- **September 19**
- **November 1**
- **November 11**
- **November 24-27**
- **December 9**
- **December 10-17**
- **December 17**
- **December 21**
- **December 23-26**
- **December 27**
- **December 30-January 2**
- **January 3-20**

#### SPRING SEMESTER, 1984
- **August 1**
- **December 30**
- **January 13**
- **January 16**
- **January 16**
- **January 17-18**
- **January 19-20**
- **January 23**
- **January 23-26**
- **January 27**
- **February 6**
- **February 10**
- **February 13**
- **February 20**
- **April 13**
- **April 16-22**
- **April 23**
- **April 30**
- **May 11**
- **May 12-19**
- **May 20**
- **May 25**
- **May 25**
- **May 28**
- **August 3**

#### SUMMER SESSIONS, 1984
- **May 28**
- **June 4-June 22**
- **July 4**
- **June 25-August 3**
- **June 25-July 27**
- **August 6-24**
- **June 4-July 13**

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*Applications for admission or readmission to San Diego State University for the spring semester 1984 accepted. Applications are accepted after August 31 only until enrollment quotas are met.*

*Last day for disqualified students to apply for reinstatement to the University.*

*Last day to apply for a leave of absence for spring semester.*

*First day, second semester.*

*Schedule Adjustment Day.*

*Walk-Through Registration.*

*Testing and advising days.*

*First day of classes.*

*Late Registration.*

*Check with Department of Elementary Education for application dates and deadlines for Multiple Subjects Credential Program.*

*Last day to apply for refunds.*

*Last day to withdraw from class or change program.*

*Applications for bachelor's degree for December 1984 graduation accepted.*

*Holiday—Washington's Birthday. Campus closed (no classes).*

*Last day to file application for bachelor's degree for December 1984 graduation.*

*Spring recess.*

*Classes resume.*

*Applications for bachelor's degree for May and August 1985 graduation accepted.*

*Last day of classes before final examinations.*

*Final examinations.*

*Commencement.*

*Grades due from instructors.*

*Last day of spring semester.*

*Holiday—Memorial Day. Campus closed (no classes).*

*Last day to apply for a leave of absence for fall semester.*
Schedule of Fees

FEES MUST BE PAID AT TIME OF REGISTRATION. CHECKS OR CHARGE SLIPS ACCEPTED FOR EXACT AMOUNT OF FEES. OVERPAYMENTS OF $5.00 OR LESS ARE REFUNDED ONLY UPON REQUEST. (IF YOUR CHECK OR CHARGE SLIP IS RETURNED BY THE BANK FOR ANY REASON, YOUR REGISTRATION WILL BE CANCELED.) PAYMENT OF FEES FOR ADVANCE REGISTRATION OR WALK-THROUGH REGISTRATION SHOULD BE MADE BY CHECK, MONEY ORDER, OR CHARGE CARD. CHECKS TO BE MADE PAYABLE TO CSUSU. (DO NOT ENCLOSE CASH.)

REGISTRATION FEES — ALL STUDENTS: On basis of units carried.
Auditors pay same fees as students carrying courses for credit. Nonresident and foreign students pay additional fees — see information below.

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<td>$176.00</td>
</tr>
<tr>
<td>6.0 or more units</td>
<td>$227.00</td>
</tr>
</tbody>
</table>

The above fee also includes a Student Activity Fee of $10.00, a Student Union Fee of $16.00, a Facilities Fee of $3.00, an Instructional/Related Activities Fee of $15.00, Student Services Fees of $108.00, and a State University Fee of either $24.00 or $75.00, depending on unit load. Legal residents of California are not charged tuition.

Tuition for Nonresident Student (Foreign and Domestic)

In addition to student services and activity fees.

Tuition will be charged for all units attempted.

(Fee-paying purposes, zero unit courses are counted as one unit.)

Health insurance (mandatory for foreign students)

<table>
<thead>
<tr>
<th>Per unit</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$105.00</td>
</tr>
<tr>
<td>Per year, approximately</td>
<td>$125.00</td>
</tr>
</tbody>
</table>

Paying Fees

Nonresident parking space, per semester
Car pool — see Cashiers Office
Less than four-wheeled, self-propelled vehicle (motorcycle, moped)

Miscellaneous Fees

(Fees payable when service is rendered.)

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application for admission or readmission (nonrefundable)</td>
<td>$30.00</td>
</tr>
<tr>
<td>Late registration (Refer to Class Schedule for dates when this fee will be assessed)</td>
<td>$25.00</td>
</tr>
<tr>
<td>Change of program correction fee</td>
<td>$5.00</td>
</tr>
<tr>
<td>Failure to meet administratively required appointment or time limit</td>
<td>$10.00</td>
</tr>
<tr>
<td>Photo identification card (One-time cost to both new undergraduate and graduate students at time of registration)</td>
<td>$3.00</td>
</tr>
<tr>
<td>Name change</td>
<td>$1.00</td>
</tr>
<tr>
<td>Lost identification cards/stickers</td>
<td>$2.00</td>
</tr>
<tr>
<td>Card only</td>
<td>$2.00</td>
</tr>
<tr>
<td>Registration sticker only</td>
<td>$2.00</td>
</tr>
<tr>
<td>Card and sticker</td>
<td>$4.00</td>
</tr>
<tr>
<td>Transcript of record</td>
<td>$4.00</td>
</tr>
<tr>
<td>Single copy</td>
<td>$4.00</td>
</tr>
<tr>
<td>Additional transcripts requested at the same time</td>
<td>$2.00</td>
</tr>
<tr>
<td>Additional transcripts requested at the same time that exceed the first 10 transcripts</td>
<td>$1.00</td>
</tr>
<tr>
<td>R.O.T.C. deposit (Unexpended portion is refundable)</td>
<td>$35.00</td>
</tr>
<tr>
<td>Check or charge slip returned for any cause</td>
<td>$10.00</td>
</tr>
<tr>
<td>Loss of or damage to library materials</td>
<td>$9.00 service charge</td>
</tr>
<tr>
<td>Graduation fee*</td>
<td>$9.00</td>
</tr>
<tr>
<td>Evaluation and diploma fee*</td>
<td>$10.00</td>
</tr>
<tr>
<td>Credential fee</td>
<td>$10.00</td>
</tr>
<tr>
<td>Miscellaneous course charge (optional)</td>
<td>$40.00</td>
</tr>
</tbody>
</table>

* Fee payable when graduation application is filed at Cashiers Office.

Miscellaneous Instructional Course Charges

Miscellaneous instructional course charges are payable at student's option for the following courses:

- An 225, 325, 425, 525, 526, 625, 700
- Educational Technology and Librarianship 404, 532, 540, 541, 542, 544, 546, 547, 548, 780, 781, 784, 786, 774, 776, 777
- Family Studies and Consumer Sciences 205A, 205B, 301, 302, 405, 480, 605

Credit Cards

VISA and Master Card bank credit cards may be used for payment of Student Fees.

Refund of Fees

Details concerning fees which may be refunded, the circumstances under which fees may be refunded, and the appropriate procedure to be followed in seeking refunds may be obtained by consulting Section 41803 (parking fees), 41913 (nonresident tuition). 42019 (housing charges), and 48202 (all other fees) of Title 5, California Administrative Code. In all cases it is important to act quickly in applying for a refund. Information concerning any aspect of the refund of fees may be obtained from the Cashiers Office.

An appeals process exists for students who feel that individual circumstances warrant exceptions from published policy. Students should file a "Petition for Special Consideration" obtainable at the Cashiers Office.

Refund of Registration Fees

Complete Withdrawal: To be eligible for refund of registration fees, a student withdrawing completely from the University (from all classes) MUST obtain a withdrawal card from the Office of Admissions and Records and file a refund application with the Cashiers Office, CL-108, not later than 14 days following the commencement of instruction. All but $10.00 will be refunded. YOUR REGISTRATION STICKER MUST BE RETURNED AT THE TIME YOU FILE YOUR REFUND APPLICATION. (See Class Schedule for deadline dates.)

Reduction of Unit Load: A student dropping from six units or more to 5.9 units or less, or a student who paid maximum fees but never obtained over 5.9 units, MUST file a refund application with the Cashiers Office, CL-108, not later than 14 days following the commencement of instruction (Refund Deadline). Note that this date is prior to the Change of Program (Add/Drop) Deadline published in the General Catalog and Class Schedule. If you have paid maximum fees and anticipate dropping below six units after the refund deadline, submit your refund application in anticipation of this drop to the Cashiers Office by the Refund Deadline. Verification of your drop will be performed by the Cashiers Office prior to processing your refund. All but $5.00 will be refunded. FOR ADDITIONAL INFORMATION, CONTACT THE CASHIERS OFFICE OR TELEPHONE 265-5253.

Bootleg and Leave of Absence Candidates: If your registration has been canceled due to disqualification or by obtaining an approved leave of absence, registration fees will be refunded upon (1) notification from Admissions and Records that appropriate action has been taken and (2) return of your registration sticker to the Cashiers Office.

Refund of Nonresident and Foreign Student Tuition

Tuition paid for a course scheduled to continue for an entire semester may be refunded in accordance with the following schedule, if application is received by the Cashiers Office within the following time limits:

<table>
<thead>
<tr>
<th>Time Limit</th>
<th>Amount of Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Before or during the first week of the semester</td>
<td>100 percent of fee</td>
</tr>
<tr>
<td>(2) During the second week of the semester</td>
<td>90 percent of fee</td>
</tr>
<tr>
<td>(3) During the third week of the semester</td>
<td>70 percent of fee</td>
</tr>
<tr>
<td>(4) During the fourth week of the semester</td>
<td>50 percent of fee</td>
</tr>
<tr>
<td>(5) During the fifth week of the semester</td>
<td>30 percent of fee</td>
</tr>
<tr>
<td>(6) During the sixth week of the semester</td>
<td>20 percent of fee</td>
</tr>
</tbody>
</table>
Refund of Parking Fees
This schedule of refunds refers to calendar days, commencing on the date of the term when instruction begins.

Nonreserved space per semester:

<table>
<thead>
<tr>
<th>Period</th>
<th>Amount of Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>1--30 days</td>
<td>75 percent of fee</td>
</tr>
<tr>
<td>31--60 days</td>
<td>50 percent of fee</td>
</tr>
<tr>
<td>61--90 days</td>
<td>25 percent of fee</td>
</tr>
<tr>
<td>91-end of term</td>
<td>None</td>
</tr>
</tbody>
</table>

For a refund, the parking sticker must be removed from the vehicle by a University Police Officer. The refund application is obtained from the Cashiers Office, CL 108.

LATE REGISTRATION FEE
The late registration fee is not refundable. The Cashiers Office should be consulted for further details.

SUMMER SESSION FEES
Tuition and fees
Parking fees (nonreserved spaces)

| Entire summer period | (per unit) | $64.00 |
| Five-and six-week terms | 15.00 |
| Three-week terms      | 9.00    |

EXTENSION COURSE FEES
Extension/Open University

| (per unit) | $49.00 |

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 campus according to the Alan Pattee Scholarship Act, Education Code Section 68121. Students qualifying for these benefits are known as Alan Pattee scholars. For further information contact the Admissions and Records Office, which determines eligibility.

STUDENT SERVICES 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, psychometrists, 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 student housing information and monitoring housing services.
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 or Abolishment of a Student Activity Fee
The law governing the California State University provides that a student activity fee 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 10 percent of the regularly enrolled students. (Education Code, Section 85330.) The level of the fee is set by the Chancellor. An increase in the student activity fee may be approved by the Chancellor only following a referendum on the fee increase approved by a majority of students voting. Student activity fees support a variety of cultural and recreational programs, child care centers, and special student support programs.

Debts Owed 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 permission to receive official transcripts of grades from any person owing a debt. If a student believes that he or she does not owe all or part of an unpaid obligation, the student should contact the campus Cashiers Office. The Cashiers Office, or another office on campus to which the student may be referred by the Cashiers Office, will review the pertinent information including information on the student's accounts and will advise the student of its conclusions with respect to the debt.

Schedule of Fees / 11
Organization and Administration

The California State University
Board of Trustees
Office of the Chancellor
San Diego State University
Advisory Board
Administration
Colleges, Schools,
Departments, Programs
The California State University

The California State University

The individual California State Colleges were brought together as a system by the Donahoe Higher Education Act of 1960. In 1972 the system became The California State University and Colleges and in 1982 the system became The California State University. Today, 16 of the 19 campuses have the title "University." The oldest campus—San Jose State University—was founded as a Normal School 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 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, 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 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 breadth 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.

The CSU offers more than 1,500 bachelor's and master's degree programs in some 200 subject areas. Nearly 900 of these programs are offered so that students can complete all upper division and graduate requirements by part-time late afternoon and evening study. In addition, a variety of teaching and school service credential programs are available. A limited number of doctoral degrees are offered jointly with the University of California and with private universities in California.

The Consortium of the CSU draws on the combined resources of the 19 campuses to offer regional and statewide off-campus degree, certificate, and credential programs to individuals who find it difficult or impossible to attend classes on a campus. In addition to Consortium programs, individual campuses also offer external degree programs.

Enrollments in fall 1982 totaled approximately 315,000 students, who were taught by a faculty of 18,000. Last year the system awarded over 50 percent of the bachelor's degrees and 30 percent of the master's degrees granted in California. More than 600,000 persons have been graduated from the nineteen campuses since 1960.

The Consortium of The California State University

The Consortium of the CSU—"The 1,000-Mile Campus"—is a separate, fully accredited, degree-granting entity of the CSU. It draws on the combined resources of the 19 campuses to offer regional and statewide degree, certificate, and teaching credential programs.

The Consortium was established in 1973 to meet the needs of adults who find it difficult or impossible to participate in regular on-campus programs. Instruction is thus provided in convenient places at convenient times. Currently, programs are offered in more than 20 geographic areas throughout California.

Full- and part-time CSU faculty, as well as qualified experienced practitioners, go where the students are, or provide opportunities for individualized home study. Programs can be tailored to meet the specific needs of employees in business, industry, education, or government.

Consortium programs are upper division or graduate level. All courses offer residence credit leading to bachelor's or master's degrees. Credit and course work are transferable statewide. Programs are financed by student fees.

Academic policy for The Consortium is established by the statewide Academic Senate of the CSU. Degrees or certificates are awarded by The Consortium in the name of the Board of Trustees of the CSU. The Consortium is accredited by the Western Association of Schools and Colleges.

For more information contact The Consortium of The California State University, 400 Golden Shore, Long Beach, California 90802, (213) 590-5696. The statewide Admissions and Records Office may be reached by dialing the following numbers: Los Angeles and Long Beach areas (213) 590-5696, all other areas in California toll free (800) 352-5717.
Average Annual Costs and Sources of Funds per Full-time Equivalent* Student in The California State University

The 19 campuses and the Chancellor's Office of The California State University are financed primarily through funding provided by the taxpayers of California. Including capital outlay, the CSU 1982-83 budget totals approximately $1.26 billion. Approximately $1.18 billion of the $1.20 billion total has been budgeted to provide support for a projected 239,900 full-time equivalent (FTE*) students. Thus, excluding costs which relate to capital outlay and the Energy and Resources Fund (e.g., building amortization), the average cost per FTE student is $4,947 per year. Of this amount, the average student pays $710. Included in this average student payment calculation is the amount paid by nonresident students. The remaining $4,237 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 1982/83 CSU Budget (Projected Enrollment: 239,900 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>$970,118,453</td>
<td>$4,044</td>
<td>81.7</td>
</tr>
<tr>
<td>Student Charges</td>
<td>170,233,339</td>
<td>710**</td>
<td>14.4</td>
</tr>
<tr>
<td>Federal (Financial Aids)</td>
<td>46,337,429</td>
<td>193</td>
<td>3.9</td>
</tr>
<tr>
<td>State Funding (Capital Outlay and Energy and Resources Fund)</td>
<td>18,803,000</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,205,492,221</strong></td>
<td><strong>$4,947</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*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 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, application fee, catalog fee, State University Emergency 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 $710 depending on whether they are part-time, full-time, resident or nonresident students.

Average Cost Per Student (FTE) and Percentage columns are not calculated for this funding source. The estimated replacement cost of all the system's permanent facilities and equipment on the 19 campuses is currently valued at $4.1 billion, excluding the cost of land.

### Trustees of The California State University

#### Ex Officio Trustees

- The Hon. George Deukmejian
- Governor of California
- Sacramento 95814
- State Capitol

- The Hon. Leo T. McCarthy
- Lieutenant Governor of California
- Sacramento 95814

- The Hon. Willie L. Brown, Jr.
- Speaker of the Assembly
- Sacramento 95814

- The Hon. Louis "Bill" Gilchrist
- State Superintendent of Public Instruction
- Sacramento 95814

- Dr. W. Ann Reynolds
- Chancellor of The California State University
- 400 Golden Shore
- Long Beach 90802

#### Appointed Trustees

Appointments are for a term of eight years, except for a student Trustee and alumni Trustee whose terms are for two years. Terms expire in the year in parentheses. Names are listed in order of appointment to the Board. Appointments are subject to confirmation by the State Senate.

- Dr. Claudia H. Hampton (1986)
  - 4157 Sunto Avenue
  - Los Angeles 90008
  - Keating Building
  - 432 F Street, Suite 406
  - San Diego 92101
  - Mr. Lynne Myers (1988)
  - 514 Doheny Road
  - Beverly Hills 90210

- Mr. Willie J. Stennis (1983)
  - Golden Blvd, Inc.
  - 3947 Landmark
  - Culver City 90230

- Dr. Juan Gomez-Quriones (1984)
  - Professor, History Department
  - University of California, Los Angeles
  - 405 Hilgard Avenue
  - Los Angeles 90024
  - Mr. George M. Marcus (1989)
  - Marcus & Millichap Incorporated
  - 2626 Hanover Street
  - Palo Alto 94304
  - Mr. Blaine B. Quick (1983)
  - Blaine Quick & Associates
  - 1152 Orange Avenue
  - Corona 92818

  - 415 N. Camden Drive, Suite 107
  - Beverly Hills 90210

- Mr. Michael R. Peevey (1985)
  - California Council for Environmental & Economic Balance
  - 215 Market Street, Suite 1311
  - San Francisco 94105
  - Mr. John F. Crowley (1985)
  - Bechtel Power Corp.
  - P.O. Box 9395
  - San Francisco 94119

- Ms. Wallace Albertson (1986)
  - 415 N. Camden Drive, Suite 107
  - Beverly Hills 90210

- Mr. Mr. John F. O'Connell (1984)
  - 415 N. Camden Drive, Suite 107
  - Beverly Hills 90210

- Mr. William E. Shaw (1985)
  - Bechtel Power Corp.
  - P.O. Box 9395
  - San Francisco 94119

- Ms. Wallace Albertson (1986)
  - 415 N. Camden Drive, Suite 107
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  - 215 Market Street, Suite 1311
  - San Francisco 94105

- Ms. Wallace Albertson (1986)
  - 415 N. Camden Drive, Suite 107
  - Beverly Hills 90210

- Mr. Daniel J. Shanahan (1990)
  - REA Companies
  - 11878 LaGrange
  - Los Angeles 90025
  - Mr. Daniel J. Shanahan (1990)
  - Associated Students Office
  - Sonoma State University
  - 1801 East Cotati Avenue
  - Rohnert Park 94928

#### Officers of the Trustees

- Governor George Deukmejian
  - President
  - Mr. John F. O'Connell
  - Chair

- Mrs. Lynne Myers
  - Vice Chair

- Chancellor W. Ann Reynolds
  - Secretary-Treasurer
The California State University

California State College, Bakersfield
9001 Stockdale Highway
Bakersfield, California 93309
(805) 833-2011

California State University, Chico
1st & Normal Streets
Chico, California 95929
Dr. Robin S. Wilson, President
(916) 895-6116

California State University, Dominguez Hills
Carson, California 90747
Dr. Donald R. Gerth, President
(213) 516-3300

California State University, Fresno
Shaw and Cedar Avenues
Fresno, California 93740
Dr. Harold Haak, President
(209) 294-4240

California State University, Fullerton
Fullerton, California 92834
Dr. Jewel Plummer Cobb, President
(714) 562-4011

California State University, Hayward
Hayward, California 94544
Dr. Ellis E. Muse, President
(415) 881-3000

Humboldt State University
Arcata, California 95521
Dr. Alistair W. McCrone, President
(707) 826-2721

California State University, Long Beach
1250 Bellower 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. James M. Rosser, President
(213) 224-0111

California State University, Northridge
18111 Nordhoff Street
Northridge, California 91330
Dr. James W. Carty, President
(213) 865-1200

California State Polytechnic University, Pomona
3801 West Temple Avenue
Pomona, California 91768
Dr. Hugh O. LaBounty, Jr., President
(714) 598-4502

California State University, Sacramento
6000 J Street
Sacramento, California 95819
Dr. W. Lloyd Johns, President
(916) 454-6011

California State College, San Bernardino
5500 State College Parkway
San Bernardino, California 92407
Dr. Anthony H. Evans, President
(714) 887-2201

San Diego State University
5300 Campanile Drive
San Diego, California 92182
Dr. Thomas B. Day, President
(619) 265-4000

San Francisco State University
1600 Holloway Avenue
San Francisco, California 94132
Dr. Gail Fullerton, President
(415) 469-2141

San Jose State University
Washington Square
San Jose, California 95192
Dr. Gail Fullerton, President
(408) 277-2000

California Polytechnic State University, San Luis Obispo
San Luis Obispo, California 93407
Dr. Warren J. Baker, President
(805) 546-0111

Sonoma State University
1601 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) 667-3122

Office of the Chancellor
The California State University

400 Golden Shore
Long Beach, California 90802
Telephone: (213) 590-5506

Dr. W. Ann Reynolds, ..,..,..,.Chancellor
Mr. Harry Harmon, Executive Vice Chancellor
Mr. D. Dale Hamner, Vice Chancellor, Business Affairs
Dr. Alex C. Sherriffs, Vice Chancellor, Academic Affairs
Dr. Robert E. Tyndal, Acting Vice Chancellor, Faculty and Staff Affairs
Mr. Mayor Chapman, Vice Chancellor and General Counsel

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Leon W. Parma

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Ruth Johnson
President, Ninth District, California
Congress of Parents and Teachers, Inc.

Bertha McKinley
President, San Diego Branch, American Association of University Women

William E. Hastings
President, San Diego State University Alumni and Associates

Walt Palmer
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  
Vice President for Business and Financial Affairs: William L. Erickson  
Dean of Student Affairs: Daniel B. Nowak  
Director of University Affairs: Leslie F. Weger  
Director of University Telecommunications: Paul J. Steen

### Administration

**Office of the President**
- Assistant to the President: Wanda Alma Marosz  
- Director of Environmental Health: John J. Carpenfer  
- Director of Center for Counseling Services: Thomas R. Pearson  
- Director of Financial Aid: Augustine S. Chavez  
- Director of Educational Opportunity and Multicultural Programs: George Hutchinson  
- Director of Learnining Resource Center: Michael B. Hooton  
- Director of University Libraries: Ralph L. Lundberg

**Office of the President**
- Executive Assistant to the President: August S. Chavez  
- Director of University Telecommunications: Paul J. Steen

**Office of the Dean of Student Affairs**
- Associate Dean: Carl F. Emerich  
- Assistant Dean: Carole E. Beatty  
- Coordinator of Campus Student Discipline: Edith A. Bacon  
- Director of Student Resource and Information Center: Garoov Tissue  
- Director of Admissions and Records: Nancy C. Sprote  
- Director of Office of Institutional Services: Geoffrey Johnson  
- Director of Health Services: Winifred Wong Chase  
- Director of Housing and Residential Life: Kevin Patrick, M.D.  
- Director of Student Affairs: Michael B. Hooton  
- Director of Student Athlete Academic Support Services: Michael A. Irwin  
- Office of the Director of University Affairs: Robert R. Kinkel  
- General Manager, KFIS/TV/FM: Jack Mullen

**Office of the Vice President for Business and Financial Affairs**
- Executive Assistant to the President: Virginia J. Carpenfer  
- Director of Center for Counseling Services: Thomas R. Pearson  
- Director of Financial Aid: Augustine S. Chavez  
- Director of Educational Opportunity and Multicultural Programs: George Hutchinson  
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- Director of Student Athlete Academic Support Services: Michael A. Irwin  
- Office of the Director of University Affairs: Robert R. Kinkel  
- General Manager, KFIS/TV/FM: Jack Mullen

### Colleges, Schools, Departments and Programs

<table>
<thead>
<tr>
<th>College/School/Department</th>
<th>Chair</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College of Arts and Letters</strong></td>
<td>Robert C. Detweiler, Dean</td>
</tr>
<tr>
<td>Associate Dean</td>
<td>Betty Nesvold</td>
</tr>
<tr>
<td>Asst. Dean</td>
<td>Edward R. Mendez</td>
</tr>
<tr>
<td>Academic Skills Center</td>
<td>Donald Basile</td>
</tr>
<tr>
<td>American Indian Studies</td>
<td>Shirley Weber</td>
</tr>
<tr>
<td>Anthropology</td>
<td>John C. Rouillard</td>
</tr>
<tr>
<td>Classical and Oriental Languages and Literatures</td>
<td>David C. McLeod</td>
</tr>
<tr>
<td>Economics</td>
<td>Dennis Palmer</td>
</tr>
<tr>
<td>English and Comparative Literature</td>
<td>Ernst C. Griffin</td>
</tr>
<tr>
<td>French and Italian Languages and Literatures</td>
<td>Julian H. Wubern</td>
</tr>
<tr>
<td>History</td>
<td>Philip F. Fremion</td>
</tr>
<tr>
<td>Linguistics</td>
<td>Robert Underhill</td>
</tr>
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<td>Mexican-American Studies</td>
<td>William A. Vega</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Michael J. Cailliau</td>
</tr>
<tr>
<td>Political Science</td>
<td>James J. Conniff</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>Irving Alan Sparks</td>
</tr>
<tr>
<td>Sociology</td>
<td>John W. Weeks</td>
</tr>
<tr>
<td>Spanish and Portuguese Languages and Literatures</td>
<td>Ernesto Barrera</td>
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<tr>
<td>Women's Studies</td>
<td>Barbara Watson</td>
</tr>
<tr>
<td><strong>College of Business Administration</strong></td>
<td>Allan R. Bailey, Dean</td>
</tr>
<tr>
<td>Associate Dean, Undergraduate Studies</td>
<td>William F. Barber</td>
</tr>
<tr>
<td>Associate Dean, Graduate Studies</td>
<td>Harold K. Brown</td>
</tr>
<tr>
<td>Associate Dean, External Relations</td>
<td>Anna R. Newton</td>
</tr>
<tr>
<td>School of Accountancy</td>
<td>Richard Samuels</td>
</tr>
<tr>
<td>Finance</td>
<td>Peter A. Vandenberg</td>
</tr>
<tr>
<td>Information Systems</td>
<td>Norman R. Blalock</td>
</tr>
<tr>
<td>Management</td>
<td>James R. Beaty</td>
</tr>
<tr>
<td><strong>College of Education</strong></td>
<td>Dennis Goeller, Dean</td>
</tr>
<tr>
<td>Associate Dean</td>
<td>John Chamley (Acting)</td>
</tr>
<tr>
<td>Assistant Dean for Student Affairs</td>
<td>Ana Maria Rodriguez</td>
</tr>
<tr>
<td>Coordinator, Counselor Education</td>
<td>Emery Cuminus</td>
</tr>
<tr>
<td>Coordinator, Educational Administration</td>
<td>Michael J. Dufraine</td>
</tr>
<tr>
<td>Coordinator, Educational Technology and Librarianship</td>
<td>Patrick J. Harrison</td>
</tr>
<tr>
<td>Coordinator, Elementary Education</td>
<td>Gerald H. Treadway</td>
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<tr>
<td>Coordinator, Multicultural Education</td>
<td>Ana Maria Rodriguez</td>
</tr>
<tr>
<td>Coordinator, Graduate Programs and Research</td>
<td>Peggy Hawley</td>
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<tr>
<td>Coordinator, Secondary Education</td>
<td>Patricia Cegelski</td>
</tr>
<tr>
<td>Coordinator, Special Education</td>
<td>John G. McClellan</td>
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<tr>
<td><strong>College of Engineering</strong></td>
<td>George T. Craig, Acting Dean</td>
</tr>
<tr>
<td>Associate Dean</td>
<td>Nihad Husein</td>
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<tr>
<td>Assistant Dean for Student Affairs</td>
<td>Fang-Hui Chou</td>
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<tr>
<td>Aerospace Engineering and Engineering Mechanics</td>
<td>J. P. Conly</td>
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<tr>
<td>Civil Engineering</td>
<td>Iraj Noorany</td>
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<tr>
<td>Electrical and Computer Engineering</td>
<td>Mao-Shu Lin</td>
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<tr>
<td>Mechanical Engineering</td>
<td>Robert Bedore</td>
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<tr>
<td><strong>College of Human Services</strong></td>
<td>Peter Dual, Dean</td>
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<tr>
<td>Associate Dean</td>
<td>Adrian J. Kochanski</td>
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<tr>
<td>Assistant Dean for Student Affairs</td>
<td>Barry Jones</td>
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<td>Communication Disorders</td>
<td>Sadandar Singh</td>
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<tr>
<td>Graduate School of Public Health</td>
<td>Douglas Scollifield</td>
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<tr>
<td>Health Science</td>
<td>Aubrey McTaggart</td>
</tr>
</tbody>
</table>
General Information

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-veer 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 1928 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 (1928-1952), who served as president, and the institution entered a period of slow growth and, then, with the coming of war, of contraction. At the end of World War II, enrollment had fallen to 1,918.

In the next quarter century, under Dr. Hepner and subsequently under Malcolm A. Love (1952-1960), student 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 Brage Golding (1972-1977), and Acting President Trevor Colburn (1977-1978) were followed by the sixth president Thomas B. Day (1978-2012), 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 CSU system, Dramatic Arts, with the finest theater in the county; Music, with a Recital Hall; and the 307,000 square-foot Malcolm A. Love Library, with its ample reading areas and diverse urban setting, The University recognizes its obligations to serve in the several disciplines where it is the standard terminal degree.

A chapter of Phi Beta Kappa was inaugurated at the University in 1974, joining Phi Kappa Phi and many other national honorary societies on campus.

Mission and Goals of San Diego State University

San Diego State University is a multipurpose institution of higher education located in a large and diverse urban setting. The University recognizes its obligations to serve in the several capacities of teaching, research, and service. The fundamental aim of the University is excellence and distinction in these pursuits.

The University seeks to provide an environment that encourages the intellectual development of students. Through its program in the liberal arts and sciences the University aspires to have students understand themselves and their world; learn about their cultural, social, physical, and institutional surroundings; and understand the ways in which people of this and other societies, past and present, interact with each other and their environments. The professional programs of the University are designed to prepare students for the proficient and successful practice of a profession. At the graduate level the University is concerned with developing potential leaders in a wide spectrum of social, economic, scientific, technical, educational, and cultural fields.

Closely related to its teaching mission are the University's diverse research efforts. Student and faculty involvement in research exemplifies the manner in which knowledge is obtained and also expands the boundaries of our collective understanding. Graduate study at San Diego State University both at the master's and doctoral level, places particular emphasis on creative scholarship, original research, and the development and utilization of research techniques.

Located in the heart of a large and diverse metropolitan center, the University makes use of the vast social, cultural, scientific, and technical resources of this region to enrich its programs and spur its research. Conversely, through its teaching, research, and various services, the University is an ideal and be responsive to the needs of the regional, national, and international communities that it serves. Furthermore, San Diego State University seeks cooperative efforts and programs with other institutions of higher education.

In short, San Diego State University is to provide the best possible education for its undergraduate and graduate students, to contribute to knowledge and the solution of significant problems through its research, and to serve the people of California and the nation.

Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from the Financial Aid Office, CL-122, 265-6323.

This information includes:
1. Fees and tuition;
2. Estimated costs of books and supplies;
3. Estimates of typical student room and board costs or typical commuting costs; and
4. Any additional costs of the program in which the student is enrolled or expresses a specific interest.

Information concerning the refund policy of San Diego State University for the return of unused tuition and fees or other refundable portions of costs is available from the University Cashiers Office, CL-106, 265-5253.

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, 265-6542.

This information may include:
1. The current degree programs and other educational and training programs;
2. The instructional, laboratory, and other physical plant facilities which relate to the academic programs;
3. The faculty and other instructional personnel;
4. Data regarding student retention at San Diego State University and, if applicable, the number and percentage of students completing the program in which the student is enrolled or expresses interest; and
5. The names of associations, agencies, or governmental bodies which accredit, approve, or license the institution and its programs, and the procedures under which any current or prospective student may obtain or review a copy of the documents describing the institution's accreditation, approval, or licensing.
Information regarding special facilities and services available to handicapped students may be obtained from the Director of Disabled Student Services, Campus Lab 110A, telephone 265-6473.

Career Placement

The campus will furnish, upon request, information concerning the subsequent employment of students who graduate from San Diego State University. This information includes data concerning average starting salary and the percentage of previously enrolled students who obtained employment. The information provided may include data collected from either graduates of the campus or graduates of all campuses in the California State University. Copies of the published information are available in the office of the School Relations Officer, CL-114, 265-6966.

Faculty Office Hours

All faculty members are required to 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.

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 Bachelor's degree. They must have completed work in university-level mathematics and foreign languages. Weight is given to breadth and depth of program as evidenced by the number and variety of upper division courses taken outside the major 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.

Phi Kappa Phi elects to membership qualified students in all disciplines but with a ten percent limit among graduating seniors and graduate students. A maximum of five percent of juniors may be invited to membership. The national society awards a number of fellowships annually to first-year graduate students in national competition. The SDSU chapter also grants an additional fellowship to a local candidate. Phi Kappa Phi publishes for its members a newsletter and the National Forum, a prestigious journal presenting articles in depth on serious and controversial issues.

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 Home Economics Association
American Chemical Society
American Speech and Hearing Association Educational Training Board
California Commission for Teacher Preparation and Licensing
Council on Education for Public Health (candidacy)
Council on Education of the Deaf
Council on Rehabilitation Education
Council on Social Work Education
National Association of Schools of Art and Design
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration
National Association of Schools of Theatre
National Council for Accreditation of Teacher Education
National League for Nursing
National Recreation and Parks Association

San Diego State University is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges. It is also approved to train veterans under the G.I. Bill.

The College of Business Administration and the School of Accountancy are accredited by the American Assembly of Collegiate Schools of Business at both the undergraduate and graduate level. The clinical services area of speech pathology and audiology is in the process of being accredited by the American Speech and Hearing Association Professional Services Board.

The College of Engineering undergraduate programs in aerospace, civil, electrical and mechanical engineering are accredited by the Accreditation Board for Engineering and Technology, Inc.

The School of Nursing is accredited by the California Board of Registered 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 71 areas, the master's degree in 52 areas, and the Ph.D. in 4 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 Geology
Doctor of Philosophy in Education
Doctor of Philosophy in Genetics

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

Nondegree programs leading to certificates in Business Administration are offered. The American Assembly of Collegiate Schools of Business, Accreditation Board for Engineering and Technology, Precollegiate Medicine Residency, Quantitative Analysis in the Social Sciences, Spanish Translation and Court Interpreting, and Technical and Scientific Writing are offered.

* No student will be admitted into this program during the current academic year.

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 the 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, Bachelor of Arts or Bachelor of Music 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 certification at all levels of public school teaching.

4. Preprofessional and nondegree curricula: Programs are offered in prebaccalaureate, preprofessional, premedical, and preveterinary leading to transfer to professional schools. Air Force, Army, and Naval ROTC programs are also available.

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 Public Health, the Master of Social Work, the Master of Fine Arts in Drama, and the Doctor of Philosophy in chemistry, ecology, education, and genetics.
Special Programs and Services

University Library

Librarians
Emeritus: Adams, Harrington, Hoover, Kenney, Kinsey, McAmis, Murdoch, Sanner, Schalles, Szabo
Assistant University Librarians: Leehoff, Palsen
Collection Development Librarian: Dickinson
Librarian: Pease
Assistant Librarians: Barclay, Chan, Coleman, Dintron, Fitt, Gwip, Martinez, Samples
Senior Assistant Librarians: Buns, Cargille, Crisley, Erwin, Fikes, Goodwin, Goyne, Granrud,
Greene, Harkanyi, Harris, Johns, Moore, Neydoff, Posner, Rose, Sandelin, Shira, Sonntag,
West, Wilson
Assistant Librarians: Lamb, Turhollow, Zyroff

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 teaching. It has some three thousand reader stations and will ultimately accommodate over a million volumes.

The collection comprises 790,847 volumes including books and bound periodicals, and 375,000 government documents. Additional resources include 1.8 million microfiche and microopaque cards, 47,030 reels of microfilm, 4,175 college catalogs, 30,750 scientific reports, 125,000 maps, 4,276 phonograph records, 53,000 curriculum items and 1,500 linear feet of archival papers. The library receives 9,350 periodical and serial titles, including government publications. 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; public administration; American, Civil War, California, Latin American, Mexican, Chicano, and Asian resource materials; the literary collections of United States, Spanish America, Europe, Asia and Africa; music, with special strength in the Middle Ages and the nineteenth century; dramatic arts, including classic films; philosophy; especially medieval and American. Research collections held in the sciences include: chemistry, biochemistry, ecology, biology, mathematics, physics, astronomy, anthropology, entomology, paleontology, geology, the geological history of Pacific Ocean invertebrate fauna, and the geology degrees in many 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; photocopying machines, including several for microfiche and microfilm; ditto machine and a typing room with electric typewriters; coin-operated electronic calculators; listening equipment for cassettes, discs and open reel tape; and a special facility for the visually handicapped.

University Computer Center

The University Computer Center provides equipment and technical personnel to support the instructional, research and administrative computing activities of the University.

The principal computer on campus is a new Control Data Corporation CYBER 170-750 which runs on the NOS operating system in batch, transaction, and timesharing modes. Language compilers provided include BASIC, FORTRAN, ALGOL, APL, PL1, and PASCAL.

Additional instructional computing capacity is supplied by a VAX 11-780 computer which operates primarily in a timesharing mode. The VAX offers the language compilers available on the CYBER, plus MACRO and others. Heavy emphasis is placed on statistical analysis, using the statistical software programs SPSS, IDA, and BMD.

A third computer, a Digital Equipment Corporation PDP 11-45, is devoted primarily to administrative users. The CYBER, VAX, and PDP computers may be accessed by several batch terminals and over 200 interactive terminals dispersed throughout the campus. The main job entry sites are in the Business Administration building and at two other convenient locations.

Specialized computing services are also available. Two popular instructional laboratories are equipped with Apple computers for each student. Another laboratory has terminals dedicated specifically for the APL programming language. The User Services Group provides system programming support and consulting service for faculty, staff, and students.

In addition to the campus computing systems, SDSU users have access to a statewide computing network centered at Los Angeles. This network, reached via a high-speed data link from campus, is served by a dual CYBER 170-730-2 and a 170-760 computer.

Learning Resource Center

The Learning Resource Center provides support to faculty and staff in the design, production, and distribution of instructional media and in the maintenance of audiovisual equipment. The Center consists of three units: Media Development, Media Production, and Instructional Development. The director provides leadership to the University in identifying new approaches in the use of instructional technology.

Media Distribution provides support in the selection and use of instructional materials and the maintenance of audiovisual equipment. Services include booking and scheduling of films and videotapes for classroom use. Films may be shown by means of the traditional projection setup or over the campus closed circuit system by use of film chains. Videotapes are housed in a central master control facility and are shown via a 17-channel closed circuit system. The acquisition of all new videotapes, films and videodiscs related to course content and the maintenance of these libraries is a part of this service.

Media Production aids in the design and production of instructional materials. Original videotape programming required for specific instructional purposes is developed and produced by the television production staff. Slide-tape presentations, classroom tapings and guest-lecture tapings are part of the services available. A color studio and videotape feedback laboratory are operated and maintained. Graphics design for instruction and for research reports is provided. Photography for instructional materials development and for the reporting of research is available to all faculty.

Instructional Development program offers professional assistance in instructional design, course design, teaching techniques and assessment. Specific services include (1) providing assistance in instructional materials development, (2) assessing and selecting instructional methods, (3) facilitating course design, (4) providing faculty with opportunities to analyze their instruction, (5) conducting workshops on skills and techniques to teaching and testing, and (6) consultation to faculty using the Instructional Television Fixed Service (ITFS).

San Diego State University Press

As the University press for San Diego State University, the San Diego State University Press publishes works of original research, as well as other meritorious academic works that will further the intellectual mission of the University. Although high quality nonfiction manuscripts from any source will be considered, the current focus of the Press is in three general areas: Latin America and the United States-Mexican Border; aging, and regional studies of the Pacific and Southwestern United States. In addition to books, the Press also publishes under its imprint the annual Proceedings of the Pacific Coast Council on Latin American Studies. As an ancillary service, it publishes or distributes for departments on campus several occasional and serial publications, including the Proceedings of the annual Conference on Minority Aging, the University Center on Aging, and the Pacific Review, published by the Department of English and Comparative Literature.

The San Diego State University Press imprint is controlled by an Editorial Committee of San Diego State University faculty scholars, appointed by the Vice President for Academic Affairs and the Academic Senate. The Director of the Press is appointed by and reports to the Vice President for Academic Affairs. Financial support for Press activities is provided almost entirely through institutional expendable funds, and a public fund.
San Diego State University Foundation

The San Diego State University Foundation was incorporated in 1943 as an auxiliary organization authorized by the Education Code of the State of California. It is a nonprofit corporation, self-financed, and was chartered specifically to provide and augment essential services which are an integral part of the educational program of San Diego State University. Originally, the Foundation handled, accounted for, and invested scholarship and loan funds donated to the University. Commencing in 1954, the Foundation began serving as the agency for the University to accept and administer sponsored research and educational projects. Currently, the Foundation is the largest of the auxiliaries in The California State University System.

The purpose of the Foundation is to promote the development, implementation, and coordination of those activities that aid and supplement the fundamental mission of San Diego State University. The Foundation serves the University in the following major areas:

- Development and administration of grants and contracts for faculty and staff research and educational projects.
- Administration of funds for more than 500 special programs including KPBS educational television and radio stations, the College of Extended Studies and the SDSU Rehabilitation Center.
- Financial administration of grants and donations;
- Investment of endowed and other funds;
- Financial administration of student scholarship and loan funds;
- Management of a real property program whereby the Foundation provides space for grant and contract activity within its scope, and leases property to the University and other campus auxiliaries;
- Provides funds for the support of the University's Development Office, the Summer Faculty Fellowship Program, and the Grant-in-Aid Program for Research. The Foundation also provides needed computer equipment used by the University, and assistance to the University in acquiring new equipment.

The Foundation, as a nonprofit corporation, is governed by a Board of Directors in accordance with its Articles of Incorporation and Bylaws. The principal function of the Directors is to establish policies and direct the corporation in achieving its objectives.

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 needs and interests of its alumni, including alumni publications, reduced admission to many cultural activities, the Alumni Placement Service, travel tours, and Extended Studies mini-courses, workshops and conferences. The Alumni & Associates also supports the University's annual fund drive to raise private funds for innovative educational programs beyond the basic curriculum and to meet new needs of the University community.

In addition, the Alumni & Associates sponsors 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 bimonthly Aztec Report.

For further information, phone the Alumni and Development Office at (619) 265-6907.

Financial Aid

Cost of Living

Each student should plan his budget based on individual needs. 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 CSU systemwide figures provided for the purpose of determining maximum financial aid.

<table>
<thead>
<tr>
<th>Estimated Expenses for the Academic Year</th>
<th>Living off Campus</th>
<th>Living on Campus</th>
<th>Commuting from Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration fee for materials, service, student activity, student union, facilities (estimated)</td>
<td>$450</td>
<td>$450</td>
<td>$450</td>
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<tr>
<td>Books and supplies</td>
<td>310</td>
<td>310</td>
<td>310</td>
</tr>
<tr>
<td>Room and board</td>
<td>3780</td>
<td>2750</td>
<td>1100</td>
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<tr>
<td>Transportation</td>
<td>630</td>
<td>0</td>
<td>630</td>
</tr>
<tr>
<td>Personal</td>
<td>900</td>
<td>770</td>
<td>630</td>
</tr>
<tr>
<td>Total</td>
<td>$6070</td>
<td>$4280</td>
<td>$3120</td>
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</table>

In addition to the registration fee, foreign students and out-of-state students pay tuition of $105.00 per unit. Typical expenses for married students without children average $6950 for a nine-month period. All fees and costs are subject to change without notice.

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 is made available to eligible 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.

All financial aid funds are available only to U.S. citizens or permanent residents. Financial aid programs are administered by the Financial Aid Office, Room 122, Campus Laboratory School building. Interested persons should ask for the Financial Aid brochure which describes the aid programs available and the eligibility requirements. Counselors are available for guidance as to the most appropriate aid program for the individual.

Applying for Aid

Financial aid applicants must submit the Student Aid Application for California (SAAC). Forms may be obtained from high school or college counselors. A separate application form is required for the various guaranteed student loan programs, in which a student borrows from a participating bank, credit union, savings and loan, etc.

Interested persons should contact the Financial Aid Office for information about the appropriate form.

California Grants

Administered by the California Student Aid Commission, 1410 Fifth Street, Sacramento, California 95814. California Grants application forms are available in the Financial Aid Office and the Scholarship Office during the annual application period, which for the 1983-84 academic year opened in December and ended February 9, 1983. Financial need must be shown for California Grants. Renewals may be granted for up to three years provided that the student is eligible to re-enroll in school.

California State Fellowships

California State Fellows may attend any California college or university accredited by the Western Association of Schools and Colleges and offering recognized graduate or professional degrees in the academic areas approved by the California Student Aid Commission. Fellowships may be used for graduate or professional work. Entering and currently enrolled
students in graduate and professional schools are eligible to receive a State Graduate Fellowship. Fellowships are in the amount of tuition and required fees at the graduate or professional school the student will attend and may not be used for books, supplies, room and board, or other college expenses. Fellowships may be less than the full amount of tuition and fees in instances where the Commission determines that the student has need for less than a full tuition award because of his own or other resources. State Graduate Fellowships will range from $300 to full fees at the University of California and from $500 to full tuition and/or fees at independent colleges and are in the amount of fees charged at The California State University. State Fellowships are granted for one academic year (September through June). They are awarded after consideration of both academic and financial characteristics. In determining whether or not financial need exists and in what amount, the Commission has developed standards of financial need assessment of each applicant as an individual in his own right. Financial need is determined by comparing the applicant's own estimate of his resources for the year with an annual college cost estimate developed by the Commission for each graduate and professional school. Budgets vary for single and married students and do give consideration for special factors which pertain to each applicant. Original application forms for the 1984-85 programs will be available from the Scholarship Office during December through mid-January, 1983. State Fellowships are renewable for up to three additional years, Renewal applications are automatically mailed to each State Graduate Fellowship recipient in mid-April. The deadline to submit applications for the 1984-85 academic year is February 1983.

Scholarships and Fellowships Administered by Departments

Students receive scholarships, fellowships, grants, or stipends through the various departments. Federal, state, and private industry support programs of this nature are largely directed to students doing graduate work or to students preparing for some special field of work. Students who have decided on some particular area of study should check with an adviser in the department of their major to determine what scholarship, fellowship, grant, or stipend support might be available to them.

Scholarships Administered for Students Selected by Donors

Many students receive scholarships from donors who make their own selections and ask the University to administer the funds. These scholarships are generally awarded from clubs and organizations helping students in areas of interest to that club or organization. Students should ask a club or organization of which they or members of their family are members if they sponsor scholarships.

Fellowships for Graduate School

As a general rule, students planning graduate work should inquire about graduate fellowship support from the graduate school to which they are applying. The San Diego State University Scholarship Office receives the annual announcements on most fellowships and national awards including Fulbright, Ford, Rotary, Rhodes, and Marshall scholarships. Students interested in fellowships of this type are encouraged to discuss their applications with members of the San Diego State University faculty who have themselves in the past received these fellowships. Scores from the Graduate Record Examination, Law School Admission Test, Admission Test for Graduate Schools of Business, Dental Admissions Test, or Medical Colleges Admission Test, as appropriate, are required in applying for most fellowships, therefore 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 has adopted the philosophy that scholarships at San Diego State University should reward academic excellence and attract and retain excellent students. They are not based on financial need. 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 3.50 grade point average or — in the absence of a 3.50 — a 3.70 in the last 30 units of university work.

For High School Seniors:
- a 3.50 cumulative grade point average (excluding physical education and military science) for all work completed in the last three years of high school.

Students must be enrolled full time (12 units—undergraduate, 9 units—graduate) at SDSU to be eligible to receive the scholarship check in fall 1983.

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 five scholarship applicants for the University Scholar Awards. Final selection is made by the Committee and is based on the academic excellence and application of these top-ranked students. Students must be enrolled at SDSU to be eligible to receive the scholarship check in fall 1983. The number of awards depends on funds available. For the 1982-83 academic year there were 150 awards of $500 each. Ten first-time freshman scholarships are also awarded and are renewable for up to five years of undergraduate study. Recipients of the first-time freshman awards must continue to maintain the GPA required at the time of their original award. The following scholarships were awarded (or have been designated for following years):

- Anonymous, CPE
- Walter Weits, CPE
- Philip Kantor Memorial
- William and Edna La Salle Memorial Fund
- Foster S. Post Memorial Fund
- San Diego State University Memorial Fund
- Robert Patterson Shields Foundation
- Elta Schneider Memorial
- Winma Trott Memorial
- Mary Mellon Kantor Memorial
- Mr. and Mrs. John Zweck Memorial
- William and Edna La Salle Memorial

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 recipient and an alternate for each award from the applications of students in their department. Final approval of these nominations rests with the University Scholarship Committee. The following scholarships, averaging about $400, were awarded for the 1982-83 academic year (or have been designated for following years):

COLLEGE OF ARTS AND LETTERS

Economics Department

- Alumni, CPE
- Anonymous, CPE
- Henry Cramp, CPE
- Sidney Evans, CPE
- Henry George, CPE
- Walter Weits, CPE

English and Comparative Literature Department

- George Gross
- D. C. and W. Stott Memorial

History Department

- Andrew Bell Appleby Memorial
- D. C. and 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
- Foster S. Post Memorial Fund
- San Diego State University Memorial Fund
- Robert Patterson Shields Foundation
- Elta Schneider Memorial
- Winma Trott Memorial
- Mary Mellon Kantor Memorial
- Mr. and Mrs. John Zweck Memorial

School of Accountancy

- American Society of Women Accountants
- California Society of C.P.A.'s, Women's Auxilary, San Diego Chapter
- Considine
- Edward K. M. Suer Memorial
- Betty Oil Company
- Haskins & Sells
- National Association of Accountants, San Diego Chapter

- Application must be made directly through the department.
San Diego Chapter CSPE 
Auxiliary/Redelheimer 
San Diego Rock Producers 
San Diego Section ASCE/Merrill B. Witman 
Memorial 
Society of Military Engineers 
Cheng-Mo Sun Memorial 
Testing Engineers of San Diego 
Unit Masonry Association of San Diego 
Robert Young Engineering 
Zinner-Furby, Inc.

COLLEGE OF HUMAN SERVICES

Communicative Disorders Department
Dorothy Baronofsky Memorial
*California State Association of Emblem Clubs and Nevada-Hawaii Clubs
Epsilon Epsilon, Sigma Alpha Sorority
Nellie Feldman Gross Memorial
George Kopp Memorial
Paul Pfaff
Sigma Alpha, Gamma Upsilon Chapter
Sigma Delta, Zeta Pi Chapter

School of Nursing
Ailstate Foundation
Blue Cross of Southern California
Fraternal Order of Eagles, Ladies Auxiliary
Lottie E. Olberg Trust
Volunteer Association of Kaiser Foundation

School of Public Health
Morton Schweitzer Memorial

COLLEGE OF PROFESSIONAL STUDIES AND FINE ARTS

Art Department
Art Department
Frances Boyd Ellsworth
California China Painters Art Association
M. K. Hill
Isabel Kraft Sculpture

Drama Department
Jeweledan Brodie
Sharon Crossley Memorial
Simon Eden Foundation
Sybil Elsia Jones Memorial
Marion Ross
Hunton Sellman
Henry Stanton Memorial

Family Studies and Consumer Sciences
Georgia Tait Stokes
Victoria Smart Memorial

Journalism Department
James Copley Foundation
Faculty and Alumni
Harold Keen Journalism
KFMB
McGraw-Hill Broadcasting
Lee Nell Memorial
Jane Nelson

Music Department
Elsie Hiland Fox Memorial
M.H. Golden Memorial

* Application must be made directly through the department.

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 chosen by the University Scholarship Committee, for others, chosen by the donors on the basis of nominees sent to them by the University Scholarship Committee. The following scholarships were awarded for the 1982-83 academic year:

American Society of Military Commissaries
San Diego Chapter
Anonymous B
Mary Earnest Bean Memorial
Brenda Beltner Memorial
Colony Penn Group Insurance
Delta Kappa Gamma, Theta Gamma Chapter
Clara Escudero Fund
Johanna Muench Fox Memorial
William Fox Memorial
General Dynamics
Michael B. Hooten
Holiday Bowl Fund
David K. Hostetler
Raymond Houck Memorial
Hughes Aircraft-GO Club
International Students
Kappa Beta Nu
Kiwanis Club Unid-SD

Imperial Valley Campus Scholarships
The Imperial Valley Campus awarded $1,500 in scholarships for the 1982-83 academic year. Scholarships have been established by Rain-for-Rent, Imperial Valley Campus Chapter: SDSU Alumni & Associates; Linda Lopez McAlister; Maria Yezarita Memorial; and J.A. Wikes. Information and applications for these scholarships are available from the Financial Aid Counselor on the campus.
Student Services

Student Outreach Services
The Student Outreach Services office includes School and College Relations, the Educational Opportunities Program (Recruitment), and HEMP (Higher Education Motivation and Access Program), a student affirmative action effort. Through these programs information and guidance are provided to prospective students about college selection and preparation, including admission requirements and procedures, academic programs, general education requirements, financial aid, student services and other aspects of university life.

Student Outreach Services advisers visit high schools and community colleges, meeting with counselors, students and parents. The staff assists SDSU colleges and departments with their provision of information to prospective students and distributes newsletters and other materials to counselors. Requests for these services and programs for prospective students are welcomed.

Services for matriculated students include two student retention programs: Coordination of Cultural Activities for ethnic students admitted to the University through HEMP and Project Transition for re-entry women. Project Transcend is a program coordinated with Palomar College to prepare community college students for transfer to four-year institutions.

The Ambassadors
The San Diego State University Ambassadors is a campus organization devoted to providing excellent volunteer services. These specially selected and trained University students specialize in campus tours and organized seminars. One function of the Ambassadors is to be an active liaison between SDSU and professional/community organizations. Call the Ambassadors at 265-6966 for a campus tour designed specifically for you.

Counseling Services and Placement
Counseling Services and Placement provides, without charge, an array of services to students including (1) life planning and decision-making workshops; (2) educational and vocational assistance through counseling on career choice and curriculum selection; (3) counseling with regard to problems of personal, psychological, and social development; (4) consultation with student groups, faculty, staff, and administration; and (5) placement services for students. Additional programs and work experiences are provided through student employment, summer and part-time employment, job referrals, campus recruiting program, skill development, resume writing, interviewing workshops, and job search strategy. An extensive career library is available to aid in this process. Supervised graduate training is available for students in a variety of related disciplines on campus.

For a nominal fee, alumni may receive placement assistance through extensive job mailings, maintaining an updated individual placement file, utilizing current resources in the library, and participating in workshops.

Services are available on a walk-in basis or by appointment, from 8:00-4:30 p.m., Monday through Friday. Services after 4:30 p.m. are available by special appointment only.

Health Services
The Student Health Services is a prepaid comprehensive primary care center which provides a full range of medical services. It is fully staffed with over 100 personnel including full-time medical specialists in gynecology, dermatology, internal medicine, orthopedics, psychiatry, radiology and otolaryngology.

The Student Health Services Center is open from 8:00-6:30 p.m., Monday through Thursday, and 8:00-4:30 on Friday.

Nurse practitioners are an integral component of the health services, providing consultation, treatment and assistance in emergencies. Full-time nursing, X-ray, laboratory and physical staff are also on duty when school is in regular session. The pharmacy is open during the entire year.

Most services have been prepaid through the Student Service Fee. Some services require an additional fee such as pharmacy, physical therapy, outside lab work and some preventive medicine services.

Student Health Services is available to all regularly registered students, whether for emergency care, acute illness or chronic illness care. Non-acute illness treatment is available by appointment. Student Health Services also provides emergency care to all faculty, staff and visitors.

Many special programs are available, such as special clinics in family planning, weight control nutrition, health education topics, sexuality workshops and cold prevention.

An Audiology Clinic operated by the faculty and students of the Department of Communicative Disorders provides diagnostic information regarding hearing loss, hearing aid, earmold, swim plug and noise suppressor plug fabrication, and referral and counseling services for those individuals with confirmed or suspected hearing difficulty. A minimal fee is charged for diagnostic and earmold fabrication services.

A health history is required from all students prior to admission, and remains in the student's medical chart. In addition to the health history, students must show proof of having had a tuberculin test at some time during the preceding year. This procedure may also be completed without charge at Health Services. A physical examination is recommended for all entering students but is not required. Medical records are completely confidential and used only by and for Health Services.

Student participation is encouraged through membership on the Student Health Advisory Board, sponsored by Associated Students. Board members are involved in numerous health education projects and their advice is sought on program evaluations.

Accidents and Student Insurance Coverage
Under Trustee policy, first aid or emergency medical care is provided to students, faculty, staff, and campus guests for accidents and injuries occurring on or near the University. Accidents requiring emergency treatment and/or transportation to Health Services, 5300 Campanile Drive, or a local hospital should be reported immediately to the SDSU Department of Public Safety, 265-5955.

SDSU students are treated by the University as adults. Accordingly, students are responsible for their own safety and health in connection with participation in campus activities, and should exercise good judgment and due care at all times. The University does not provide accident, health, or liability insurance coverage for students participating in extracurricular activities, intramural sports, and required or elective academic programs, such as laboratory courses, workshops, theatrical productions, internships, or practice. Specific questions regarding insurance coverage for campus programs, institutional safety regulations, and potential risks inherent in academic programs and student activities should be directed to the responsible faculty or staff member in charge of the activity.

In addition, through the Associated Students, a prepaid health insurance program is available and recommended to students having no private medical or accident insurance coverage. The insurance includes hospitalization benefits and specified medical and surgical services. For a nominal fee, students may purchase coverage for a variety of medical services. SDSU students are advised to enroll in this program immediately to ensure adequate protection.

Tuberculosis (TB) Test
A skin test for tuberculosis (or a chest x-ray for those known to be positive) is required upon admission to SDSU-unless you have had a TB test done during the past year. Recently there has been an increase in tuberculosis in California. Since 1980 there have been some newly diagnosed cases among students at SDSU.

The TB test may be obtained during registration or, if inconvenient, at a later date at Student Health Services. During the regular school year this service is available Monday, Tuesday, Wednesday and Friday. Clinic hours may vary. Of course, you may obtain the test from your family doctor, Public Health Department, or other sources if you wish.

Academic Skills Center
The Academic Skills Center offers assistance to all students at any university level, including bilingual and international students, who wish to improve reading or writing skills. Five-week
Test Office
The Test Office serves both students and faculty through administering a variety of tests, including placement tests, competency tests for graduation, admissions tests for graduate programs, and inventories for counseling and career planning. A library of 1000 different tests is maintained for use by faculty and students in testing classes, and test scoring and analysis services are provided for classroom tests.

International Students
The International Students Office provides services to help international students gain the greatest possible benefit from their studies in this country and to help promote friendship, understanding, and cultural exchanges, both with American students and the community. The Office informs the students of procedures of the U.S. educational system and helps with various problems that may be encountered. The staff acts as the liaison with government (especially immigration) and San Diego State University administration, departments, faculty and community.

Ombudsman
The Ombudsman is an independent and impartial agent who helps individuals and groups seeking the resolution and correction of complaints. The Ombudsman acts as a liaison between students and the University, assisting students through formal grievance procedures and functioning to mediate and reinforce other means of redress when possible.

The office of the Ombudsman is located in Aztec Center, room 168; telephone (619) 265-6578.

Audiology Diagnostic Center
The Audiology Diagnostic Center is a service of the Communicative Disorders Department. It is located in the lower level of the Communications Clinic. The principal objectives of this center are to provide diagnostic information regarding hearing loss for both students 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; for information call 265-6477.

Speech, Language and Hearing Clinics
Speech, language and hearing clinics serve University students in the Department of Communicative Disorders who are preparing in the areas of speech, hearing and language pathology techniques, including speech, lipreading, auditory training, computer communication, and language development for the hard of hearing and deaf. Tutorial services are available for hearing impaired students during the school year. The clinics operate through the school year and Summer Session II, and serve those with speech, hearing and language problems at all age levels. Because of limitations of staff, not all who apply can be admitted. A minimal fee is charged for diagnostic evaluation and therapy for outpatients but not for students enrolled at San Diego State University. Referrals may be made through agencies, school districts, health professionals, or as self-referrals. For specific information call 265-6477.

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 separate disciplines in multidisciplinary experiences such as prevention, assessment, rehabilitation and treatment of behavioral, communicative, reading, learning and personal-social difficulties. Students are supervised directly by faculty from their respective disciplines. The Clinical Training Center encourages interdisciplinary educational and research opportunities for faculty and students. Provision for interdisciplinary components of the curricula of participating schools and departments is an integral part of the Clinical Training Center. For further information call 265-6121.

Student Resource and Information Center
The Student Resource and Information Center (SRIC) provides access to resources, information, professional personnel, special programs, and learning opportunities which allow students to meet their academic, social, and governance responsibilities most effectively.

Supervision of student organizations at the Center includes registration of campus organizations and clubs, program development, room reservations and scheduling of student activities, administration of campus policies as they relate to student activities, advising Associated Student Boards, and supervision of Campus Lab School and Associated Student Boards.

Educational and experiential programs offered to students through the Center are the new student orientation programs, team learning and mentor programs for ethnic students, leadership training for student leaders, and internships.

The Center develops and manages campus information systems and coordinates publications and media providing information to prospective, new, and continuing students.

The Student Resource and Information Center is located in Campus Lab School 114; telephone 265-5221.

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 time of application. Minimum GPA required is 2.5. Interested students must apply to the Student Resource and Information Center before March 1, 1984 for the following year.

New Student Programs
The Student Resource and Information Center offers a wide variety of programs designed to introduce new students, both first-time freshmen and transfer students, to San Diego State University. Although each program is uniquely designed, all contain academic advising, registration assistance, and a campus tour. Academic Introduction Day (AID) is held prior to preregistration deadline each semester. CONTACT, a campuswide orientation, is held the week before classes begin in the fall. For information, write the Student Resource and Information Center, CL-114, or call (619) 265-5221.

Aztec Center
San Diego State University was the first of The California State University campuses 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 this indebtedness when public tax money is involved. The funds were paid for with student funds and contributions from Aztec Shops, Ltd. From inception to the finalities of interior 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 Associated Students and Aztec Center also finance the operation of the Leisure Connection, 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 Aquatics Center, Barrelhouse Bar, Backdoor Bar, Bookstore, barbershop, bank, bowling and billiards, conference rooms, Leisure Connection/classes, General Store, information booth, lounges, music rooms, organizations center, pocket billiards, post office, program rooms, Security Pacific Bank, snack bar, table tennis, ticket office, campuswide concessions, amusement equipment, Scripps Cottage, travel service.

Child Care Center Program

The Associated Students Child Care Program, a parent cooperative, provides child care for SDSU students’ children six months through five years of age 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 as space permits.

Tuition for students is determined on a sliding fee scale based on family size and income.

The program is staffed by professional and student employees, volunteers, parent participants and Child Development students. Parents make a weekly contribution of time as teachers in the classroom plus attend a weekly parent class or serve on a fund-raising or public relations committee. They also have the opportunity to serve on 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 through 5 years) and noon to 5:00 p.m. for the infant center (children 6 months through 28 months). Kindergartners may attend the preschool between 1:00 p.m. and 5:00 p.m. if they were enrolled in the Center the previous semester.

Aztec Shops

Aztec Shops, Ltd., is a nonprofit campus auxiliary organization serving San Diego State University. 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, vending machines, new and used textbooks, popcorn and ice cream sales.

The Aztec Shops Bookstore provides required textbooks, assigned class materials and reference works, and offers a large selection of general interest books and supplies. It is open on weekdays and Saturdays when classes are in session. A satellite Art Supply Store is located in the Art Building. There is also a branch bookstore at the Imperial Valley Campus. The copy center, located behind the bookstore, provides xerox copying, binding and typewriter rental. Lecture Notes, a note-taking service, provides weekly notes taken with the approval of the faculty member, which are sold on a subscription basis. Paper Chase, located in Love Library, provides typewriters, copy machines and everything needed to prepare written materials for class.

Food services operate East Commons, West Commons, Dining Commons, and Monty’s Den cafeterias. In addition, a meal ticket program is available to any enrolled student, and the campus faculty and staff, with 14- and 10-meal options. The meal ticket allows the bearer to eat in any campus facility. The East Commons is also open to the campus community on Saturday and Sunday when classes are in session.

Housing and Residential Life

Residence Halls

Accommodations for 2,133 single students are available in residence halls on campus. Five halls are three-story red-brick buildings accommodating 223 students each; six halls are high-rise buildings which accommodate 594 students; and the newest is Territorial Hall, for men and women, rising eight stories. All of the halls provide sleeping and study facilities on a two-students-per-room basis or in small number of single rooms in Zura Hall. Student governments and staff in each of the halls recommend standards for basic behavior in the residence halls. Participation in campus activities is encouraged.

For 1982-83, the cost for room and board was approximately $2,440 (14-meal plan, double occupancy) per academic year. Rates are reviewed annually; you may anticipate cost-of-living increases to this rate. Three food service plans (10, 14 or 19 meals per week) are offered.

It is the responsibility of each student to contact the Housing and Residential Life Office if one wishes to obtain on-campus housing. Applications are given priority in date order as the demand exceeds the number of spaces on this campus. To apply for housing, the student should send a self-addressed and stamped envelope to the Housing and Residential Life Office at the University. A request for a room is confirmed after the student is admitted to the University, when a contract is received and the first payment is received as specified. A student may apply as early as a year in advance. Though consideration will be given to a student’s request for an individual hall and roommate, a specific assignment cannot be guaranteed.

No reservation can be confirmed until the student is accepted for admission to San Diego State University. Receipt of a housing contract does not mean that the University is committed to admitting the student.

During the summer sessions, rooms are available on a receipt-of-check date priority. A refundable security deposit must accompany a request for reservation.

Off-Campus Housing

Listings of apartments, houses, rooms and students seeking roommates are available adjacent to the Housing and Residential Life Office. In addition, counseling for students signing leases, with landlord-tenant conflicts, etc., is available in the Housing and Residential Life Office.

Because off-campus housing is limited, students are advised to begin their housing search at least one month before the first day of classes. The Housing and Residential Life Office organizes programs to assist students in locating off-campus housing. Workshops are also organized to educate students in tenant rights and responsibilities. For additional information please write: Off-Campus Housing, Housing and Residential Life Office, San Diego State University, San Diego, CA 92182.

Greek Letter Organizations

There are ten 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 Panhellic, c/o Housing and Residential Life Office, San Diego State University, San Diego, California 92182.

The 16 national fraternities invite students for membership at the beginning of each semester. Fraternities provide men opportunities to participate in a wide variety of social and recreational activities, to expand leadership abilities, to develop enduring friendships, to receive scholastic assistance, and to participate in community service organizations. Fraternities provide housing for about 300 men, although living in the chapter house is not a requirement for membership. Interested students may obtain further information by writing to the Interfraternity Council, c/o Housing and Residential Life Office, San Diego State University, San Diego, CA 92182.

Transportation and Parking

San Diego Transit has seven bus routes that service the University, connecting with all areas of the metropolitan area. These are routes 11, 13, 15, 36, 80, 106, and 115.

Information concerning bus routes, fares and services can be obtained by calling San Diego Transit at 233-3004. Bus schedule racks are located on campus at the Aztec Center Information desk, the entrance to East Commons, and the Student Resource and Information Center (CL-114).

On-campus parking is by permit only, and is very scarce during the fall and spring semesters. Where possible, car-pooling or use of alternative modes of transportation is recommended. For further information on parking, contact the Campuswide Drive Information Booth or the Department of Public Safety, 265-6671.
Navy Officer Programs

The Nuclear Power Officer Collegiate Program is a financial assistance program which pays over $1,000 per month to qualifying students completing their final two years of undergraduate or final year of graduate work in engineering, mathematics, chemistry or physics. It can be worth over $27,000 in the final two years of undergraduate study followed by a job operating Naval Nuclear Propulsion plants. Application for the Nuclear Propulsion Officer Collegiate Program (NUPOC-C) can begin after completion of the sophomore 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 Program offers financial assistance for men and women, paying over $1,000 per month to qualifying students completing their final two years of undergraduate or last year of graduate work in engineering, mathematics, chemistry or physics. It can be worth as much as $27,000 in the last two years followed by a teaching position in the Navy’s Nuclear Power School. Applications for the Nuclear Power Instructor Program (NUPOI-C) can begin after the sophomore or during the junior or senior years. The Division of Naval Reactors 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, NRD, San Diego, NTC San Diego, California 92133, telephone: 293-6444.

Educational Opportunity 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 Office of Admissions and Records assists veterans and eligible dependents in applying for G.I. Bill benefits. In addition to handling G.I. Bill certification, Admissions and Records administers a tutoring program and assists veterans in finding VA Work Study positions. Students interested in applying for advance payment of the first G.I. Bill check should contact Admissions and Records at least two months before the beginning of each school year. For more information or any questions about G.I. Bill benefits, either stop by Admissions and Records or telephone 265-5813.

Disabled Student Services

Disabled Student Services provides the support services needed by students with physical disabilities for equal access to the educational process. Services include orientation for new students, priority registration for students with special needs, close-in parking, transportation on and off campus and loan of special equipment. Accessibility information, maps and elevator keys are available. The office provides interpreters for the deaf, readers and notetakers, as well as in-classroom testing assistance. Information on attendants and accessible housing in the campus area is available. Staff at Disabled Student Services provide government benefits counseling and assistance for personal, academic and vocational problems. A specialist provides evaluation and support services to learning disabled students. Special programs are scheduled throughout the semester. Students are also provided assistance with off-campus agencies. Medical documentation of disability is required. For more information contact Disabled Student Services, Campus Lab School 110, 265-6473 Voice or TTY.
College of Arts and Letters

General Information
The College of Arts and Letters is at the very heart of liberal arts education at San Diego State University. Its programs in the humanities and social sciences are offered through 19 academic departments and several interdisciplinary programs, each of which is designed to help students understand their role in society and to develop aesthetic sensibilities. Arts and Letters courses are offered to explore the experiences of men and women in society, their cultural expressions and practices, their languages, and their philosophical concepts. The College's highly trained, professionally active faculty seek to give students an awareness about the development of present knowledge and how to generate new knowledge. Students are encouraged to develop keen observation skills, the capacity to think critically, and the ability to express their views intelligently and sensitively as leaders.

Liberal Arts Courses
The College of Arts and Letters sponsors University Studies courses 101 and 301 which are interdisciplinary courses. They fall into two main categories: (1) lecture series on topics of current interest for which the humanities and social sciences bring insight; and (2) workshops designed to give liberal arts students skills desirable for advancement in their major, but not normally offered by their departments.

Students interested in enrolling in University Studies 101 and 301 should contact the faculty adviser of the department(s) offering the course or the College of Arts and Letters Assistant Dean for further details.

Curricula Offered
Refer to the Courses and Curricula section of this catalog for a complete listing of program requirements and courses offered by departments within the College of Arts and Letters.

Master's Degrees
American Studies (M.A.), Anthropology (M.A.), Asian Studies (M.A.), Economics (M.A.), English (M.A.), French (M.A.), Geography (M.A.), German (M.A.), History (M.A.), Latin American Studies (M.A.), Linguistics (M.A.), Philosophy (M.A.), Political Science (M.A.), Russian (M.A.), *Social Science (M.A.), Sociology (M.A.), Spanish (M.A.).

* No students will be admitted into this program during the current academic year.

Bachelor's Degrees

Minors
University of through programs which promote the utilization of primary source materials in the research, writing and teaching of local history. The Center is located in LL-362.

Institute of Labor Economics
Adam Gifford, Director

The Institute of Labor Economics is a facility 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 Institute 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, both printed and machine readable, in the area of labor economics are maintained in the Social Science Research Laboratory, located on the lower level of the West Commons.

Institute of Labor Economics
Thomas M. Davies, Jr., Director

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 the spring of 1979, this designation was renewed for two additional years. In 1981, the Center was designated one of eleven "National Resource Centers for Latin America" by the Department of Education. 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.

Public Economics
George Bablott, Director

The Center for Public Economics is a facility of the Department of Economics to encourage research by students and faculty in all phases of nonmarket economic decision making, encompassing 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.

Center for Religious Studies
Irving Alan Sparks, Director

The Center for Religious Studies is a facility of the Department of Religious Studies which fosters research by students and faculty in all the areas embraced within the scholarly study of religion. The Center seeks to complement the curricular offerings of the Department of Religious Studies through research projects and other special activities based on extramural sources of support.

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 teaching and research related to the problems and processes of economic development. CRED provides information and limited assistance to students and faculty. CRED's printed data holdings are located in the Social Science Research Laboratory, WC-101.
College of Business Administration

Administration

Dean: Allan R. Bailey
Associate Dean, Undergraduate: Maurice L. Crawford
Associate Dean, Graduate Studies: William F. Barber
Associate Dean, External Relations: Harold K. Brown
Assistant Dean for Student Affairs: Anna R. Newton

General Information

The College of Business Administration began in 1921 as a Department of Commerce in the Division of Social Sciences. In 1951 this department became the Division of Business and progressed to a School of Business Administration in 1961. In 1979 the name was changed to the College of Business Administration.

The programs in business administration provide high quality education and are designed to represent both general education and the theoretical and practical side of education for business. To this end, in 1963 the Division of Business Administration applied for and received accreditation for its undergraduate programs in business administration by the American Assembly of Collegiate Schools of Business (AACSB), and in 1963 the programs of the School of Business Administration were accredited by AACSB. In addition, the School of Accountancy (within the College of Business Administration) received accreditation by AACSB in the first year (1963) that this special accreditation for schools of accounting was offered, being one of only twenty-two programs so recognized that year.

All undergraduate and graduate programs have enjoyed continuous accreditation since their points of first application. Furthermore, the College of Business Administration is one of only two colleges of business south of the Los Angeles metropolitan area to have had their undergraduate and graduate programs approved by AACSB.

In addition to a commitment to maintain a high quality, accredited program, the College has the following goals: (1) to create and maintain a highly motivated educational environment for both students and faculty; (2) to evaluate all College activities, including formal classroom and research, in terms of their contributions to effective learning; (3) recognizing the dynamic nature of business and the society it serves, to instill within students an awareness of the necessity to embark on lifelong careers of learning; (4) to prepare students for entry level positions which will provide advancement opportunities in their chosen careers; (5) to maintain an active, positive working relationship with the regional business community; and (6) to provide both degree and nondegree midcareer educational opportunities.

Curricula Offered

Refer to the Courses and Curricula section of this catalog for a complete listing of program requirements and courses offered by departments within the College of Business Administration.

Research Bureau

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 faculty in publication of their research. Graduate students and faculty are encouraged to make use of Bureau facilities.

College of Education

Administration

Dean: Dennis Goode
Associate Dean: John Charnley (Acting)
Assistant Dean for Student Affairs: Ana Maria Rodriguez

General Information

The mission of the College of Education is broad and multidimensional. The College is concerned primarily with preparing teachers, administrators, resource specialists, and support personnel for various educational settings; providing continuing professional educational opportunities for education personnel; continually assessing the quality and appropriateness of all education activities; contributing to the knowledge base of both educational theory and practice; providing appropriate public service/technical assistance to individuals and agencies locally, regionally, nationally, and internationally; and contributing to the general intellectual climate of the University community. The College has had an ongoing commitment to programs serving culturally diverse communities and bilingual individuals.

The College of Education offers a Master of Arts in nine academic areas of education. The Master of Science degree is offered in two additional academic areas. The Joint Doctorate with Claremont Graduate School is currently in its fifth year of operation. This unique program features a multicultural education emphasis. Approved teaching credential programs are offered for the multiple subjects credential, the single subject credential, and the community college instructor credential, as well as a number of specialist and service credentials.

Curricula Offered

Refer to the Courses and Curricula section of this catalog for a complete listing of program requirements and courses offered by departments within the College of Education.

Research Centers

Counselor Education

David Malcolm, Director

The Center for the Study of Counselor Education is a unit within the College of Education designed to provide support for activities such as (1) securing and administering grants and other support for research and development in counselor education, (2) encouraging cooperation with faculty members from other relevant disciplines such as anthropology, economics, psychology, social work, sociology, and the University Counseling Center, and (3) conducting programs or rendering services designed to promote counselor education at San Diego State University. The Center is administered by the Department of Counselor Education; fiscal matters are coordinated through the San Diego State University Foundation.

Institute for Cultural Pluralism

The Institute for Cultural Pluralism operates within the College of Education. Its basic purpose is to undertake research in the area of educational equity and to coordinate research and training projects aimed at the improvement of educational opportunities for ethnic minority students. In addition to the research and administration of bilingual and multicultural education projects, the Institute assists departments within the College in the development of multicultural programs for prospective and practicing teachers. The Institute also collaborates with faculty interested in multicultural education research.

Bureau of Educational Research

Thomas Nagel, Director

The Bureau of Educational Research operates within the College of Education. The objectives of the Bureau are (1) to generate and coordinate new research and evaluation opportunities in the public schools for the benefit of the district as well as the students and faculty of the College of Education, (2) to provide technical assistance to students and faculty in the areas of research design, data gathering computer access, and data analysis, and (3) to
initiate research colloquia and disseminate educationally related research findings for the benefit of students, faculty, and other interested constituents.

**Center for Instructional Technology Research and Training**  
Allison Rossett, Director

The purpose of the Center is to (1) secure grants and contracts for research and development in instructional technology, (2) conduct workshops, seminars and conferences relating to applications of instructional technology to teaching, training and management, (3) respond to campus and community requests for information and assistance, (4) assist in conducting needs assessments, task analyses, instructional program design and evaluations of instructional products or programs; and (5) disseminate information reflecting model use of instructional technologies. The Center uses instructional technology to address education and training problems in health, school, military, business and social service settings. The Center functions within the Department of Educational Technology and Librarianship of the College of Education at San Diego State University.

**Center for Vocational Rehabilitation**  
Fred McFarlane, Director

The Center for Vocational Rehabilitation coordinates and supports training and research activities in the field of vocational rehabilitation. This Center operates within the College of Education and works directly with faculty interested in this area. The Center for Vocational Rehabilitation administers projects funded by local, state and federal agencies. The Center’s facilities are located in the Alvarado area in close proximity to the campus.

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**College of Engineering**

**Administration**

Dean: George T. Craig  
Associate Dean: Nihad Hussain  
Assistant Dean for Student Affairs: Fang-Hui Chou

**General Information**

At the undergraduate level, the College of Engineering prescribes certain patterns of its courses, combined with those of other academic divisions of the University, as a program of 135 semester units leading to the Bachelor of Science degree in the four specific major fields of engineering: aerospace engineering, civil engineering, electrical engineering, and mechanical engineering. At the graduate level, the College offers the Master of Science degree in these same fields.

The objective of the engineering program at San Diego State is to provide the intellectual and physical environment best calculated to encourage students to develop their capacities toward a successful career in the profession of engineering. Graduates of this program are able to assume personal responsibility for the development and application of engineering knowledge with wisdom and judgment for the benefit of mankind. They are qualified to take the Engineer-in-Training examination as a first step to professional registration, to enter industry at the junior engineer level, or to continue 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 applicability. Woven throughout the pattern is a continuing study of the socialhumanistic facets of our civilization, because the engineering graduates must expect to find their best expression as leaders, conscious of the social and economic implications of their decisions.

Although the profession of engineering presents in practice a variety of specialties, undergraduate students initially focus their attention on a pattern of course work emphasizing engineering fundamentals. Students then are able to utilize this knowledge of fundamentals in developing special knowledge in their areas of specific interest.

**Curricula Offered**

Refer to the Courses and Curricula section of this catalog for a complete listing of program requirements and courses offered by departments within the College of Engineering.
College of Human Services

Administration
Dean: Peter Dual
Associate Dean: Adrian J. Kochanski
Assistant Dean for Student Affairs: Barry Jones

General Information
The mission of the departments and schools of the College of Human Services is to educate professionals whose practice and research are directed to the goals of protecting, preserving, restoring, and promoting the health and social well-being of people. The College also has a strong commitment to programs serving minority communities and bilingual individuals. The College of Human Services consists of five academic schools and departments: the School of Social Work, the School of Nursing, the Graduate School of Public Health, the Department of Communicative Disorders, and the Department of Health Science. In addition, it administers the University Center on Aging and the Clinical Training Center. The College provides the pre-service education of professionals who plan to work in these public service fields. Programs vary from two to six years in length. All have a strong practicum, clinical, or field work component supervised by qualified faculty or practicing professionals. The Bachelor of Arts, Bachelor of Science, Master of Arts, Master of Science, Master of Public Health, and Master of Social Work degrees are conferred. In addition, students may receive national accreditation, state credential or state licensure, and national or state professional certification depending upon the program and the legal requirements and obligations for practicing the profession. All programs also provide inservice training for professionals already in the field.

Human Services Courses
The College of Human Services sponsors University Studies courses 302 and 502. The purpose of these courses is to provide an opportunity for interdisciplinary study for students entering human service professions. Refer to the Class Schedule for specific content.

Curricula Offered
Refer to the Courses and Curricula section of this catalog for a complete listing of program requirements and courses offered by departments within the College of Human Services.

Master's Degrees
Bachelor’s Degrees
Health Science (B.S.), Nursing (B.S.), Social Work (A.B.), Speech Pathology and Audiology (A.B.)

Minors
Gerontology, Health Science, Social Work, Speech Pathology and Audiology

Certificate Programs
Gerontology, Human Services

Research Center
University Center on Aging
E. Percil Stanford, Director

The University Center on Aging is a multidisciplinary organization located in the College of Human Services. The Center is active in such areas of aging as (1) supporting interdisciplinary educational and curriculum efforts; (2) undertaking research and evaluation activities; (3) providing technical assistance and agency consultation for the community; (4) coordinating workshops and seminars for faculty, students, and community members; and (5) providing opportunities for student involvement in the community. The Center has a commitment to include minority content in each area described.

The University Center on Aging works with a wide variety of disciplines to provide students an opportunity to take gerontology-related courses across a number of colleges, schools, and departments. Courses pertaining to aging are being offered within Psychology, Social Work, Health Science, Sociology, Family Studies and Consumer Sciences, Anthropology, Recreation, Nursing, and Biology. Students wishing to organize a series of courses to meet their needs in the area of gerontology are encouraged to contact the chairs or directors of the noted schools and departments for more specific information on course offerings.

The Center is responsible for the coordination of a certificate program in conjunction with the College of Extended Studies. This program is geared toward individuals who are likely to be currently working in gerontologically related professions. In addition, the Center administers an undergraduate minor in gerontology.

A major activity of the Center is administering a National Institute on Minority Aging. It serves as a central point for the development and dissemination of minority aging data nationally.
College of Professional Studies and Fine Arts

Administration
Dean: Jerry Mandel
Associate Dean: W. Edward Morton
Assistant Dean for Academic Affairs: Susan Hellweg
Assistant Dean for Student Affairs: Marilyn Hatcher
Assistant Dean for Physical Resources: Fred Hammond
Director, Development and Public Affairs: Michael Lewis

General Information
Comprised of 14 departments and schools, the College of Professional Studies and Fine Arts is a multifaceted college which offers students diverse educational opportunities coupled with interdisciplinary, internship, and participatory programs in several areas of study. The College's academic programs not only encourage intellectual development but help prepare students for professional careers in a wide spectrum of cultural, educational, social, economic, and technical fields.

Bachelor's degrees, and master's degrees in most disciplines, are awarded in art, drama, family studies and consumer sciences, industrial studies, journalism, music, physical education, public administration and urban studies, recreation, speech communication, and telecommunications and film.

Certificate Programs
Certificate Programs in Cardiopulmonary

Curricula Offered
Refer to the Courses and Curricula section of this catalog for a complete listing of program requirements and courses offered by departments within the College of Professional Studies and Fine Arts.

Master's Degrees
Art (M.A., M.F.A., City Planning (M.C.P.), Drama (M.A., M.F.A.), Home Economics (M.A.), Industrial Arts (M.A.), Mass Communications (M.S.), Music (M.A.), Nutritional Sciences (M.S.), Physical Education (M.A.), Radio and Television (M.A.), Speech Communication (M.A.).

Bachelor's Degrees
Art (A.B.), Child Development (B.S.), Criminal Justice Administration (B.S.), Drama (A.B.), Foods and Nutrition (B.S.), Home Economics (A.B.), Industrial Arts (A.B.), Journalism (A.B.), Music (A.B., B.M.), Physical Education (A.B.), Public Administration (A.B.), Radio-Television (A.B., B.S.), Recreation Administration (A.B.), Speech Communication (A.B.).

Minors

Military Curricula
Aerospace Studies, Military Science, Naval Science

Certificate Programs
Cardiopulmonary

Research Centers
Center for Communications
John P. Witherspoon, Director
The Center for Communications was established to develop and administer interdisciplinary research projects concerned with telecommunications technology, issues, and applications. Center projects are funded from grants and contracts with industry, government, education, and philanthropy. The Center seeks to stimulate recommendations for research from faculty members participating in departments; to conduct studies and planning projects relating to developments in the communications field; problems in communications, and applications of communications technology; to conduct conferences and seminars related to these areas; to examine methods by which the University can extend its reach by use of communications technology; and to establish a mechanism for cooperative enterprises in the communications field with other institutions in the San Diego area.

The Center is administered within the College of Professional Studies and Fine Arts, with advisory boards representing interested units of the University and the communications industries of the San Diego area.

Institute for Leisure Behavior
Seymour Greben, Director
The Institute for Leisure Behavior is the research and community service unit within the Department of Recreation at San Diego State University. It is primarily concerned with conducting leisure related research, promoting professional development, disseminating specialized publications, and organizing conferences, seminars, lectures and workshops. The Institute also assists with the development of Camp Able, an aquatic program for disabled people, and administers facilities and programs for the Spring Valley Park and recreation district.

Institute of Public and Urban Affairs
Glen W. Sparrow, Director
The Institute of Public and Urban Affairs is located in the School of Public Administration and Urban Studies. The Institute was established to conduct research in community and governmental affairs and to sponsor conferences, colloquia and symposia related to issues in public administration and affairs including urban planning, management and criminal justice administration. The Institute also publishes occasional working papers and research monographs. Selected students and faculty of San Diego State University staff the Institute. An integral part of the Institute is the Public Administration Center which contains a specialized and growing collection of research materials emphasizing issues in public affairs particular to San Diego and California.
College of Sciences

Administration

Dean: Donald Short
Associate Dean: James Neel
Associate Dean: John D. Schopp
Associate Dean: Gordon Shakkelford
Assistant Dean for Student Affairs: Celia Marshak

General Information

The College of Sciences, comprised of eleven departments and various subprograms, offers bachelor's, master's and doctoral degrees and curricula for preprofessional students in medicine, veterinary medicine and dentistry. The science curriculum is enhanced by research centers which provide field experience as well as special seminars with guest speakers. The off-campus sites include the Mt. Laguna Observatory, about 5,000 acres in three separate biological sciences research stations, and a marine research laboratory managed jointly with Hubbs Research Institute. The majority of tenured Science faculty have active research programs which offer student involvement.

Curricula Offered

Refer to the Courses and Curricula section of this catalog for a complete listing of program requirements and courses offered by departments within the College of Sciences.

Joint Doctoral Degrees

Chemistry, Ecology, Genetics*

* No students will be admitted into this program during the current academic year.

Master's Degrees

Applied Mathematics (M.S.), Astronomy (M.S.), Biology (M.A., M.S.), Chemistry (M.A., M.S.), Computer Science (M.S.), Ecological Sciences (M.S.), Mathematics (M.A.), Microbiology (M.S.), Physics (M.A., M.S.), Psychology (M.A., M.S.), Radiological Health Physics (M.S.), Statistics (M.S.).

Bachelor's Degrees

Astronomy (A.B.), Biology (A.B., B.S.), Chemical Physics (B.S.), Chemistry (A.B., B.S.), Computer Science (B.S.), Environmental Health (B.S.), Geological Sciences (B.S.), Mathematics (A.B., B.S.), Microbiology (A.B., B.S.), Physical Science (A.B.), Physics (A.B., B.S.), Psychology (A.B.), Zoology (A.B., B.S.).

Minors

Astronomy, Biology, Botany, Chemistry, Computer Science, Ecological Sciences, History of Science and Technology, Mathematics, Oceanography, Physics, Psychology, Zoology.

Other Curricula

Medical Technology, Pre-dental, Pre-medical, Pre-veterinary.

Research Centers

The Edwin C. Allison Center

for the Study of Paleontological and Geological Sciences

Richard H. Miller, Director

The Allison Center supports research in paleontology, geology and related sciences. The Center maintains a research library containing journals, reprints, and some textbooks, and houses a collection of fossils and recent vertebrates, invertebrates, and plants. Research space is available for students, faculty, and visiting scholars. Small grants and other funds and equipment are available to students and faculty for research projects. The Center also publishes reports of various types containing geological information related to the southern California and northern Baja regions.

Biological Field Stations

Walter C. Oechel, Director

SDSU operates three field sites to facilitate research and teaching in the chaparral and related ecosystems of San Diego County. These field sites, administered by the College of Sciences, support interdisciplinary research and educational activities in ecology and other areas of biology, soils, hydrology, geology, physics, geography, and anthropology.

The field sites are the Sky Oaks Biological Research Station in Chihuahua Valley north of Warner Springs, the 2700-acre Santa Margarita Ecological Reserve near Temicula, and the 500-acre Fortuna Mountain Ecological Reserve north of Mission Gorge Road in San Diego. The Sky Oaks Biological Research Station maintains laboratory and dormitory facilities, weather stations, and a research area of 1500 acres. It is adjacent to the Anza-Borrego State Park, Cleveland National Forest, BLM lands, and private land. The proximity of these lands provides many more research and teaching opportunities than would otherwise be available. This site offers a diversity of community types, including red-shank-Chamise chaparral, mixed chaparral, oak woodlands, and riparian communities. Pines are found nearby. A variety of soils and rock types are present and rich groundwater resources and archaeological sites are on the property.

The Santa Margarita site provides riparian vegetation, oak woodlands, grasslands, coastal sage scrub, chamise chaparral and mixed chaparral. While pockets of older chaparral exist, much of the chaparral vegetation is young, having been burned in the 1969 fire. Abundant wildlife exists and the Santa Margarita River, a perennial stream, offers stream and riparian habitat for study. The area is undeveloped and relatively undisturbed.

Students and faculty wishing to conduct research at one of the biological field sites or to use the areas for instructional purposes should contact the campus Biological Field Stations office in HA-525. Reports describing the ecology and development of the Santa Margarita and Sky Oaks sites are available from the director.

Center for Energy Studies

Alan R. Sweedler, Director

The San Diego State University Center for Energy Studies (CES) facilitates, promotes and supports research and academic programs relating to energy, with particular emphasis on energy matters of concern to the San Diego and local southwest region. The Center encourages interdisciplinary research and instructional programs in the broad areas of energy modeling, technology assessment of energy systems, local energy policy planning and data collection relating to energy usage in the San Diego area. Research in specific energy technologies is also carried out by various faculty who are members of the Center. The Center works closely with local and state agencies concerned with energy policy and plans, and serves as a community resource in matters concerning local energy issues. The Center is located in the College of Sciences and administered by an executive committee consisting of faculty from the colleges of Sciences, Engineering, and Arts and Letters.

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, preparation of manuscripts and publication, operation of the SDSU Marine Laboratory at Mission Bay and the University's Encina Laboratory at Carlsbad, California, 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 Fine Arts, and participating students.
and the College of Sciences. Additional information about the Marine Studies Program and student advising is available from the Center for Marine Studies office in PS-103.

**Molecular Biology Institute**  
A. Stephen Dahms, Director

The Molecular Biology Institute was established to serve interested departments of the biological and physical sciences in the coordination, support, and enhancement of research and instruction in the molecular biological sciences. Interests and activities of the Institute encompass all approaches which aim to explain biology at the molecular level. The Institute is constituted as the university unit authorized to administer the master's program in "Molecular Biology" that is cognate with the molecular biological sciences.

**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.

**Survey Research**  
Oscar Kaplan, Director

The Center for Survey Research was established to encourage nonprofit research in the sample survey field. The Center is prepared to undertake surveys requested by government or nongovernment organizations, and to do field work on a local, state or national basis. Faculty members who wish to submit applications for off-campus support in survey research in the name of the Center may do so, upon approval of the project by the center's advisory committee. The Center is administered by a director.

**Systems Ecology Research Group**  
Walter C. Oechel, Director

The Systems Ecology Research Group (SERG) is an interdisciplinary group established to conduct basic research and promote graduate education in ecology. Group expertise exists in general ecology, physiological ecology, botany, forestry, meteorology, soil science, and computer modeling. At present, the major emphasis is on integrated research projects in chaparral and tundra ecosystems. Processes emphasized include plant photosynthesis and carbon allocation, water relations, phenology, growth, herbivory, plant demography, and nutrient cycling. Simulation models are used to integrate the results of ecosystem level projects. Funding agencies include the National Science Foundation, the U.S. Department of Agriculture, and the U.S. Department of Energy. Additional information may be obtained at the SERG offices at HA-564 and HA-525.

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**Imperial Valley Campus, Calexico**

**Administration**

Dean: Dana Murphy (Acting)  
Assistant Dean: Barbara Shaver (Acting)  
Assistant Dean for Administration: Kathy Russum (Acting)  
Assistant Dean for Student Affairs: Cynthia Flores  
Director of Library and Media Services: Louise Lovely

**Faculty**

Emeritus: Harmon, Rodney, Spencer  
Professors: Baldwin, Sanchez, Smith  
Associate Professors: Ayala, Erzen, Franklin, Polich, Ryan, Varela-Ibarra, Wilson  
Assistant Professors: Coram, Dunn (Visiting), Hill, King, Quintana  

**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 and occasional M.A. programs, the campus accepts transfer students, from community colleges or other colleges, who have at least 56 units. As a small campus with a low student/faculty ratio, the Imperial Valley Campus offers students the advantages of small classes and individual contact with the faculty. Instructional television (ITVS) provides students in Calexico the opportunity to participate in some classes broadcast live from the main campus in San Diego. The Imperial Valley 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 once or twice a week. Classes are also offered on the weekends.

The location on the Mexican border provides the opportunity for involvement in a bicultural environment. There are many opportunities to participate in the cultural life of Mexico, just across the border, a city of more than 600,000 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 Universidad Autonoma de Baja California 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, and Spanish. 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 produced 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.

**Curricula Offered**

- **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 Latin American studies 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.

Occasionally the Imperial Valley Campus cooperates with academic units and the Graduate Division of the San Diego Campus in offering selected graduate programs leading to advanced degrees. Such programs, scheduled on a part-time basis for working professionals, have been offered for the Master of Arts degree in Education with a concentration in Multicultural Education and in Administration and Supervision; these have been provided through cooperative arrangements with the College of Education. A similar program, provided by the School of Social Work, offers a course of graduate study leading to the Master of Social Work degree.

Certificate Program

Business Administration

Teaching Credentials

Basic
Multiple subject
Multiple subject (bilingual emphasis)
Single subject
Specialist
Special Education — in conjunction with the College of Education
Bilingual/Cross-cultural — in conjunction with the College of Education
Administrative Services — in conjunction with the College of Education

For further information see the Bulletin of the Imperial Valley Campus.

Facilities

The campus is located on an eight-acre city block in the heart of Calexico's Civic Center, across from Rockwood Plaza. This was originally the site of Calexico's first high school, and some of the campus buildings, including Rodney Auditorium, are part of the original school structures. In 1980 the Legislature approved funding to construct a new classroom building and a library media center which will be dedicated in February 1983. A modern language laboratory is also being added.

The library is expanding its collection from its current 28,000 volumes to approximately 50,000 volumes by the end of the decade. It subscribes to over 300 periodicals. Quick interlibrary loan services make the library resources of the entire CSU system available to Calexico faculty and students. The Media Center provides assistance to the faculty in the use of educational technology. It has a wide range of equipment for use in the classroom.

A student union, bookstore, administration, student services, faculty office and shop buildings make up the facilities on the campus.

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 registration week 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.
North County Center

Administration
Associate Dean of University Programs: Robert J. Behm
Director of Operations: Lawrence A. Clinger
Assistant Dean for Student Affairs: Sandra R. Kuchler
Senior Assistant Librarian: Nancy Assaf

Graduation and academic requirements for degree programs offered at the Center are identical to main campus requirements.
Faculty teaching at the Center are regular full-time SDSU faculty and part-time faculty selected by departments on the basis of their academic preparation and teaching experience.

General Information
The San Diego State University North County Center has been established to assist individuals living in the northern San Diego, southern Orange and Riverside counties in meeting their academic objectives.
Establishment of the Center was approved by the state legislature and Governor in the summer of 1979. The first classes at the Center were offered in September 1979. Courses offered at the Center are at the upper division and graduate level. Lower division academic work will be provided by local community colleges.
The Center is located at 800 West Vallecitos Boulevard, San Marcos, California.

Curricula Offered
Major in American studies with the A.B. degree in liberal arts and sciences.
Major in liberal studies, option 2, with the A.B. degree in applied arts and sciences.
Major in social science with the A.B. degree in liberal arts and sciences.
Major with the B.S. degree in business administration in the following fields: accounting and management.
Major in public administration with the A.B. degree in applied arts and sciences.
Master of Arts degree in education with concentrations in elementary curriculum and instruction, secondary curriculum and instruction, community college curriculum and instruction, educational technology, multicultural education, and reading education.
Master of Arts degree in education with a concentration in educational administration and/or administrative services credential.
Certificate in Instructional Technology.

Admission and Registration
To attend classes at the North County Center, students must file a complete application and transcripts as outlined elsewhere in this catalog and be admitted to San Diego State University. Upon admission to the University, students may register for classes at SDSU, at the North County Center, or both.
Students may register for North County classes by using the mail registration procedures or by registering in person at the Center prior to the start of classes. See the current Class Schedule for registration dates.

Student Services
In addition to on-site registration and payment of fees, student services provided at the Center include academic advising, career counseling, veterans benefit information, financial aid information, testing, textbook purchase, library services, and student activities.

Fees
Fees for courses offered at the North County Center are the same as those charged on the main campus. For specific information, see the Schedule of Fees in this catalog.
Division of Undergraduate Studies

Objectives and Functions

The Division of Undergraduate Studies 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 and Honors Exchanges, CSU International Programs, the Service member’s Opportunity College, and the professional program in law. In addition, it sponsors the liberal studies majors.

On significant matters of University-wide concern, the Division of Undergraduate Studies submits proposals to the University Senate for consideration and action.

Above all, the Division of Undergraduate Studies 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 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 on 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 Division of Undergraduate Studies (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.

University Prelaw Adviser

Students interested in pursuing a legal career are counselled by the University prelaw advisor. Through this office, prelegal students receive information and advice concerning law school application and admission procedures. Guidance in undergraduate preparation for law study is also available. The University prelaw advisor can be contacted through the Political Science Department.

International Programs

The California State University (CSU) International Programs offers students the opportunity to continue their studies overseas for a full academic year while they remain enrolled at their home CSU campus. The International Programs' primary purposes are to enable selected students to gain a firsthand understanding of other areas of the world and to advance their knowledge and skills within specific academic disciplines in pursuit of established degree objectives.

A wide variety of academic majors may be accommodated by the 25 foreign universities cooperating with the International Programs in 15 countries around the globe. The affiliated institutions are: the University of São Paulo (Brazil); the universities of the Province of Quebec (Canada); the University of Copenhagen (through Denmark’s International Student Committee’s Study Division); the University of Provence (France); the universities of Hamburg, Heidelberg, and Tübingen (Germany); the Hebrew University of Jerusalem (Israel); the University of Florence (Italy); Waseda University (Japan); the Ibero-Americana University (Mexico); Masey University and Lincoln University College (New Zealand); the Catholic University of Lima (Peru); National Chengchi University (Republic of China/Taiwan); the universities of Granada and Madrid (Spain); the University of Upsala (Sweden); and Bradford University (the United Kingdom). Information on academic course offerings available at these locations may be found in the International Programs Bulletin which may be obtained from the International Programs Office.

Eligibility for application is limited to those students who will have upper division or graduate standing at a CSU campus by September 1984, who possess a cumulative grade point average of 2.75 for all college level work completed at the time of application (some programs require a 3.0 cumulative grade point average), and who have completed required language study where applicable. Selection is competitive and is based on home campus recommendations and the applicant’s academic record. Final selection is made by the Office of International Programs in consultation with a statewide faculty selection committee.

The International Programs supports all tuition and administrative costs overseas for each of its participants to the same extent that such funds would be expended to support similar costs in California. Students assume responsibility for all personal costs, such as transportation, room and board, and living expenses, as well as for home campus fees. Because they remain enrolled at their home CSU campus while studying overseas, International Programs students earn full resident credit for all academic work completed while abroad and remain eligible to receive any form of financial aid (other than work-study) for which they can individually qualify.

Information and application materials may be obtained from the Division of Undergraduate Studies (AD-223) or by writing to The California State University International Programs, 400 Golden Shore, Suite 300, Long Beach, California 90802. Applications for the 1984-85 academic year overseas must be submitted by February 9, 1984 (except for the New Zealand program where applications are due by May 15, 1984). In addition to the international programs sponsored by CSU, San Diego State University has entered into special institutional arrangements with selected foreign universities that provide both undergraduate and graduate students the opportunity for study abroad. Currently San Diego State University has exchange agreements with universities in France, Indonesia, Japan, Mexico, and the People's Republic of China. Information about student exchange opportunities may be obtained from the Graduate Division Office.
Graduate Division

Organization and Administration

All graduate work leading to advanced degrees is under the jurisdiction of the Graduate Division. Responsibility for all graduate curricula is delegated to the Graduate Council under the chairship 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 curricula, determines students’ eligibility to continue in such curricula, and, in the cases of unsatisfactory performance, requires students to withdraw from graduate curricula and the University. The Dean of the Graduate Division is the appropriate University authority for the 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 upon recommendation of the faculty of San Diego State University. These degree programs 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 in the names of San Diego State University and the cooperating campus of the University of California: in Education, jointly by the Board of Trustees of The California State University and the Board of Fellows of the Claremont Graduate School.

Doctor of Philosophy

The Doctor of Philosophy degree in Chemistry 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.

The Doctor of Philosophy degree in Educational Administration is offered jointly with the University of California, Berkeley.

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 in the following fields:

- American studies
- Anthropology
- Art
- Asian studies
- Biology
- Chemistry
- Drama
- Economics
- Education
- English
- French

- Geography
- German
- 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
- Audiology

- Home economics
- Mass communications
- Mechanical engineering
- Microbiology
- Nursing
- Physics
- Psychology
- Radiological health physics
- Rehabilitation counseling
- Special major
- Statistics

Nondegree 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 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 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 requirements of the particular degree program and the regulations of the Graduate Division.

Further information about nondegree 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 open to those applicants judged by the University to be fully qualified and to those who can benefit from the experience. The requirements listed below are the minimum required for admission to the University. For many 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 departmental offices as soon as graduate work is contemplated in the final baccalaureate year for advice as to how to proceed. Some departments stop reviewing applications earlier than others because of the limited space available.

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.
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, including those who completed undergraduate degree requirements and were graduated from this University, are also required to complete and submit an application and the $30.00 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 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 institution attended. Applicants who do not qualify for admission under provisions (a) and (b) may be admitted by special action of the Dean of the Graduate Division if on the basis of other evidence they are judged to possess sufficient academic, professional, and other potential pertinent to their 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 for reasons of 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 student meets the criteria specified under General Admission Requirements. 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 a credential only (not 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 the 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 application during 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. 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 College 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 department and 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 the 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. Reports of the GRE Aptitude Test scores must be on file at the University before continuing students may apply for graduate standing (classified).

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 various universities in Europe, Asia, and Latin America. Currently, San Diego State University has formal arrangements to exchange professors periodically with the following institutions: the universities of Angers, Nice, Clermont Ferrand, and Aix-en-Provence in France; Wuhan and Hangzhou universities in the People's Republic of China; Middlesex Polytechnic and University of London, Birbeck College, England.

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.

Preprofessional Health Advising Office

The preprofessional health advising office is responsible for advising premed, prelegal, and preveterinary 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 Life Science, Room 135.

Preprofessional Health Advising Office

The preprofessional program is pursued in conjunction with a degree program. Students ordinarily elect to concentrate in biology, chemistry, microbiology, or zoology, with a major in one area and selected course work in the others. Other departmental majors are permissible, however. Preprofessional students must confer with a preprofessional 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, preprofessional students should include the following courses in their program: Botany 200 and Zoology 200; Biology 215, 216, 231, 361A, 431; Mathematics 121 and 122; Chemistry 200, 201, 231, 361A, 361B, 431, 541; Mathematics 121 and 122, or 150; Physics 418A-418B and 418A-418B, or 195, 195L, 196L, 197, 197L; Psychology 101 plus one additional course in psychology. Zoology 250 (Topics in Dental Hygiene) is offered each spring semester.

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 Chemistry 361A, 361B; Microbiology 310, 540; Zoology 506, 508. 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 in their high school program the following subjects: elementary algebra, plane geometry, intermediate algebra, chemistry, physics, two or three years of French, German, or Spanish, four years of English.

The Preprofessional Health Adviser will be available to high school or transfer students by appointment throughout the summer and during the registration period. All preprofessional students should establish a personnel file in Life Science, Room 135; 265-6638.

Prelegal Curriculum

The prelegal program is pursued in conjunction with a degree program. Students ordinarily elect to concentrate in biology, chemistry, microbiology, or zoology, with a major in one area and selected course work in the others. Other departmental majors are permissible, however. Prelegal students must confer with a preprofessional 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, preprofessional students should include the following courses in their program: Botany 200 and Zoology 200; Biology 215, 216, 231, 361A, 431; Mathematics 121 and 122; Chemistry 200, 201, 231, 361A, 361B, 431, 541; Mathematics 121 and 122, or 150; Physics 418A-418B and 418A-418B, or 195, 195L, 196L, 197, 197L; Psychology 101 plus one additional course in psychology. Zoology 250 (Topics in Dental Hygiene) is offered each spring semester.

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 Chemistry 361A, 361B; Microbiology 310, 540; Zoology 506, 508. 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, two or three years of French, German, or Spanish, four years of English.

The Preprofessional Health Adviser will be available to high school or transfer students by appointment throughout the summer and during the registration period. All preprofessional students should establish a personnel file in Life Science, Room 135; 265-6638.

Premedical Curriculum

The premedical program is pursued in conjunction with a degree program. Students ordinarily elect to concentrate in biology, chemistry, microbiology 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, 216, 231, 361A, 431; Mathematics 121 and 122, or 150; Chemistry 200, 201, 231, 361A, 361B, 431; Mathematics 121 and 122, or 150; Physics 418A-418B and 418A-418B, or 195, 195L, 196L, 197, 197L; Psychology 101 plus one additional course in psychology. Zoology 250 (Topics in Dental Hygiene) is offered each spring semester.

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 Chemistry 361A, 361B; Microbiology 310, 540; Zoology 506, 508. 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, two or three years of French, German, or Spanish, four years of English.

The Preprofessional Health Adviser will be available to high school or transfer students by appointment throughout the summer and during the registration period. All premedical students should establish a personnel file in Life Science, Room 135; 265-6638.

Preventerinary Curriculum

The preveterinary program is pursued in conjunction with a degree program. Students ordinarily elect to concentrate in biology, chemistry, microbiology or zoology, with a major in one area and selected course work in the others. Other departmental majors are permissible, however. Preventerinary 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, 216, 231, 361A, 431; Mathematics 121 and 122, or 150; Chemistry 200, 201, 231, 361A, 361B, 431; Mathematics 121 and 122, or 150; Physics 418A-418B and 418A-418B, or 195, 195L, 196L, 197, 197L; Psychology 101 plus one additional course in psychology. Zoology 250 (Topics in Dental Hygiene) is offered each spring semester.

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 Chemistry 361A, 361B; Microbiology 310, 540; Zoology 506, 508. 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, two or three years of French, German, or Spanish, four years of English.

The Preprofessional Health Adviser will be available to high school or transfer students by appointment throughout the summer and during the registration period. All preveterinary students should establish a personnel file in Life Science, Room 135; 265-6638.
Preparation for Other Professions

Full programs of professional study in other fields, such as agriculture, forestry, architecture, 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 at this university can also begin course work in preparation for such programs. Students are advised to consult the catalog of the university to which they expect to transfer to determine requirements before arranging the program. Further information may be obtained from the Assistant Dean of Students in the appropriate college at San Diego State University.
Continuing Education

Functions
The California State University regards its Extended Education credit-bearing programs as integral parts of the institution. These programs are viewed as extensions of the institution's educational services and are in concert with the institution's overall mission and purpose. The programs and courses in Extended Education are expected to meet the standards of quality which the institution sets for its other programs and courses, in terms of resources, faculty, level of instruction, evaluation and support services.
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, quality 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 five divisions-Special Sessions and Extension, Professional Development, American Language Institute, Retired Adult Programs, and Administrative Services. The majority of the programs are operated on a self-support basis since state funds are not provided for Continuing Education activities.

Summer Programs
The College of Extended Studies administers a comprehensive summer program for San Diego State University. Approximately 600 courses, workshops, short courses, interdisciplinary and experimental offerings, and special programs are available for matriculated students, students 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.
Five sessions are scheduled each summer: two 3-week terms during which four units of credit may be earned, two 6-week terms in which students may earn seven units of credit, and one 5-week term during which seven units of credit may be earned. The summer program is offered from the first of June through the middle of August each year.
A graduate student may earn credit in residence which may be used to satisfy the requirements for an advanced degree or for credentials. If a student plans to register for summer study, the student must make admission to the University if not required for summer attendance.
Students planning to attend the University during the fall semester must be cleared for admission through the Office of Admissions and Records.
The Summer Sessions Bulletin, which includes the registration form and all necessary information about the summer sessions, is available for distribution in early April.

Wintersession
The College of Extended Studies administers a special academic program during the winter recess period titled "The Wintersession." This special session provides students an opportunity to earn resident academic credit through participation in concentrated and interesting course work. Credit earned during Wintersession is applicable to graduation and residence requirements. Admission to the University is not required for Wintersession attendance.

American Language Institute (A.L.I.)
The American Language Institute offers noncredit intensive (25 hours per week) English programs throughout the year to students and professionals interested in improving their English proficiency. These are:

English for Academic Purposes - A 16-week course for students planning to enter San Diego State or other colleges or universities. Classes are offered in reading, writing, grammar,
Continuing Education

bachelor's degree requirements at San Diego State University is 24 units. Extension work is considered the same as transfer credit and is therefore not included in the student's San Diego State University scholastic average.

Open University

A limited number of regular, on-campus classes are open to qualified extension students by special permission of the department and the instructor. Students who take advantage of "Open University" are required to pay regular extension fees. They are permitted to enroll only after matriculated students have completed their registration. Consult the College of Extended Studies or the current Class Schedule for complete details on Open University qualifications and registration procedures. Matriculated graduate students in any category may not enroll in Open University. Credit earned through one semester of Open University enrollment may be considered as residence credit for students who subsequently matriculate at the University in an advanced degree program.

Members of the faculty of San Diego State University holding appointments at or above rank of instructor or lecturer may not be candidates for degrees on this campus. Faculty may register for courses outside their own departments or schools by means of concurrent enrollment through the College of Extended Studies at a reduced fee.

Open University classes may not be taken by the following:

1. Nonmatriculated foreign students (nonresidents from non-English-speaking countries) with a score of less than 450 on the Test of English as a Foreign Language (TOEFL) or its equivalent.
2. Foreign students with 1-20 visas from another university.
3. Graduate students taking graduate classes (unless permission has been obtained from graduate adviser).

External Degree Programs

In addition to its role of administering external degree programs for the civilian population, External Degree Programs serves as the liaison with the military installations in the University service area for the purpose of developing higher educational opportunities for military personnel. The College of Extended Studies, which has been designated by the Department of Defense as a Servicemen's Opportunity College, offers external degree and certificate programs designed specifically for mature military and civilian personnel, including a Master of Arts degree in Education with a Concentration in Educational Administration and Supervision and a Bachelor of Science degree in Health Care Administration which is administered by The Consortium of The California State University. Classes are held on base and elsewhere in the community for the convenience of the students, while some are scheduled on the University campus to take advantage of laboratories and other resources.

For additional information contact the Extension Office.

Professional Development

A variety of learning activities are offered throughout the year to meet the continuing education needs of working adults. These opportunities take many forms, as described below. For further information, contact the Director of Professional Development.

Certificate Programs

Professional certificate programs are coordinated by the Division of Professional Development. Educational services are provided for a wide variety of groups and professional organizations. Credit certificate programs are offered in the following areas: Applied Gerontology, Construction Practices, Fire Protection Administration, Materials Management, Personnel and Industrial Relations, and Subcontracting Management.

The Division also offers Noncredit Certificate Programs in special interest areas.

Seminars and Workshops

The Division 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.
External Degree Programs

Purpose

External degree programs have been established by the Board of Trustees of The California State University to increase educational opportunities for adults who characterize 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 admission fee of $25.00.

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 degree programs may vary from five to sixteen weeks, depending on the time constraints of the student population being served, the contact time per unit of credit is the same as required in campus credit. All courses offered in external degree programs earn semester units and resident credit.

Curriculum

The curriculum in an approved undergraduate external degree program is comprised of upper division courses only. Students who have not completed general education and elective requirements may do so at community colleges, through open university 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 DANTES and ACE Guide to the Evaluation of Educational Experiences in the Armed Forces;
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 Extension and External Degree programs do not receive state support, they are required to be financially self-supporting. Fees for external degree courses range from $65 to $90 per semester unit. Contact Extension for fee ranges.

Degrees Offered

Graduate

Master of Arts in education.

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

Undergraduate

* Major in health care administration with the B.S. degree.

Degree offered by Consortium of The California State University

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 practitioner.

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. All courses offered for this major are at the upper division level only. 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 124 units for this degree.

General Requirements

Preparation Courses — 12 units

General Education — 49 units

American institutions (3 of the 6 units required are included in general education)

Major

Forty-five upper division units selected from Business Administration 496; Management 350, 352; Public Administration 305, 462, 496; Sociology 526, 527; and Psychology 350.

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.

For information on this program, contact the Consortium at (800) 352-7517, toll free.
Regulations

Admission and Registration
General Regulations
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. If you are not sure of these requirements, you should 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 or at any California high school or community college.

Requirement and Use of Social Security Account Number
Applicants are required to include their social security account number in designated places on applications for admission pursuant to the authority contained in Title 5, California Administrative Code, Section 41201. The social security account number will be used as a means of identifying records pertaining to the student as well as identifying the student for purposes of financial aid eligibility, disbursement and the repayment of financial aid and other debts payable to the institution.

Undergraduate Application Procedures
Prospective students applying for part-time or full-time programs of study in day or evening classes, must file a complete application as described in the application booklet. The $30 nonrefundable application fee should be in the form of a check or money order payable to The California State University and may not be transferred or used to apply to another term. Applicants need file only at their first choice campus. An alternative choice campus and major may be indicated on the application, but applicants should list as alternative campus only that campus of The California State University that they can attend. Generally, an alternate degree major will be considered at the first choice campus before an application is redirected to an alternative choice campus. Applicants will be considered automatically at the alternative choice campus if the first choice campus cannot accommodate them.

Impacted Programs
Impacted programs are undergraduate programs in which the number of applications received in the first month of the filing period exceeds the total spaces available, either locally (all individual campuses) or systemwide. Business Administration (upper division), Computer Science, Electrical Engineering, Nursing, and Telecommunications and Film are impacted majors at San Diego State University. You must make application for an impacted program during the first month of the filing period and may file more than one application and fee for additional programs. Nonresidents, foreign or domestic, are not considered for admission to impacted programs. High school and community college counselors are advised before the opening of the fall filing period which programs will be impacted.

Supplementary Admission Criteria
Each campus with impacted programs uses supplementary admission criteria in screening applicants. Campuses are authorized to use a freshman applicant’s ranking on the eligibility index, the transfer applicant’s overall GPA, or a combination of campus-developed supplementary criteria in selecting those to be admitted. If you are a freshman applicant and plan to apply to an impacted program, you should take the ACT or SAT test at the earliest date.

Your test scores and your grades earned in the final three years of high school may be used in determining admission to the program. The supplementary admission criteria used by the individual campuses to screen applicants appear periodically in the CSU School and College Review and are sent by the campuses to all applicants seeking admission to an impacted program. 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 credentials, second baccalaureate degrees, or second majors, and those interested in taking courses for personal or professional growth) must file a complete application within the appropriate filing period. A complete application for postbaccalaureate status includes all of the materials required for undergraduate applicants (Part A) plus the supplementary graduate admissions application (Part B). Postbaccalaureate applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the $30 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 fees) to each. Applications may be obtained from the Graduate Studies Office of any California State University campus in addition to the sources noted for undergraduate applicants.

Application Filing Periods

<table>
<thead>
<tr>
<th>Terms in 1983-84</th>
<th>Applications First Accepted</th>
<th>Filing Period Duration</th>
<th>Student Notification Begins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester 1983</td>
<td>November 1, 1982</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Spring Semester 1984</td>
<td>August 1, 1983</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Space Reservation Notices
Normally you may expect to receive some form of space reservation notice from your 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 your previous academic record indicates that admission requirements have been met. Such a notice is not transferable to another term or to another campus.

Hardship Petitions
There are established procedures for consideration of qualified applicants who would be faced with extreme hardship if not admitted. Prospective hardship petitioners should write 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 graduate 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. Photostat or true copy of the military separation form DD-214 (or equivalent) if 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 fewer 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 English must submit satisfactory scores on the Test of English as a Foreign Language (TOEFL). For further information see the section of this catalog on Admission of Foreign Students.

Placement Tests

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 lower division students (those who enter with fewer than 56 transferable semester units) are required to take the CSU 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 within two semesters of admission will lead to withholding of registration privileges (Section 41300.1 of Title 5, California Administrative Code, and CSU Executive Order 186). 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 the requirement or they may be obtained from the Office of Admissions and Records. Further information regarding the examination and possible exemptions may be obtained from the SDSU Test Office, LE-560.

Graduate Aptitude Tests. This test is required of all graduate students who intend to enroll in a master's degree program. It may be taken before registration and is also given during the regular semester. Make reservations for this test at the Test Office. Refer to the Graduate Bulletin for full information and test dates.

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, not counting physical education and military science; and the ACT composite, or the SAT total score. A table of grade point averages with corresponding test scores is reproduced below.

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

The College Board
P.O. Box 592
Princeton, New Jersey 08541

First-Time Freshmen Applicants (California High School Graduates and Residents). If you graduated from a California high school or are a legal resident for tuition purposes, you need a minimum eligibility index of (ACT) 741 or (SAT) 3072. The index is computed by multiplying the grade point average by 800 and adding it to the total SAT score, or by multiplying the grade point average by 200 and adding it to 10 times the composite ACT score. The following table illustrates grade point averages and scores needed to qualify for admission. If your high school GPA is above 3.2, you are exempt from the test requirement.
Admissions Table for California High School Graduates

<table>
<thead>
<tr>
<th>GPA Score</th>
<th>SAT Score</th>
<th>GPA Score</th>
<th>SAT Score</th>
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</table>

First-Time Freshmen Applicants (Nonresidents). If you are neither a resident for tuition purposes nor a graduate of a California high school, you must take four years of English classes which include instruction in writing. San Diego State requires a writing competency test and an English Placement Test prior to or during the student's first semester. All students should take at least two years of language study which may be satisfied by four years (in the same language) at high school or a combination of high school and college course work. Students are also encouraged to take a third year of mathematics and students considering science or engineering as their major should take a fourth year.

Recommended Preparation for High School Students. Although currently no specific classes are required for admission to San Diego State University, students entering in Fall Semester 1984 will be required to have four years of high school level English and two years of high school level mathematics. It is recommended that the student entering from high school previous to that time prepare adequately in the following subjects to ensure a successful academic career without need of remedial training.

New Admission Requirements Effective Fall 1984

If you plan to apply for admission during 1983-84 or later, you should be aware that additional admission requirements become effective for applicants for fall 1984 and later. A first-time freshman will still need to meet the GPA test score requirements described above and in addition must have completed eight semesters of college preparatory English and four semesters of college preparatory mathematics. Your school will know what courses will count toward these requirements and when you should take them. All applicants may not have had the opportunity to take all of the required courses by 1984. The CSU will make some exceptions to these requirements during 1984-85 and 1985-86 for those who cannot schedule all of them in the time remaining in high school. If you are one of those few, your school will know about possible flexibility, if you plan to enroll as a transfer from another college, you may also need to meet the new subject requirements, as well as the regular college unit and grade requirements. If you did not take the right courses in high school, you can take equivalent courses in college. Your counselor can advise you as to whether the new policy will apply to you. If you plan to enroll as a transfer from another college, you may also need to meet the new subject requirements, as well as the regular college unit and grade requirements. If you did not take the right courses in high school, you can take equivalent courses in college. Your counselor can advise you as to whether the new policy will apply to you. If you plan to enroll as a transfer from another college, you may also need to meet the new subject requirements, as well as the regular college unit and grade requirements. If you did not take the right courses in high school, you can take equivalent courses in college. Your counselor can advise you as to whether the new policy will apply to you.
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 transfers should consult their counselors for information on transferability of courses. If you are in good standing at the last institution attended, you may be admitted as an undergraduate transfer if you meet either of the following provisions:

1. You are eligible for admission as a freshman (see freshmen requirements) and have a GPA of 'C' (2.0 on a scale where A = 4.0) or better in all transferable college units attempted.
2. You have 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 and you are a California resident; nonresidents must have a G.P.A. 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 Opportunity 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 below.

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 average of at least 2.5 (A equals 4.0) 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 campus 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 campus 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 eligible for admission to a California State University campus under unclassified postbaccalaureate standing above, but who has deficiencies in prerequisite preparation which in the opinion of the appropriate campus authority can be remedied 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 eligible for admission to a California State University campus in unclassified or conditionally classified standing may be admitted to an authorized graduate degree curriculum of the campus as a classified graduate student upon meeting 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.

Second Bachelor's Degree

A student wishing to earn a second bachelor's degree in a major different from that declared for the previous degree may do so in most areas, provided the student's academic record indicates strong promise of success and the student can show clear evidence of a change in educational objective.

A student seeking a second bachelor's degree, even if a recent graduate from SDSU, must apply for admission to the University unless already admitted in postbaccalaureate (unclassified) status. The student must complete a minimum of 30 postbaccalaureate units in residence with a minimum grade point average of 2.0; at least 15 units must be upper division in the new major. Up to six upper division units in the new major may have been used to satisfy requirements for a previous major, provided the student had completed at least the same number of units in excess of the minimum requirements for the first degree. The student must fulfill all requirements for the degree (including additional general education and foreign language requirements where necessary) and have prior approval by the new major department and by the Dean of Undergraduate Studies.

Classified graduate students are not eligible to apply for a second bachelor's degree and credit earned while pursuing a second bachelor's degree may not be applied toward an advanced degree at a later date.

Second Major for SDSU Graduates

A student wishing to return to the University after graduation from San Diego State University in order to complete a second major may do so in most areas provided the student qualifies for unclassified or classified postbaccalaureate standing (2.50 grade point average of 4.00). The student must previously completed at least nine units in the department of the second major with a minimum grade point average of 2.50, and receive prior approval of the department and the Dean of Undergraduate Studies. The student must meet all current catalog requirements associated with the new major, including foreign language and upper division writing requirements where appropriate. If the original courses in the second major were taken some time ago, the student may be required to take more than the minimum number of units required in the discipline. A minimum of 12 upper division units in the new major must be completed at this University. A second major student is subject to procedural and academic requirements established by the Graduate Division, including the maintenance of a 2.50 grade point average. (See Graduate Bulletin for specific details.)

A student seeking a second major, even if a recent graduate from SDSU, must apply for admission to the University unless already admitted in postbaccalaureate status. The student should apply as a postbaccalaureate student with no degree or credential objective. A student desiring a credential as well as a second major may apply for both simultaneously. In addition, all students desiring a second major, whether or not already admitted as postbaccalaureate students, must fill out a special application for the second major.

A second major is an undergraduate objective: no course numbered in the 600 or 700 series may be used to fulfill a second major requirement and no credit earned toward a second major can be applied toward an advanced degree. The indication of the completion of a second major will be recorded on the postbaccalaureate record. No new diploma will be issued, nor will the student be eligible for honors for second major work.

For additional information, including names of departments participating in the Second Bachelor's Degree program, contact the Division of Undergraduate Studies or the University Advising Center.
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 (foreign) student informational brochures available from the San Diego State University International Student Office. While 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 transcripts of record from each secondary school and college attended, and submit a statement of financial need on the application for admission. The placement test fee may be payable at the time of registration and may depend on the number of units selected. Failure to pay fees may result in cancellation of registration. For policies governing registration after classes begin, consult the current Class Schedule.

Registration

San Diego State University students are afforded the opportunity to participate in an Advance Registration System. On-campus registration is held just prior to the beginning of each semester. The Class Schedule and Student Information Handbook, issued each semester and available at the University bookstore prior to the registration periods, contains specific information on registration, the courses offered for the term, and the listing of the fees required for registration. Fees and are payable at the time of registration and depend on the number of units selected. Failure to pay fees may result in cancellation of registration. For policies governing registration after classes begin, consult the current Class Schedule.

Determination of Residence for Nonresident Tuition Purposes

The campus Admissions and Records Office determines the residence status of all new and returning students for nonresident tuition purposes. Responses to items 29-45 on the Application for Admission and, if necessary, other evidence furnished by the student are used in making this determination. A student who fails to submit adequate information to establish a right to classification as a California resident will be classified as a nonresident and will be required to pay out-of-state fees.

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 California State University is found in Education Code Sections 68000-68090, 68121, 68123, 68124, 89705-89707.5, and 90403; and in Title 5 of the California Administrative Code, Article 4 (title 5, chapter 1, section 52115). By certified Subchapter 5 of Chapter 1, Part 5. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

Residence may be established by an adult who is physically present in the state and who, at the same time, intends to make California his or her permanent home. Steps must be taken at least one year prior to the admission date to show an intent to make California the permanent home with concurrent relinquishment of the prior home. The steps necessary to show California residency intent will vary from case to case. Included among the steps may be registering to vote and voting in elections in California; filing resident California state income tax forms on total income; ownership of residential property or continuous occupancy or renting of an apartment on a lease basis where one’s primary belongings are kept; maintaining active resident memberships in California professional or social organizations; maintaining California vehicle plates and operator’s license; maintaining active savings and checking accounts in California banks; maintaining permanent military address and home of record in California if one is in the military service.

The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of the student’s stay in California. A person (a person under 18 years of age) derives legal residence from the minor’s parents, or, in the case of permanent separation of the parents, from the parent with whom the minor maintains his or her place of abode. The residence of a minor cannot be changed by the minor or the minor’s guardian, so long as the minor’s parents are living.

Nonresident students seeking reclassification are required by law to complete a supplemental questionnaire concerning financial independence.

The general rule is that a student must have been a California resident for at least one year immediately preceding the residence determination date in order to be classified as a resident for tuition purposes. A residence determination date is set for each academic term and is the date from which residence is determined for that term. The residence determination dates for the 1983-84 academic year are September 20, 1983 and January 25, 1984. Questions regarding residence determination dates should be directed to the Legal Residence Office in the Admissions Office. They can give you the residence determination date for the term for which you are registering.

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 California State University is found in Education Code Sections 68000-68090, 68121, 68123, 68124, 89705-89707.5, and 90403; and in Title 5 of the California Administrative Code, Article 4 (title 5, chapter 1, section 52115). By certified Subchapter 5 of Chapter 1, Part 5. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

There are several exceptions for nonresident tuition, including:

1. Persons below the age of 19 whose parents were residents of California but who left the state while the student, who remained, was still a minor. When the minor reaches age 18, the exception continues for one year to enable the student to qualify as a resident for tuition purposes.

2. Persons who have been present in California with the intent of acquiring residence for more than a year before the residence determination date, and entirely self-supporting for that period of time.

3. Persons who have been present in California with the intent of acquiring residence for more than a year before the residence determination date, and entirely self-supporting for that period of time.

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 retirement or transfer of the military person outside the state.

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 credentialed, full-time employees of California school districts.

8. Full-time State University 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. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the line of duty.

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

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

within 120 calendar days of notification of the final decision on campus of the classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to the campus for further review. Students classified incorrectly as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is subject to discipline pursuant to Section 41301 of Title 5 of the California Administrative Code. Resident students who become nonresidents, and nonresident students qualifying for exceptions whose basis for so qualifying changes, must immediately notify the Admissions Office. Applications for a change in residence classification must be submitted within a calendar term in order to have the request considered.

The student is cautioned that this summation of rules regarding residency determination is by no means a complete explanation of their meaning. The student should also note that changes may have been made in the rate of nonresident tuition, in the statutes, and in the regulations between the time this catalog is published and the relevant residence determination date.

Academic Advising

Academic advising is organized according to major. All students must comply with advising requirements established for their major(s) and described with other major requirements in the Courses and Curricula section of this catalog. For additional help, 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

(Academic Advising, Room 201)

College of Business Administration Advising Center

(Business Administration, Room 441)

College of Education Admissions and Advising Center

(Education, Room 100)

College of Engineering Advising Center

(Case College of Engineering, Room 424)

College of Human Services Advising Center

(Hepner Hall, Room 124)

College of Professional Studies and Fine Arts

(Social Sciences, Room 127)

College of Sciences Advising Center

(Life Sciences, Room 135)

Academic Advising / 97
Areas of interest within the majors:

- Animal behavior
- Chemical physics
- Computer science
- Counseling and clinical psychology
- Ecology
- Electronics
- Engineering
- Geology
- Environmental health
- Entomology
- Genetics
- Geochemistry
- Geophysics
- Marine biology
- Marine geology
- Medical technology
- Oceanography
- Paleontology
- Physiology
- Psychological psychology
- Radiological physics
- Statistics
- Teaching credential programs in life and physical sciences

For preprofessional programs, see section below.

University Advising Center
(Campus Lab, Room 107)

Students who have not declared a major
General education advising
University and overall academic unit requirements
Liberal Studies Options 2 and 3 advising

Students who have not decided on a major should bring their academic questions to the University Advising Center. Besides dealing with graduation requirements such as general education, foreign language, writing and mathematics competency, American institutions and the like, the Center offers special assistance in establishing academic goals and deciding upon a major.

Imperial Valley Campus Advising

Imperial Valley Campus students are required to see an adviser prior to registration for each semester. Students with a declared major or an interest in a specific major should consult with a member of the Campus Academic Advising Team: Professors Erzen, Polich, or Wilson. These academic advisers may be consulted at any time on specific questions concerning programs of study, general degree requirements, or students' evaluations. An academic adviser will be available Monday through Thursday from 2 p.m. to 6 p.m.

Students who are undecided about their major should consult with a counselor from the Student Affairs Unit. The Unit operates Monday through Thursday from 8:30 am. to 7:30 p.m. and on Friday from 8:30 a.m. to 5 p.m. Academic advisement from either of the above sources is available by appointment or on a drop-in basis.

Advising for Graduate Programs, Teaching Credential Programs, and Preprofessional Programs

General requirements for the master's and doctoral degrees. Advisement concerning general requirements (except for the major) is available through the Graduate Division in room 220 of the Administration Building. Office hours are from 10:00 a.m. to 5:00 p.m. on Monday through Thursday and from 10:00 a.m. to 4:30 p.m. on Friday. A departmental graduate adviser is available in all programs offering graduate degrees.

Teaching credential requirements. Advisement concerning requirements for the single subject (secondary school) and the multiple subjects (elementary school) credentials is available through the College of Education's Advising and Admissions Office. The office is located in room 100 of the College of Education and is open Monday through Friday from 9:00 a.m. to 12:00 noon and 1:00 p.m. to 4:30 p.m. Students should consult with the credential adviser in their major department for particular course requirements for the single subject credential.

Preprofessional advising. Advisement for students planning to attend professional schools is available through the following offices: premed, Life Sciences, room 135; prelaw, Social Science, room 131; premedicne, Life Sciences, room 135; preoccupational therapy, Life Sciences, room 407; preoptometry, Life Science, room 407; prepharmacy, Life Sciences, room 407; prephysical therapy, Life Sciences, room 407; preveterinary medicine, Life Sciences, room 135. Advisers in prelaw are not available during the summer months.

Additional Advisory Services Provided Through Following Programs

New student orientation. As a new semester approaches, all incoming students are invited to attend a one-day orientation program called AID (Academic Information Day). Advisement is an important part of each program, including a lecture on General Education requirements and Questions concerning orientation can be directed to the Student Resource and Information Center, Campus Laboratory School, room 114.

Transcript Evaluation

Official evaluations may be requested at the Evaluations Office (AD-127) by declared majors upon the completion of 56 semester units. Interviews may be scheduled with evaluators by students with questions concerning their evaluations. Evaluators are also available to assist students during the registration period.
General Regulations

Student Responsibility for Catalog Information

Students are held individually responsible for the information contained in this catalog. The requirements listed in the "Graduation Requirements" section of the catalog are the requirements which the University will make every effort to preserve for students subject to this catalog. All other parts of the catalog, including this "General Regulations" section, are subject to change from year to year as University rules, policies, and curricula change. Failure to keep informed of such changes 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 publication. Changes may come in the form of statutes enacted by the Legislature, rules and policies adopted by the Board of Trustees of The California State University, by the Chancellor or designee of The California State University, or by the President or designee of the 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, and The California State University. More current or complete information may be obtained from the appropriate department school, or administrative office. Each semester, the Class Schedule and Student Information Handbook outlines changes in Academic Policy and Procedure and current deadlines which are of importance to students.

Nothing in this catalog shall be construed, operated as, or have the effect of an abridgment or limitation of any rights, powers, or privileges of the Board of Trustees of The California State University, the Chancellor of The California State University, or the President of the campus. The Trustees, the Chancellor, and the President are authorized by law to alter, amend, or repeal rules and policies which apply to students. This catalog does not constitute a contract or the terms and conditions of a contract between the student and the Institution or The California State University. The relationship of the student to the institution is one governed by statute, rules, and policy adopted by the Legislature, the Trustees, the Chancellor, the President, and their duly authorized designees.

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 records maintained by the campus. Specifically, the statute and regulations govern (1) access to student records maintained by the campus, and (2) the release of such records. In brief, the law provides that the campus must provide students access to official records directly related to the student and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate. The right to a hearing under the law does not include any right to challenge the appropriateness of a grade as determined by the instructor. The law generally requires that written consent of the student be received before releasing personally identifiable data about the student from records to other than a specified list of exceptions. The institution has adopted a set of policies and procedures concerning implementation of the statutes and the regulations on the campus. Copies of these policies and procedures may be obtained at the Office of the Dean of Student Affairs. Among the types of information included in the campus statement of policies and procedures are: (1) the types of student records maintained by the campus, (2) the official responsible for the maintenance of each type of record, (3) the location of access lists which indicate persons requesting or receiving information from the record, (4) procedures for reviewing and expunging records, (5) the access rights of students, (6) the procedures for challenging the content of student records, (7) the cost which will be charged for reproducing copies of records, and (8) the right of the student to file a complaint with the Department of Education. An office and review board have been established by the Department to investigate and adjudicate violations and complaints. The office designated for this purpose is The Family Educational Rights and Privacy Act Office (FERPA), U.S. Department of Education, 330 C St. Street, Room 4F11, Washington, D.C. 20202.

The campus is authorized under the Act to release "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, and the most recent previous educational agency or institution attended by the student. The above designated information is subject to release by the campus at any time unless the campus has received prior written objection from the student specifying information which the student requests not be released. Students shall be given an opportunity to restrict 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 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 Policy

Handicap

The California State University does not discriminate on the basis of handicap in admission or access to, or treatment or employment in, its programs and activities. Section 504 of the Rehabilitation Act of 1973, as amended, and the regulations adopted thereunder prohibit such discrimination. The Office of Student Affairs has been designated to coordinate the efforts of San Diego State University to comply with the Act in its implementing regulations. Inquiries concerning compliance may be addressed to this office at AD-231; telephone 265-5211.

Race, Color, or National Origin

The California State University complies with the requirements of Title VI of the Civil Rights Act of 1964 and the regulations adopted thereunder. No person shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program of The California State University. Inquiries concerning the application of Title VI to program activities of San Diego State University may be referred to the Affirmative Action Officer, ED-156, 265-6464.

Sex

The California State University 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. Such programs and activities include admission of students and employment. Inquiries concerning the application of Title IX to programs and activities of San Diego State University may be referred to the Affirmative Action Officer (265-6464), the campus officer assigned the administrative responsibility of reviewing such matters, or to the Regional Director of the Office of Civil Rights, Region 9, 1275 Market Street, 14th Floor, San Francisco, California 94103.

Registration and Computation 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 earned in reporting are as follows: Grade A (outstanding achievement; available only for the highest accomplishment), 4 points; B (praiseworthy performance; definitely above average)
average, 3 points, C (average, awarded for satisfactory performance; the most common undergraduate grade) 2 points, D (minimally passing, less than the typical undergraduate achievement) 1 point, F (failing) 0 points. SP (satisfactory progress), not counted in the grade point average. W (withdrawal), not counted in the grade point average. AU (audit), no credit earned and not counted in the grade point average. Cr (credit), signifying units earned, but not counted in the grade point average. NC (no credit), no credit earned and not counted in the grade point average. (authorized incomplete), no credit earned and not counted in the grade point average until one calendar year has expired at which time it will count as an "F" for grade point average computation. U (unauthorized incomplete), counted as an "F" for grade point average computation.

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. The grades of A+, F+ and F- are not issued. The decimal values of plus and/or minus grades are utilized in the calculation of grade point averages as follows:

A = 4.0 C+ = 2.3 D = 0.7
A- = 3.7 C = 2.0 F = 0
B+ = 3.3 C- = 1.7 U = 0
B = 3.0 D+ = 1.3 I = 0 (when counting as an "F")
B- = 2.7 D = 1.0

Satisfactory Progress Grade — "SP"

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 all required work. Work is to be completed within a stipulated time period. This may not exceed one year. Any extension of the 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 — "W"

The symbol "W" indicates that the student was permitted to drop a course after the end of the fifteenth day of instruction, but that an assignment of a precise grade must await completion of all required work. Work is to be completed within a stipulated time period. This may not exceed one year. Any extension of the time limit must receive prior authorization by the Dean of Undergraduate Studies (for undergraduate courses) or the Dean of the College Dean or designee. Withdrawals from class after the end of the fifteenth day of instruction and prior to the last three weeks of instruction are permissible only for serious and compelling reasons. Permission to withdraw during this period is granted only with the signature of the instructor, who indicates in the academic record that grade from the grade point calculation is to repeat the course. In any case, because the grade from the grade point calculation is to repeat the course. In any case, because the student's major.

Auditing — "AU"

Enrollment as an auditor is subject to permission of the instructor, provided that enrollment in a course as an auditor shall be permitted only after students otherwise eligible to enroll for credit have had an opportunity to do so. Auditors are subject to the same fee structure as credit students and regular class attendance is expected. Once enrolled as an auditor, a student may not change to credit status unless such a change is requested prior to the end of the fifteenth day of instruction. A student who is enrolled for credit may not change to audit after the end of the fifteenth day of instruction.

Credit/No Credit (Undergraduate Student Option) — "Cr/NC"

An undergraduate student may elect to be graded credit/no credit in particular courses, subject to the following conditions:
1. Upper division 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. Courses graded credit/no credit may not be used to satisfy the Communication and Analytical Reasoning section of General Education.
3. 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 only if a student is required to take a course on a Cr/NC basis.
4. If for any reason (change of major or transfer from another institution) upper division 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.
5. Change in grading basis may be made by obtaining the instructor's signature on a Change of Program form and returning that form to the Change of Program booth (Administration Building) on or before the last date on which a student may withdraw from class or change a program. No changes in grading basis are permitted after that date.
6. 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 (D through F).
7. The only courses which may be repeated with a credit/no credit option are those in which the student previously received a grade of "No Credit." If a course previously taken for a grade is repeated for a grade of "Credit," the original grade will continue to be used in computation of the grade point average.

Authorized Incomplete Grade — "I"

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 provide the instructor with the necessary information to the instructor and to reach agreement on the means by which the remaining course 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 period for completion has passed. A final grade is assigned when the work agreed upon has been completed and evaluated. An Incomplete shall not be assigned when the only way the student could make up the work would be to attend a major portion of the class when it is next offered. Contract forms for Incompletes are available at department offices. 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 an Incomplete being computed into the grade point average as an "F" (or a "NC") if the course has been taken (Cr/NC). After one calendar year, the only way a student may eliminate that grade from the grade point calculation is to repeat the course. In any case, because the Student Record must provide an accurate and complete record of the student's academic history, the notation of "Incomplete" will remain on the Record.

Unauthorized Incomplete Grade — "U"

The symbol "U" indicates that an enrolled student did not withdraw from the course but failed to complete the course requirements. It is used when, in the opinion of the instructor, completion of assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade point average computation, this symbol is equivalent to an "F."
Computation of 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. A grade of "I" (authorized incomplete) is not counted in the grade point computation until one calendar year has expired, at which time it will count as an "F." 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.

Repeated Course

An undergraduate student who receives an unsatisfactory grade (less than 2.0 grade points per unit) may repeat the course at San Diego State University except in those cases where enrollment in the course is restricted and the student no longer qualifies for admission. While the original grade will remain on the transcript, only the second grade will be used in computation of grade point averages. If a course is taken for a third (or more) time(s), all grades except the original grade will be used in computing grade point averages. A student may not repeat a course in which a grade of "C" or better was received. In addition, the only courses which may be repeated with a Credit/No Credit option are those in which the student previously received a grade of No Credit. If a course previously taken for a grade and repeated for a grade of Credit, the original grade will continue to be used in computation of the grade point average. This policy applies to courses taken initially at other institutions as well as at San Diego State University.

Assignment of Grades and Grade Appeals

1. Faculty have the right and responsibility to provide careful evaluation and timely assignment of appropriate grades.

2. There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise.

3. Students who believe that an appropriate grade has not been assigned should first seek to resolve the matter informally with the instructor of record. If the matter cannot be resolved informally, the student should present the appropriate campus entity, have it reviewed and, where justified, receive a grade correction.

Courses

Satisfaction of Requirements

Except as permitted in the Graduation Requirements section of the catalog, a course cannot be used to satisfy more than one requirement.

Numbering Courses

Courses numbered 100 through 299 are in the lower division (freshman and sophomore years); those numbered 300 through 499 are in the upper division (junior and senior years) and are also acceptable for advanced degrees; those numbered 500 through 599 are in the upper division and graduate courses; and those numbered 800 through 899 are doctoral courses. Courses numbered 600 through 799 are strictly numbers of community groups. Courses at the X-900 level are designed to meet special or elective credit toward baccalaureate degree requirements at San Diego State University; those numbered 600 through 799 are strictly numbers of community groups. Courses at the X-900 level are designed to meet special or elective credit toward baccalaureate degree requirements at San Diego State University, a major upon approval by the appropriate academic department. Courses at the X-900 level are not acceptable on advanced degree programs.

In addition, courses below the 500 level are not acceptable for advanced degree programs.

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

Normally only juniors, seniors and graduate students enroll in upper division courses (numbered 300 and above). However, a freshman or sophomore may enroll in an upper division course for upper division credit if the instructor consents. Article 40405,2 of Title 5, California Administrative Code specifically limits upper division general education credit to students who have achieved upper division status.

Community College Credit

A maximum of 70 semester units earned in a community college 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, other than an introduction to education course.

Concurrent Master's Degree 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 600- and 700-numbered courses approved by the department, with the remaining requirements for the bachelor's degree. Petitions may be obtained from the Graduate Division office and must be submitted to the Evaluations Office of Admissions and Records by the end of the first week of classes 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 which may be earned as concurrent master's degree credit is determined by the difference between the number of units remaining for the bachelor's degree at the end of the semester or term in which the concurrent credit is earned.

Concurrent Postbaccalaureate 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 300-400- or 500-numbered courses for postbaccalaureate credit.

3. Submit petition before the end of the first week of classes of the semester in which the petition is made.

4. Petition the Dean of the College of Education.

5. Submit petition before the end of the first week of classes of the semester in which the petition is made.

6. Submit petition before the end of the first week of classes of the semester in which the petition is made.

7. 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. Petition forms are available in the Evaluations Office, AD-127.
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

San Diego State grants credit to those students who pass examinations that have been approved for credit systemwide. These include the CSU English Equivalency Examination and some CLEP examinations. Information bulletins and registration materials may be obtained from the Test Office (LE-560, 265-5216). Scores should be forwarded to the Admissions Office for evaluation.

Credit by Examination

Students may challenge courses by taking examinations developed at San Diego State University. Semester units will be awarded to those who pass the examinations successfully and the grade(s) earned including 'F' will be used in San Diego State University grade point calculations.

Students interested in applying for credit by examination need to check with the appropriate department(s) since each department has the option of excluding any or all of its courses from credit by examination or of setting special conditions on the student requesting this option.

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 the credit-by-examination is authorized, and pay the normal fee for credit units if credit 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 units earned for courses and examinations cannot exceed the limit authorized by the Education Code.

Credit for Advanced Placement Examinations

San Diego State University grants credit toward its undergraduate degrees for successful completion of examinations of the Advanced Placement Program of The College Board for the following:

High school students who intend to participate in this program should make the necessary arrangements with their high schools and should indicate at the time they take the Advanced Placement Examinations that their test scores be sent to San Diego State University. To obtain credit and advanced placement, the student should contact the Evaluations Office.

Credit for Training Programs

San Diego State University grants credit toward programs offered by the United States Armed Forces Training Programs. Credit will be considered to be elective units in most cases. Petitions for acceptance of credits toward specific requirements are available in the Admissions Office (LE-560). Students interested in this program should contact the Evaluations Office.

Credit for College Level Examination Program (CLEP)

San Diego State University considers the granting of credit to those students who have attained a score at or above 500 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 Evaluations Office for evaluation.

Credit for Instruction in Noncollegiate Settings

San Diego State University grants undergraduate degree credit for successful completion of formal instruction appropriate to the baccalaureate in noncollegiate settings, either military or civilian, that has been recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The number of units allowed are those recommended in the Guide to the Evaluation of Educational Experience in the Armed Services and the National Guide to Educational Credit for Training Programs.

Credit will be considered to be elective units in most cases. Petitions for acceptance of credits toward specific requirements are available in the Admissions Office (LE-560).
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, be enrolled at the University, and submit Form DD-214 or DD-295.

Student Classification

A matriculated student is one who has compiled 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, winter sessions, or extension courses may a student who has not been matriculated be accepted for enrollment.

Each student who enrolls in one or more summer session 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/her record by filing an application at the Admissions and Records Office. A fee of $4 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.

Unofficial Transcripts

Students may obtain an unofficial copy of their SDSU transcript by paying the $4 unofficial transcript fee at Admissions and Records. These transcripts are usually available on an offer a 48-hour turnaround. These records do not bear the seal of the University and are not suitable for transfer purposes. Unofficial copies will be made ONLY of the SDSU transcript.

Full-time Student Status

Requirement for Full-time Student Status at SDSU is 12 units per semester. Graduate units taken by graduate students (500 level +) are weighted as 1½ units per unit. The Student Services area of Admissions and Records verifies student enrollment for students in person with proper identification and through the mail with an authorized signature from the student.

Prerequisites/Provisional Enrollment

Prerequisites will be enforced in all sections of courses listed in the Academic Policy pages of the current Class Schedule and Information Handbook. Students who register for those courses that have prerequisites must be provisionally enrolled only; official enrollment will depend on the student’s verification of the right to enroll in the courses administratively.

Change of Program

San Diego State University provides for change of program beginning the first day of classes every term. Change of program includes: withdrawal from a class, adding a class, section of the same class, or changing grading options.

Students are responsible for every course on their official study list filed 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 that student's 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.

Generally, a change of program is permitted without effect on record or grade and with no restriction or penalty beginning the first day of class and ending the fifteenth day. However, impacted programs may specify guidelines for change of program within their curriculum. Students should review the Class Schedule and Student Information Handbook for specific deadlines and procedures.

Withdrawals from classes after the end of the fifteenth day of instruction and prior to the last three weeks of instruction are permissible only for serious and compelling reasons. Permission to withdraw during this period is granted only with the signature of the instructor, who indicates to the student's status in the class, and the approval of the College Dean or designee, and approvals are made in writing on prescribed forms. Withdrawals are not permitted during the final three weeks of instruction, except in cases such as accident or serious illness where the cause of withdrawal is due to circumstances clearly beyond the student's control and the assignment of an Incomplete is not practicable. All such requests must be accompanied by appropriate verification. Ordinarily withdrawals in this category will involve total withdrawal from the campus, except that credit, or an Incomplete, may be assigned for courses in which sufficient work has been completed to permit an evaluation to be made. Requests to withdraw under such circumstances must be approved by the Dean (or designee) of the college of the student's major.

Change of grading option is not permitted after the end of the fifteenth day of instruction.

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, all students wishing to change their major or curriculum must make application at the Evaluations Office. Veterans using veteran benefits must obtain appropriate approval from the Veterans Administration for necessary changes in letters of eligibility.

Academic Renewal

Under certain circumstances the campus may disregard up to two semesters or three quarters of previous undergraduate course work taken at any college from all considerations associated with requirements for the baccalaureate degree. These circumstances include:

1. The student has requested the action formally and has presented evidence that work completed does not meet the term(s) under consideration is substandard and not representative of present scholastic ability and level of performance; and

2. The level of performance represented by the term(s) under consideration was due to extenuating circumstances; and

3. There is every evidence that the student would find it necessary to complete additional units and enroll for one or more additional terms in order to qualify for the baccalaureate if the request were not approved.

Final determination that one or more terms shall be disregarded in determination of eligibility for graduation shall be based upon a careful review of evidence by a committee appointed by the President which shall include the Vice President for Academic Affairs and consist of at least three members. Such final determination shall be made only when the student has requested the action formally and has presented evidence that work completed does not meet the term(s) under consideration is substandard and not representative of present scholastic ability and level of performance; and

1. Five years have elapsed since the most recent work to be disregarded was completed; and

2. The student has completed at SDSU, since the most recent work to be disregarded was completed, 15 semester units with at least a 3.0 GPA, 30 semester units with at least a 2.5 GPA, or 45 semester units with at least a 2.0 GPA. Work completed at another institution cannot be used to satisfy this requirement.

When such action is taken, the student's permanent academic record shall be annotated so that it is readily evident to all users of the record that no work taken during the disregarded term(s), even if satisfactory, may apply toward baccalaureate degree requirements. However, all work term(s), even if satisfactory, may apply toward baccalaureate requirements. However, all work term(s), even if satisfactory, may apply toward baccalaureate requirements.
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 classes. A grade of "W" will be recorded in the appropriate student records. In order to withdraw, a student must apply for withdrawal in the Office of Admissions and Records. Withdrawal is permitted to students only before the end of the fifteenth day of classes. During this period, students are not required to submit an official withdrawal form.

Unofficial Withdrawal. Students withdrawing unofficially from class or from the University one in which a student stops attending classes without filing official withdrawal forms within the established deadlines.

Veterans unofficially withdrawing will have veterans' allowances immediately suspended and will be subject to full repayment of allowances received after date of unofficial withdrawal. Students must also file an application for leave of absence during their matriculation at San Diego State University. However, to extend that leave for one additional semester, a separate application must be filed prior to the deadline for submitting leaves as outlined in the Academic Calendar.

A student must file an application for the leave at the Admissions and Records Office. Requests will be reviewed by appropriate officials designated by the Vice President for Academic Affairs and Student Information Handbook for specific procedures and deadlines.

A student who has been academically disqualified and who wishes to return will have the student's academic record reviewed as follows: The student must have been academically disqualified before the end of the last semester of absence. To be eligible for readmission, an undergraduate must be eligible to return as an undergraduate student.

Readmission. A student who withdraws from the University must file a readmission application. The application is required if the student was not regularly enrolled in either of the two semesters or was enrolled at another institution since the last attendance at San Diego State University or is absent from the University for more than one semester. Such an application must be submitted to the Admissions and Records Office.

Evaluation. An evaluation is a summary of college work completed and of requirements to be completed for a bachelor's degree or equivalent. Students will be required to complete the degree requirements in a minimum of 24 units at San Diego State University. All changes for summer session graduates must be received by the end of the fifth week of the semester in which the student plans to graduate. All changes for summer session graduates must be received by the end of the fifth week of the semester in which the student plans to graduate.

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 15 weeks. Hours of activity (as in physical education) or three hours of laboratory (as in 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. 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.

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 a minimum of 24 graded units taken at this institution. Except for work at other collegiate institutions, those grades are included in the computation.

Grades for the fall 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 grade point average meets the 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.

Upon recommendation of their major department, students doing superior work in their major field may be graduated with distinction in that field. To qualify for Distinction in the Major, a student must have a minimum 3.50 grade point average in the major (upper division courses) at the beginning of the fall semester for mid-year graduates and by the end of the fall semester for May and summer session graduates.

To be considered for computation of the major grade point average, grades for removal of Incomplete and all other grade changes must be received in the Admissions and Records Office no later than the end of the fifth week of the semester in which the student plans to graduate. All changes for summer session graduates must be received by the end of the fifth week of the spring semester prior to graduation.

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 3.50 based on a minimum of 12 units of official credit for courses in which letter grades were assigned. The computation of grade point averages will be made six weeks after the end of 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
An undergraduate student will be placed on academic probation if at any time the student’s cumulative grade point average in all college work attempted or the student’s cumulative grade point average at this institution falls below 2.0.

An undergraduate student on academic probation is subject to academic disqualification:
A. As a lower-division student (less than 60 semester hours of college work completed) if a student fails 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 fails nine or more grade points below a 2.0 (C) average on all units attempted or in all units attempted at this campus.
C. As a senior (90 semester hours of college work completed) if a student fails six or more grade points below a 2.0 (C) average on all units attempted or in all units attempted at this campus.

An undergraduate student shall be removed from academic probation when his/her cumulative grade point average is 2.0 or higher in all college work attempted and in all work attempted at this 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.
A disqualified student who is reinstated after an absence from SDSU of one or more semesters is subject to the requirements of the General Catalog in effect during the semester of his/her return to the University.

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).

Any department may place on administrative probation students who fail to maintain a 2.0 average in all course work completed in combination of preparation for the major and major courses (minimum of 12 units). Students who fail to raise the major and preparation for the major average to 2.0 after one semester on probation may be administratively disqualified from the major.

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 same or similar reason for which the student has been placed on administrative academic probation previously, although not currently in such status.

Student-Athlete Satisfactory Academic Progress Requirement
In order to remain eligible for intercollegiate competition, a student-athlete must be enrolled in an academic program leading to a recognized degree, must be making satisfactory progress toward that degree under the rules of the institution and the NCAA, and must achieve at least the minimum cumulative GPA standards found in the WAC Minimum Cumulative Grade Point Average Requirement Table.

Student Discipline and Grievances
Inappropriate conduct by students or by applicants for admission is subject to discipline on the San Diego State University campus. The Office of Judicial Procedures coordinates the discipline process and establishes standards and procedures in accordance with regulations contained in Article 11, Sections 41301 through 41304 of Title 5. California Administrative Code. These sections are 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 Section 41304 or when lawfully permitted for the purpose of research, instruction or analysis.
(i) Knowingly possessing 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 hazarding 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 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.
(n) For purposes of this Article, the following terms are defined:
(1) The term “member of the campus community” is defined as meaning California State University Trustees, academic, nonacademic and administrative personnel, students, and other persons while such other persons are on campus property or at a campus function.
(2) The term “campus property” includes:
(A) all real or personal property in the possession of, or under the control of, the Board of Trustees of The California State University; and
(B) all campus feeding, retail or residence facilities whether operated by a campus or by a campus auxiliary organization.
(3) The term “deadly weapons” includes any instrument or weapon of the kind commonly known as a blackjack, slingshot, billy, sandclub, sandbag, metal knuckles, any dirk, dagger, switchblade knife, pistol, revolver, or any other firearm, any knife having a blade longer than five inches, any razor with an unguarded blade, and any metal pipe or bar used or intended to be used as a club.
(4) The term “behavior” includes conduct and expression.
The term "hazing" means any method of initiation into a student organization or any pastime or amusement engaged in with regard to such an organization which causes, or is likely to cause, bodily danger or physical or emotional harm to any member of the campus community; but the term "hazing" does not include customary athletic events or similar contests or competitions.

This Section is not adopted pursuant to Education Code Section 89031.

Notwithstanding any amendment or repeal pursuant to the resolution by which any provision of this Article is amended, all acts and omissions occurring prior to that effective date shall be subject to the provisions of this Article as in effect immediately prior to such effective date.

41302. Expulsion, Suspension or Probation of Students: Fees and Notification.

The President at the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension. In the event that a student who has not reached his or her eighteenth birthday and who is a dependent of his or her parent(s) as defined in Section 152 of the Internal Revenue Code of 1954 is suspended or expelled, the President shall notify his or her parent or guardian of the action by registered mail to the last known address, return receipt requested.

During periods of campus emergency, as determined by the President of the individual campus, the President may, after consultation with the Chancellor, place into immediate effect any emergency regulations, procedures, and other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

The President may immediately impose an interim suspension in all cases in which there is reasonable cause to believe that such an immediate suspension is required in order to protect lives or property and to ensure the maintenance of order. A student so placed on interim suspension shall be given prompt notice of charges and the opportunity for a hearing within 10 days of the imposition of interim suspension. During the period of interim suspension, the student shall not, without prior written permission of the President or designee, enter any campus or other campus of The California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

41303. Conduct by Applicants for Admission.

Notwithstanding any provision in this Chapter 1 to the contrary, admission or readmission may be qualified or denied to any person who, while not enrolled as a student, commits acts which, were he enrolled as a student, would be the basis for disciplinary proceedings pursuant to Sections 41301 or 41302. Admission or readmission may be qualified or denied to any person who, while a student, commits acts which are subject to disciplinary action pursuant to Section 41301 of Section 41302. Qualified admission or denial of admission in such cases shall be determined under procedures adopted pursuant to Section 41304.

41304. Student Disciplinary Procedures for The California State University.

The Chancellor shall prescribe, and may from time to time revise, a Code of student disciplinary procedures for The California State University. Subject to other applicable law, this code shall provide for determinations of fact and sanctions to be applied for conduct which is a grounds of discipline under Sections 41301 or 41302, and for qualified admission or denial of admission under Section 41303. The authority of the campus President in such matters, conduct related determinations on financial aid eligibility and termination, alternative kinds of proceedings, and related matters as may be appropriate. The Chancellor shall report to the Board any action taken under this section.

Student Grievances

If a student believes that a professor's treatment is grossly unfair or that a professor's behavior is clearly unprofessional, the student may bring a complaint to the proper university 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.

Graduation Requirements

Competency

Upper Division Writing
Major and Minor
American Institutions
Foreign Language
Physical Activities
Units
Residence
Grade Point Average
General Education
Graduation Requirements for the Bachelor's Degree

The requirements in this "Graduation Requirements" section of the catalog are those requirements which the University will make every effort to preserve for students subject to this catalog according to the provisions enumerated below. All other parts of the catalog are subject to change from year to year as University rules, policies, and curricula change. It is the students' responsibility to keep informed of such changes. Failure to do so will not exempt students from whatever penalties they may incur.

The requirements appearing in this catalog are applicable to students under the following circumstances:

1. Students may remain with the general education requirements in effect during the year in which they entered SDSU, another campus in the CSU system, or a California community college, so long as they have remained in continuous attendance in either the CSU or community college system or have been on approved leave of absence. If students change or declare their majors in subsequent years, however, they must adopt the graduation requirements, including the major requirements, of the catalog in effect at the time of such change or declaration. They may continue with the earlier catalog only with regard to general education requirements.

2. At the students' option, they may change to the catalog in effect in the year in which they graduate. Thus, students graduating in December 1983, May 1984, or in the 1984 summer session must adopt this catalog by so indicating on their application for graduation.

Applications for graduation are available in the Evaluations Office (Administration Bldg., Room 127) and are filed in the spring semester of the junior year for mid-year graduates or the fall semester of the senior year for spring and summer graduates. Deadlines by which the 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/Readmission, or (b) by obtaining and filing a Change or Declaration of Major form at the Evaluations Office (Administration Bldg., Room 127).

1. Competency Requirements: Writing and Mathematics

Competency in standard written English and in basic mathematics is regarded as essential to successful study in the university environment. All students pursuing a baccalaureate degree must satisfy both the writing competency requirement and the mathematics competency requirement at the time of entrance or within two semesters thereafter.

These competency requirements cannot be satisfied by completion of any courses in English composition or developmental English, or in mathematics or remedial mathematics, except for those courses in the specific San Diego State University courses listed below. Examinations which waived those courses on other campuses will be accepted only if the examinations are among those listed below.

No students will be permitted to register in Afro-American Studies 120 or 200, English 100, 200 or 280, Linguistics 100 or 200, Mexican-American Studies 111B, or courses which satisfy requirement, and no student will be permitted to register in Mathematics 210A without having satisfied the mathematics competency requirement.

WRITING COMPETENCY

A. Writing Competency Examinations

1. English Placement Test (for most freshmen and some lower division transfers)

The California State University system requires that all lower division students who meet certain exemptions take the CSU English Placement Test (EPT). Although the results of the EPT will not affect admissions eligibility, failure to take the EPT within two semesters of admission will lead to withholding of registration privileges.

Students who need not take the EPT are those who meet any one of the following exemptions:

a. Transfer to SDSU with 56 or more transferable semester units or 84 quarter units.

b. Completion of an acceptable college transfer course in English composition of three semester or four quarter units with a grade of C or better.

c. Score of 510 or above on the Verbal section of the Scholastic Aptitude Test (SAT).

d. Score of 23 or above on the English Usage section of the American College Test (ACT).

e. Satisfactory scores on the CSU English Equivalency Examination (EEE).

f. Score of 3, 4, 5, or 6 on the English Composition Examination of the College Board Advanced Placement Program.

g. Score of 600 or above on the College Board Achievement Test in English Composition with Essay.

Information bulletins and registration materials for the EPT will be mailed to all students who may be subject to the requirement.

2. Test of Standard Written English (TSWE) section of the Scholastic Aptitude Test (SAT) (for some freshmen and most transfers)

Students who are exempt from the English Placement Test (EPT), or do not attain a passing score on the EPT, and who have not satisfied the writing competency requirement by any of the methods listed below may satisfy this requirement either by scoring high enough on the Test of Standard Written English (TSWE) or by passing a course (see "Writing Competency Courses" below).

Students who enter the University with an adequate TSWE score will have satisfied the writing competency requirement if the score has been officially reported to SDSU. The TSWE is given on campus approximately 20 times each semester and several times during the summer (refer to the Class Schedule "Special Tests" section for times and dates). Students may attempt the TSWE twice in a single semester; after two unsuccessful attempts in the same semester, students will be expected to make a substantial effort to improve their writing skills (for example, by completing a community college or adult education course or studying with a tutor) before being allowed a third attempt. Students who elect to improve their skills by enrolling in an appropriate SDSU Academic Skills course will automatically be retested.

For further information refer to the "Special Tests" section of the Class Schedule.

3. English Usage section of the American College Test (ACT) (for some freshmen and transfers)

Students who enter the University with an adequate ACT English score will have satisfied the writing competency requirement if the score has been officially reported to SDSU. For further information refer to the "Special Tests" section of the Class Schedule.

4. International Students English Placement Test (for all international students regardless of TOEFL score)

All international students should take the International Students English Placement Test (ISEPT) to aid them in selection of English language courses. Students who score high enough on the ISEPT will have satisfied the writing competency requirement.

For further information contact the International Students Office or the American Language Institute.

5. Other examinations which, with sufficiently high scores, will satisfy the writing competency requirement are the following:

a. EEE (English Placement Test)

b. English Composition Examination of the College Board Advanced Placement Program.

c. College Board Achievement Test in English Composition with Essay.

(please note that these are the same examinations which, with appropriate scores, provide exemption to the English Placement Test requirement.)
B. Writing Competency Courses

Students who have not satisfied the writing competency requirement by examination or who prefer a course to an examination may take Academic Skills 100 (except that students subject to the English Placement Test must at least attempt the EPT). The final examination in the course is a competency examination. Students who do not score at an adequate level on that examination may advance to Academic Skills 150, which also uses a competency examination as a final examination. A grade of CR (Credit) in Academic Skills 150 will satisfy the writing competency requirement. Credit earned in Academic Skills 100 and 150 is not applicable to the baccalaureate degree.

MATHMATICS COMPETENCY

A. Mathematics Competency Examinations

1. Entry-Level Mathematics Examination (for most entering students)

The California State University system requires that all entering students do not meet certain exemptions take the CSU Entry-Level Mathematics Examination (ELM). Although the results of the ELM will not affect admissions eligibility, failure to take the ELM within two semesters of admission will lead to withholding of registration privileges.

Students who need not take the ELM are those who meet any one of the following exemptions:

a. Completion of an approved General Education mathematics transfer course of three semester or four quarter units at the level of Intermediate Algebra or above with a grade of C or better.
b. Score of 530 or above on the Mathematics section of the Scholastic Aptitude Test (SAT).
c. Composite score of 23 or above on the American College Test (ACT).
d. Score of 3 or above on the College Board Advanced Placement Test in Mathematics, level AB or BC.
e. Score of 520 or above on the College Board Mathematics Achievement Test. Level 1.
f. Score of 540 or above on the College Board Mathematics Achievement Test, Level 2.

A passing score on the ELM satisfies the mathematics competency requirement. Students who do not score high enough on the ELM to satisfy this requirement will be required to take steps to raise their mathematics skills and to repeat the ELM until they pass.

Information bulletins and registration materials for the ELM will be mailed to all students who may be subject to the requirement.

2. SDSU Mathematics Competency Test (for some transfers)

Students who are exempt from the ELM and have not satisfied the mathematics competency requirement by any of the other methods listed below may satisfy this requirement either by passing the SDSU Mathematics Competency Test or by passing SDSU Mathematics 102 (see "Mathematics Competency Course" below).

The Mathematics Competency Test is given on campus approximately 25 times each semester and several times during the summer (refer to the Class Schedule "Special Tests" section for times and dates). Students may attempt the Mathematics Competency Test three times, after three unsuccessful attempts, students will be required to prove that they have made a substantial effort to improve their mathematics skills (for example, by completing a community college or adult education course or working with a tutor) before being allowed a fourth attempt. Students who are retested must score high enough on the Mathematics Competency Test to satisfy the mathematics competency requirement. Credit earned in Mathematics 102 is not applicable to the baccalaureate degree.

3. Mathematics section of the Scholastic Aptitude Test (for some freshmen and transfers)

Students who enter the University with an adequate SAT Mathematics score will have satisfied the mathematics competency requirement if the score has been officially reported to SDSU.

For further information refer to the "Special Tests" section of the Class Schedule.

4. Mathematics section of the American College Test (ACT) (for some freshmen and transfers)

Students who enter the University with an adequate ACT mathematics score will have satisfied the mathematics competency requirement if the score has been officially reported to SDSU.

For further information refer to the "Special Tests" section of the Class Schedule.

5. SDSU Mathematics Placement Examination (for students required to take trigonometry, calculus, or statistics).

The Mathematics Placement Examination is required of students before enrollment in any of the following courses: Mathematics 104, 107, 119, 120, 121, 140, 141, 150, 250; Economics 201; Political Science 201; Psychology 270, and Sociology 201.

Qualification on the examination for any course for which Mathematics 103 is a prerequisite also satisfies the mathematics competency requirement.

The Mathematics Placement Examination is given approximately 25 times each semester and several times during the summer (refer to the Class Schedule "Special Tests" section for times and dates).

6. Other examinations which, with sufficiently high scores, will satisfy the mathematics competency requirement are the following:

a. College Board Advanced Placement Test in Mathematics, level AB or BC (May also grant 6 or 9 units of credit.)
b. College Board Achievement Test, level 1 or 2.
c. College Level Examination Program (CLEP) in any of the following: General Mathematics, College Algebra-Trigonometry, Calculus and Analytical Geometry, and Statistics. (May grant three units of credit for each exam.)

B. Mathematics Competency Course

Students who have taken one of the competency examinations but not scored sufficiently high to satisfy the mathematics competency requirement may take Mathematics 102. Passing the final examination in the course will satisfy the SDSU mathematics competency requirement. However, since students subject to the ELM must pass the ELM, they may take that examination as a substitute for the regular course examination in order to satisfy both the ELM and mathematics competency requirements at once. A grade of CR (Credit) in Mathematics 102 will satisfy the mathematics competency requirement. Credit earned in Mathematics 102 is not applicable to the baccalaureate degree.

II. Upper Division Writing Requirement

All students subject to degree requirements of 1981-82 and subsequent general catalogs must fulfill the Upper Division Writing Requirement as mandated by the major and included in each major description.

Students whose majors do not specify any particular course or procedure may select from the following options:

1. Demonstrating the required proficiency by passing the University Upper Division Writing Examination.

2. Passing with a grade of C (2.0) or better one of the following courses:

   Anthropology 396W
   Elementary Education 396W
   English 304W
   English 305W
   English 306W
   English 500W
   English 505W
   English 581W
   English 582W

   History 396W
   History 430W
   Information Systems 396W
   Information Systems 490W
   Linguistics 305W
   Linguistics 396W
   Mexican-American Studies 396W
   Sociology 396W
   Speech Communication 396W

   (Note: Several of these courses are limited to majors in the indicated department or require specific requirements.)
Before taking the test or enrolling in one of the approved courses, students must:
1. Have completed or be completing 60 units;
2. Have fulfilled the Writing Competency requirement; and
3. Have completed General Education Communication and Analytical Reasoning in Composition.

Students who transfer from another CSU campus having fulfilled this requirement will not be required to repeat it, regardless of major specifications.

III. 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.

B. Foreign Language. Students whose majors lead to the Bachelor of Arts degree in Liberal Arts and Sciences must complete a foreign language requirement. See item V listed.

C. Major. Completion of a departmental or an interdisciplinary major is required. A major is an area of specialized study which provides the student with extensive knowledge of the subject matter 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 Education degrees; and of 36 or more units for the Bachelor of Science degree. At least half of the units must be completed at SDSU unless specifically waived by the department. In no case shall a student be allowed to complete fewer than 12 units in the major. Units received through SDSU extension courses, with the exception of those offered during Summer Sessions and Wintersession, are not applicable to this requirement. A summary list of all majors appears at the close of the chapter. The full statement of requirements for each major can be found through the Index. Courses taken in satisfaction of the major cannot be used to meet requirements in a minor. A maximum of three upper division units in excess of 24 for the B.A. degree and 36 for the B.S. degree required for the major but taught outside the major department may be used to satisfy requirements both for general education and the major if such courses have been approved for general education.

A student may wish to major in two departments. If so, the requirements for both majors must be satisfied. Units for courses which could satisfy the requirements in both majors can be counted only once. Only one diploma will be granted but the transcript will note the completion of each major.

D. Minor. Completion of a minor is necessary if required by the major; the decision otherwise to have, or not to have, a minor is left with the student. Like the major, the minor offers an integrated and coherent pattern of course work, combining lower and upper division course work in proportions appropriate to the various disciplines. The minor shall consist of 15-24 units. A summary list of all minors appears at the close of 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.

IV. American Institutions Requirement

The American Institutions requirement can be satisfied in any of four ways.

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 410A-410B
   - History 547A-547B
   - Mexican-American Studies 120A-120B
   - Mexican-American Studies 141A-141B

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 pairs of courses listed in IV.B above and History 537A-537B, 544A-544B, 545A-545B.

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 has been met, as outlined in Title 5, California Administrative Code, Article 5, Section 40404 has been satisfied. No partial certification of American Institutions or certification based on high school work can be accepted. Three units of transfer credit for a college-level course used to satisfy American Institutions may be used for General Education only if that course is equivalent to an approved SDSU American Institutions course listed above.

V. Foreign Language Requirement

A.B. degree, Liberal Arts and Sciences only

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

A. Successfully completing three college semesters of one foreign language.
B. Successfully completing the fourth level of high school courses in one foreign language.
C. 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 level language count as the equivalent of the first semester of a college language course, three years of high school level courses count for two college semesters, and four high school level years count for three college semesters.

The last year-course taken in the high school language sequence may be repeated in college for graduation credit. However, to exceed one semester of repeated foreign language work in addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language without loss of credit.

Native speakers from foreign countries who have finished high school or the equivalent in that country will not be given credit for taking lower division courses 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 a test of reading knowledge administered by the foreign language department concerned in consultation with the Department of Music) as follows:

A. Vocalists — one semester each of French, German, and Italian.
B. Music history and literature students — 12 units of one foreign language chosen from French, German, or Italian.
C. All others — eight units of one foreign language chosen from French, German, or Italian (except that classical guitar students may substitute Spanish).

VI. Physical Activities Requirement

A. Physical Activities. A minimum of two semesters of physical education activity courses, or equivalent monitored activities (including intramural athletics), or a combination of courses and monitored activities are required for graduation. No more than one activity...
VII. Unit Requirements

A. Total unit requirement. The total number of units necessary for a bachelor's degree exclusive of Academic Skills 100, 111, 131, 132, 133, 141, 150 and Mathematics 102 and 103 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 in Geological Sciences 128
4. For the Bachelor of Science degree in Geology 132
5. For the Bachelor of Science degree in Engineering 135
6. For the Bachelor of Music degree 120
7. For the Bachelor of Vocational Education degree 124

The degree which applies to a particular student is determined by the student's choice of major. Each student should therefore consult the statement of his or her major to establish 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 36
4. For the Bachelor of Music degree 40
5. For the Bachelor of Vocational Education degree 40

Courses offering upper division credit are those numbered 300 through 599. All units from upper division courses are applicable to the upper division unit requirement, including units from courses in the major and the minor, and from courses used to satisfy General Education requirements and the general education requirements.

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

1. Transferable community and junior college courses 70
2. Credit by examination 30
3. Extension correspondence courses 24
4. Credit/no credit courses 24
5. Topics courses numbered 296, 496, 596 24
6. University Studies courses numbered 200 and 400 24
7. Academic Skills 100, 111, 131, 132, 133, 141, 150 and Mathematics 102 and 103 24
8. Academic Skills 143, 151 and 296 24
9. From Aerospace Studies, Military Science and Naval Science courses 3
10. From units in one department 24

D. Units in one department.

1. Bachelor of Arts degree in Liberal Arts and Sciences. The maximum number of units in any one department, lower and upper division combined, which can be applied toward the Bachelor of Arts degree in Liberal Arts and Sciences is 48, except in Journalism. Students majoring in Journalism may not accumulate more than 30 units of credit in Journalism courses.
2. Bachelor of Music degree. The maximum number of units in upper division music acceptable toward the Bachelor of Music degree is 70.
3. Bachelor of Science degree in Business Administration. The minimum number of units in business administration and economics courses necessary for a Bachelor of

* Applies to all options except General Geology and Paleontology which require 128 units.

VIII. Residence Requirement

A minimum of 30 units must be earned in courses taken at San Diego State University. Twenty-four of those units must be earned in upper division courses. At least one-half of the upper division units required for the major must be taken at this institution unless specifically waived by the department. However, in no case shall a student be allowed to complete fewer than twelve residence units in the major. Courses taken in extension (except for Summer Sessions and Winter Session) and units earned through credit-by-examination may not be used to fulfill these requirements. In addition, students subject to the General Education requirements listed in this catalog must complete nine units of General Education in residence.

IX. Grade Point Average Requirements

Three averages, each 2.0 or higher, are required for graduation:

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

X. 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 give enriching perspective to students' overall academic programs, to complement their mastery of a more specialized subject area, and to equip them for life-long understanding and development of themselves as integrated physiological and psychological entities. The program consists of a minimum of 49 semester units, distributed as indicated below. The major components—Communication and Analytical Reasoning, Foundations, and Explorations—should be taken sequentially so that mastery of skills may prepare students for understanding the academic discipline of the University, and so that introduction to academic disciplines may prepare them for more specialized or interdisciplinary study.

The General Education program at San Diego State University is evolutionary. A standing committee of faculty and students reviews the program continually and encourages the development of new courses, concepts, and learning experiences. The program has four major objectives: (1) to develop in students 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 understand the conditions and forces which shape their lives; and (4) to help them apply critical and informed judgments to the achievements of their own and other cultures.

** COURSE WORK EXCLUDED FROM GENERAL EDUCATION

The educational objectives of courses in General Education are not characteristic of other types of course offerings in the curriculum. Therefore, certain types of courses are not acceptable for General Education credit.

* Engineering and Nursing majors should refer to the Courses and Curricula section of the General Catalog for a listing of General Education requirements.

Science degree in any of the seven business majors is 52 (40 percent of 128 units). In addition, the minimum number of units from departments outside of business administration and economics is likewise 52 (40 percent of 128 units).

4. Other degrees. The maximum number of units per department for other degrees is left to the discretion of the student, except the Bachelor of Arts degree in Applied Arts and Sciences with a major in Radio-Television in which no more than 27 upper division units in telecommunications and film may be counted toward the total units required for graduation.
Types of courses that do not count for General Education credit include:
1. Course work in a major (upper division courses)
2. Mathematics: 107 and lower-numbered courses, computer programming courses, and all Academic Skills courses
3. Course work in excess of 12 units in one department or academic unit
4. Courses numbered 296, 496, or 596 (Topics)
5. Courses numbered 299, 499 (Special Study)
6. Course work used to satisfy the Physical Activities graduation requirement.

NOTE: However, course work completed in a minor or in preparation for the major may be used to satisfy General Education requirements.

CALIFORNIA COMMUNITY COLLEGE AND CSU CERTIFIED TRANSFER STUDENTS

Transfer students who are certified by their previous institutions to have completed 39 state-mandated General Education units as outlined in the California Administrative Code, Title 5, will be required to complete an additional nine units necessary to comply with the following Title 5 provision: "At least nine units shall be earned at the campus granting the degree."

It is expected that almost all students will take their remaining nine units at the upper division level in order to fulfill the required nine-unit upper division General Education requirement. Up to two upper division courses may be counted from a single area (Natural Sciences, Social and Behavioral Sciences, Humanities) of "Explorations," Part III of General Education. Only one course may be counted from American Institutions.

Those transfer students who have completed upper division General Education courses on another campus must take whatever additional units are necessary to complete the nine-unit upper division General Education requirement (within the limitations described in the above paragraph); such students may then select any course(s) approved for General Education to complete the nine units which must be taken at the campus granting the degree.

SPECIFIC REQUIREMENTS

Students will complete a minimum of 49 units in General Education, to include a minimum of nine upper division units which shall be taken no sooner than the term in which the student achieves upper division status.1 At least nine units of General Education must be earned at San Diego State University. No more than 12 units may be used for General Education credit from any one department or academic unit.

I. COMMUNICATION AND ANALYTICAL REASONING

Courses taken to satisfy the Communication and Analytical Reasoning Section of General Education may not be taken for credit/no credit.

Included in Communication and Analytical Reasoning are courses in written and oral communication skills in English and in the analytical reasoning skills developed in mathematics, statistics, and logic. Communication and Analytical Reasoning courses deal with the communicative, ratiocinative, and computational skills required within the context of the University at large; they are not intended to introduce students to the peculiarities of disciplines (i.e., specialized subjects of inquiry and unique methodologies). These capabilities should be achieved by students during their first year of college.

Course Work in Communication and Analytical Reasoning. A minimum of twelve units distributed as follows:

A. Written Communication. Six units to include one course each from areas 1 and 2.

1. Composition
   - Afro-American Studies 120. Composition and Reading (3)
   - English 100. College Composition (3)
   - Linguistics 100. English Composition for International Students (3)
   - Mexican-American Studies 111B. Written Communication (3)

2. Intermediate Composition
   - Afro-American Studies 200. Intermediate Expository Writing and Research (3)
   - English 200. Intermediate Composition (3)
   - English 280. Introduction to Creative Writing (3)
   - Linguistics 200. Advanced English for International Students (3)

B. Oral Communication. Three units from the following:
   - Afro-American Studies 140. Oral Communication (3)
   - Mexican-American Studies 111A. Oral Communication (3)
   - Speech Communication 103. Oral Communication (3)

C. Logic, Mathematics, Statistics. Three units from one of the following areas:
   - Logic
     - Philosophy 120. Logic (3)
   - Mathematics
     - Mathematics 118, or higher-numbered course, excluding computer programming courses
   - Statistics*
     - Economics 201. Statistical Methods (3)
     - Mathematics 119. Elementary Statistics (3)
     - Mathematics 250. Basic Statistical Methods (3)
     - Political Science 201. Elementary Statistical Methods (3)
     - Psychology 270. Statistical Methods in Psychology (3)
     - Sociology 201. Elementary Social Statistics (3)

II. FOUNDATIONS

Foundations courses follow and build upon Communication and Analytical Reasoning courses and are offered by individual departments and interdisciplinary areas in the Natural Sciences, Social and Behavioral Sciences, and Humanities. Foundations courses introduce students to various disciplines, i.e., subject matters and the diverse conceptual frameworks by which scholars in different fields approach these subjects. The purposes of this section of General Education is to familiarize the student sufficiently with such modes of thought so as to allow for their application to various human concerns and experiences.

Course Work in Foundations. A minimum of 22 units distributed as follows. No more than seven units taken in any one department or program may be counted for credit in Foundations and Explorations.

A. Natural Sciences. Seven units to include one course each from areas 1 and 2 and a one-unit (three-hour) laboratory.

1. Life Sciences
   - Anthropology 101. Human Bio-Cultural Origins (3)
   - Biology 100. General Biology (3)
   - Biology 100L. General Biology Laboratory (1)
   - Botany 100. Plants and Man (3)
   - Botany 100L. Plants and Man Laboratory (1)
   - Botany 320. Agricultural Botany of the Imperial Valley with Laboratory (4)
     (Offered at IVC only)
   - Microbiology 110. Microbiology and Man (3)
   - Microbiology 110L. Microbiology and Man Laboratory (1)
   - Natural Science 110B. Ecology and Diversity of Animals (3)
   - Zoology 100. Evolution and Diversity of Animals (3)
   - Zoology 100L. Evolution and Diversity of Animals Laboratory (1)

2. Physical Sciences
   - Astronomy 101. Principles of Astronomy (3)
   - Astronomy 103. The Structure of Scientific Thought (3)
   - Astronomy 109. Astronomy Laboratory (1)

* Students completing more than one statistics course will be awarded a total of four units of credit, three of which will be applicable to General Education.
+ Only one of these three courses may be taken for General Education credit.
Graduation Requirements

3. Special Provision for Majors in the Sciences and Related Fields.

a. Where course work in astronomy, biology, botany, chemistry, geological sciences, microbiology, physics, or zoology is required (or listed as a recommended course in the catalog) in preparation for the major, a student may substitute those courses for courses listed in Sections II, A above and III, A below.

b. If a student accepts the above provision and later changes his or her major to a field which does not require course work in these disciplines, the student may nevertheless receive General Education credit for courses taken in those disciplines.

c. Undeclared majors who take non-General Education science courses in Section II, A and III, A, in anticipation of declaring a major which requires such course work, are included in a. and b. above.

B. Social and Behavioral Sciences. Six units to include courses from two departments.

Anthropology 102. Introduction to Cultural Anthropology (3)
Economics 103. Contemporary Economic Problems (3)
Economics 105. Principles of Economics (3)
Economics 106. Principles of Economics (3)
Geography 102. Introduction to Cultural Geography (3)
Geography 103. Laboratory Exercises in Physical Science (2)
Geography 104. Energy in Nature with Laboratory (4)
Geography 106. Introduction to Meteorology Laboratory (1)
Geography 106L. Introduction to Meteorology Laboratory (1)
Geology 100. General Geology (3)
Geological Sciences 101. General Geology Laboratory (1)
Geological Sciences 102. Physical Science with Laboratory (4)
Geological Sciences 103. Laboratory Exercises in Physical Science (2)
Geological Sciences 104. Physical Science Laboratory (1)
Geological Sciences 105. Physical Science Laboratory (1)
Geological Sciences 107. Physical Science Laboratory (1)
Geology 101. General Geology (3)
Geology 101L. General Geology Laboratory (1)
Geology 102. Physical Science with Laboratory (4)

C. Humanities. Nine units to include courses from three of the four areas listed below.

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

2. Art, Classics, Drama, Humanities, and Music
Art 157. Introduction to Art (3)
Art 258. Appreciation and History of Art (3)
Art 259. Appreciation and History of Art (3)
Classics 140. The Heritage of Greece and Rome (3)
Drama 105. Introduction to the Theatre (3)
Drama 120. Dramatic Heritage (3)
Humanities 101. Introduction to Humanities (3)
Humanities 102A. Introduction to European Heritage (3)
Humanities 102B. Introduction to European Heritage (3)
Humanities 130. The Jewish Heritage (3)
Humanities 140. Mythology (3)
Music 151. Introduction to Music (3)

3. History
% History 105. Western Civilization (3)
§ History 106. Western Civilization (3)

4. 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)

III. EXPLORATIONS

Graduation Education is not only a selection of disciplinary skills, introductions, and surveys. It also includes more detailed courses, for the most part upper division, which allow more concentrated or thematic study. This section is called Explorations. There are in Explorations, four areas of study: Natural Sciences, Social and Behavioral Sciences, Humanities, and American Institutions.

Course Work in Explorations. A minimum of 15 units, at least nine of which must be upper division and at least one course must be cross-cultural (indicated by °), distributed as follows:

One course from area A,
One course from area B,
Two courses from area C.

The fifth course may be selected from among those listed in areas B or C, or from American Institutions courses listed under D. No more than seven units taken in any one department or program may be counted for credit in Foundations and Explorations.

A. Natural Sciences. Any course, excluding laboratories, listed in II, A above and as follows.

Astronomy 301. Cosmology and Geovational Collapse (3)
Biology 130. Ecosystems and Man (3)
Biology 145. Introduction to Heredity (3)
Biology 200. Natural History of Plants and Animals (3)
Biostatistics 310. Biostatistics (3)
Biological Anthropology 305. Microbes, the Key to the Future (3)
Chemistry 100. Introduction to General Chemistry with Laboratory (4)
Chemistry 101. Chemistry and Society (3)
Chemistry 200. Historical Introduction to Philosophy (3)
Chemistry 301. Chemical Principles in Environmental Protection (3)
Chemistry 302. Chemistry and Society (3)
Chemistry 303. History of Mathematics (3)
Chemistry 305. Microbes: the Key to the Future (3)
Chemistry 306. Microorganisms in Human History (2)
Chemistry 307. Introduction to Matrix Algebra (3)
Chemistry 308. Evolution (3)
Chemistry 309. History of Biology (3)
Chemistry 310. Conservation of Wildlife (3)
Chemistry 311. Biology of Aging (3)
Chemistry 312. Introduction to Matrix Algebra (3)
Chemistry 313. History of Mathematics (3)
Chemistry 314. Chemistry and Society (3)
Chemistry 315. Historical Introduction to Philosophy (3)
Chemistry 316. Microorganisms in Human History (2)
Chemistry 317. Development of Scientific Thought (3)
Chemistry 318. Technology and Human Values (3)
Chemistry 319. The Origins of Life (3)
Chemistry 320. The Ocean (3)
Chemistry 321. Energy and Conservation (3)

Only one of these three courses may be taken for General Education credit.
### B. Social and Behavioral Sciences

Any course listed in II. B above and as follows:

- **Anthropology**
  - Anthropology 445, Ethnology of North America (3)
  - Anthropology 450, Cultures of India (3)
  - Anthropology 448, Cultures of Oceania (3)
  - Anthropology 410, World Ethnography (3)
  - Anthropology 428, Ecological Anthropology (3)
  - Anthropology 432, Principles of Personality in Culture (3)
  - Anthropology 442, Cultures of South America (3)
  - Anthropology 446, Ethnology of North America (3)
  - Anthropology 448, Cultures of Oceania (3)
  - Anthropology 449, Cultures of Sub-Saharan Africa (3)
  - Anthropology 452, Japanese Society (3)
- **Economics**
  - Economics 330, Comparative Economic Systems (3)
  - Economics 464, Economic Problems of Latin America (3)
  - Economics 465, Economic Problems of South and East Asia (3)
  - Economics 489, Population and Economic Growth (3)
- **Geography**
  - Geography 312A, Culture Worlds (3)
  - Geography 312B, Culture Worlds (3)
  - Geography 321, United States (3)
  - Geography 323, Middle America (3)
  - Geography 324, South America (3)
  - Geography 331, Monsoon Asia (3)
  - Geography 335, The Middle East and North Africa (3)
  - Geography 336, Europe (3)
  - Geography 350, Political Geography (3)
  - Geography 354, Geography of Cities (3)
  - Geography 370, The Conservation of Environmental Quality (3)
  - Geography 371A, Conservation of Natural Resources (3)
- **Health Science**
  - Health Science 362, International Health (3)
- **Classics**
  - Classics 101G, Elementary Greek I (5)
  - Classics 101L, Elementary Latin I (5)
  - Classics 120, Latin and Greek Word Derivation (3)
  - Classics 200G, Elementary Greek II (5)
  - Classics 200L, Elementary Latin II (5)
- **Chinese**
  - Chinese 101, Elementary I (4)
  - Chinese 202, Elementary II (4)
- **Asian Studies**
  - Asian Studies 101, East Asian Studies (3)
  - Asian Studies 458A, Asian Cultures (3)
  - Asian Studies 458B, Asian Cultures (3)
- **Classics**
  - Classics 101G, Elementary Greek I (5)
  - Classics 101L, Elementary Latin I (5)
  - Classics 200G, Elementary Greek II (5)
  - Classics 200L, Elementary Latin II (5)
  - Classics 303G, Readings in Greek Prose (3)
  - Classics 303L, Readings in Latin Prose (3)
  - Classics 304G, Readings in Greek Poetry (3)
  - Classics 304L, Readings in Latin Poetry (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**
  - Comparative Literature 430, Asian Literature (3)

* Cross-cultural course.

† Only those foreign language courses numbered 101, 102, 200, 201, or 202 not used to satisfy the Foreign Language graduation requirement for the major and not in violation of high school course repeat provisions may be used to satisfy General Education in the Explorations component.
* Comparative Literature 440. African Literature (3)
* Comparative Literature 445. Modern Latin American Literature (3)
* Comparative Literature 470. Folk Literature (3) (Maximum GE credit 3 units)

Drama 460A. History of the Theatre (3)
Drama 460B. History of the Theatre (3)
English 250A. American Literature (3)
English 250B. American Literature (3)
English 260A. English Literature (3)
English 260B. English Literature (3)
English 301. The Psychological Novel (3)
English 302. Introducing Shakespeare (3)
English 494. Modern American Fiction (3)
† French 101. Elementary (5)
† French 102. Elementary (5)
† French 200. Reading French (3)
† French 200C. Writing French (3)
† French 200D. The Grammar of Spoken French (3)
French 301. Advanced Grammar and Composition (3)
French 302. Advanced Grammar and Composition (3)
French 305A. Survey of French Literature (3)
French 305B. Survey of French Literature (3)
French 421. French Civilization (3)
French 422. French Civilization (3)
† German 101. First Course in German (4½)
† German 102. Second Course in German (4½)
† German 201. Third Course in German (4)
† German 202. Fourth Course in German (4)
German 211. Conversation (2)
German 212. Conversation (2)
German 301. Grammar and Composition (3)
German 302. Grammar and Composition (3)
† Hebrew 101. Elementary (4)
† Hebrew 102. Elementary (4)
† Hebrew 201. Intermediate (4)
History 100. World History (3)
* History 101. World History (3)
* History 120. Introduction to Asian Civilizations (3)
* History 121. Asian Civilizations in Modern Times (3)
† History 305A. The Sources of Civilization in the West (3)
§ History 305B. The Sources of Civilization in the West (3)
History 407A. Modern Europe (3)
History 407B. Modern Europe (3)
* History 415A. Latin America (3)
* History 415B. Latin America (3)
* History 420. Asia’s Dynamic Traditions (3)
* History 421. Asia’s Emerging Nations (3)
* History 473A. Middle Eastern History from the Rise of Islam to the Present (600-1600 A.D.) (3)
* History 473B. Middle Eastern History from the Rise of Islam to the Present (1600-present) (3)
* History 475A. Africa (3)
* History 475B. Africa (3)
* Humanities 157. Arab-Islamic Culture and Civilization (3)

* Cross-cultural course.
% May be used for General Education credit only by students who have not taken History 105.
§ May be used for General Education credit only by students who have not taken History 106.
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Graduation Requirements / 131

* Humanities 158. African Culture and Civilization (3)
* Humanities 401A. The Cultural Heritage of Europe I (3)
* Humanities 401B. The Cultural Heritage of Europe II (3)
* Humanities 402A. The Cultural Heritage of Europe III (3)
* Humanities 402B. The Cultural Heritage of Europe IV (3)
† Italian 101. Elementary (5)
† Italian 102. Elementary (5)
† Italian 200A. Intermediate Grammar and Composition (3)
† Italian 200B. Reading and Speaking Italian (3)
* Italian 301. Advanced Oral and Written Composition (3)
* Italian 305A. Italian Literature (3)
* Italian 305B. Italian Literature (3)
† Japanese 101. Elementary (4)
† Japanese 202. Elementary (4)
* Japanese 304. Readings in Japanese (4)
* Linguistics 410. History of English (3)
* Mexican-American Studies 336. Mexican-American Literature (3)
* Mexican-American Studies 350A. Chicano History (3)
* Mexican-American Studies 350B. Chicano History (3)
* Mexican-American Studies 376. Mexican-American Culture and Thought (3)
* Mexican-American Studies 380. Chicano Folklore (3)
* Music 345. Music in Contemporary Life (3)
* Music 351A. Musical Masterpieces of the Eighteenth and Nineteenth Centuries (3)
Music 351B. Musical Masterpieces of the Twentieth Century (3)
* Music 351C. Masterpieces of Grand Opera (3)
Music 351D. Jazz History and Appreciation (3)
Philosophy 301. History of Philosophy I (3)
Philosophy 310. Philosophy and Human Nature (3)
Philosophy 320. Social Ethics (3)
Philosophy 334. Philosophy of Literature (3)
Philosophy 350. Philosophical Aspects of Buddhist Thought (3)
Philosophy 351. Chinese Philosophy (3)
† Portuguese 101. Elementary/Intensive (4)
Portuguese 211. Conversation and Grammar Review (3)
Portuguese 212. Conversation and Grammar Review (3)
Portuguese 301. Advanced Oral and Written Composition (3)
Portuguese 302. Advanced Oral and Written Composition (3)
Religious Studies 301. Hebrew Scriptures (3)
Religious Studies 318. Modern Religious Thought in the West (3)
Religious Studies 340. Islam (3)
Religious Studies 350. Dynamics of Religious Experience (3)
Religious Studies 353. The Human Dimension of Religion and Psychology (3)
* Religious Studies 354. Religion and Society (3)
Religious Studies 363. Religion and the Sciences (3)
† Religious Studies 401. Religions of India (3)
† Religious Studies 403. Religions of the Far East (3)
† Russian 101. First Course in Russian (4½)
† Russian 102. Second Course in Russian (4½)
† Russian 201. Third Course in Russian (4)
† Russian 202. Fourth Course in Russian (4)
Russian 211. Conversation (2)

† Cross-cultural course.
‡ Only those foreign language courses numbered 101, 102, 200, 201, or 202 not used to satisfy the Foreign Language graduation requirement for the major and not in violation of high school course repeat provisions may be used to satisfy General Education in the Explorations component.
Graduation Requirements

Russian 212. Conversation (2)
Russian 301. Advanced Grammar and Composition (3)
Russian 302. Advanced Grammar and Composition (3)
Russian 305A. Survey of Russian Literature (3)
Russian 305B. Survey of Russian Literature (3)

† Spanish 101. Elementary (4½)
‡ Spanish 102. Elementary (4½)
† Spanish 201. Intermediate (4)
† Spanish 202. Intermediate (4)
Spanish 211. Intermediate Conversation and Writing (2)
Spanish 212. Intermediate Writing and Conversation (2)
Spanish 301. Advanced Conversation and Writing (3)
Spanish 302. Advanced Writing and Conversation (3)
Spanish 303. Advanced Composition and Style (3)
Spanish 305A. Survey Course in Spanish Literature (3)
Spanish 305B. Survey Course in Spanish Literature (3)
Spanish 306A. Survey of Spanish-American Literature (3)
Spanish 306B. Survey of Spanish-American Literature (3)
Spanish 440. Spanish Civilization (3)
Spanish 441. Spanish-American Civilization (3)
Spanish 442. Mexican Civilization (3)
Telecommunications and Film 363. International Cinema (3)

* Women's Studies 205. Women in Western Culture (3)
* Women's Studies 340. Women in Modern History (3)
* Women's Studies 352. Women in Literature (3)
* Women's Studies 453. Women Writers (3)

D. American Institutions. No more than three units of American Institutions course work may be counted for General Education, and only if they are also being used to satisfy the American Institutions graduation requirement. The student should consult the American Institutions Requirement in the General Catalog for other ways of satisfying the American Institutions requirement.

Afro-American Studies 170A-170B
History 110A-111B
History 115A-115B
History 310A-310B
History 410A-410B
History 547A-547B
Mexican-American Studies 120A-120B
Mexican-American Studies 141A-141B

Political Science 101 and 102
Political Science 305 and 320
Political Science 305 and 321
Political Science 305 and 322
Political Science 320 and 321
Political Science 320 and 322
Women's Studies 341A-341B

Application for Graduation

Graduation is not automatic on the completion of requirements. Students who intend to graduate must take the initiative. When they believe that they are eligible, they should file an application with the Evaluations Office, Administration Building. The Class Schedule each semester specifies the exact date. An application fee of $19.00, which is nonrefundable, 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 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.

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 in the summer session. The President of the University, by the authority of the Trustees and on recommendation of the faculty, awards the degrees. Brochures giving details regarding the exercises are mailed to prospective participants in early May.

* Cross-cultural course
† Only those foreign language courses numbered 101, 102, 200, 201, or 202 not used to satisfy the Foreign Language graduation requirement for the major and not in violation of high school course repeat provisions may be used to satisfy General Education in the Explorations component.
### Summary of Curricula Offered

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### SPECIAL CURRICULA

**Preprofessional Curricula**
- Certificate (nondegree) Programs
  - Certificate in applied linguistics
  - Certificate in business administration
  - Certificate in cardiovascular disease management (Imperial Valley campus only)
  - Certificate in cardiovascular disease management
  - Certificate in cardiology
  - Certificate in chemotherapy
  - Certificate in emergency medical services
  - Certificate in instructional technology
  - Certificate in quantitative analysis
  - Certificate in Spanish translation and court interpreting
  - Certificate in technical and scientific writing

**Military Curricula**
- Aerospace studies (A.F.R.O.T.C.)
- Military science (R.O.T.C.)
- Naval science (N.R.O.T.C.)

**Medical Technology**
- Preprofessional Curricula
  - Certificate in applied linguistics
  - Certificate in business administration
  - Certificate in cardiovascular disease management (Imperial Valley campus only)
  - Certificate in cardiology
  - Certificate in chemotherapy
  - Certificate in emergency medical services
  - Certificate in instructional technology
  - Certificate in quantitative analysis
  - Certificate in Spanish translation and court interpreting
  - Certificate in technical and scientific writing
Credentials Offered

Teaching Credentials
- Multiple subjects
- Single subject
- Community college

Specialist Credentials
- Bilingual/cross-cultural
- Early childhood
- Reading
- Special education:
  - Communication handicapped
  - Physically handicapped
  - Learning handicapped
  - Severely handicapped
  - Gifted
  - Visually handicapped

Service Credentials
- Administrative
- Clinical rehabilitative
- Library
- Pupil personnel
- School psychology
- Health (school nurse)

Minors for the Bachelor's Degree

- Accounting
- Aerospace studies
- African studies
- Afro-American studies
- American Indian studies
- American studies
- Anthropology
- Art
- Art history
- Asian studies
- Astronomy
- Biology
- Botany
- Business management
- Chemistry
- Child development
- Classical humanities
- Classics
- Comparative literature
- Computer science
- Dance
- Drama
- Economics
- Educational technology and librarianship
- Engineering
- English
- Environment and society
- European studies
- Finance
- French
- Geography
- Geological sciences
- German
- Gerontology
- Health science
- History
- History of science and technology
- Home economics
- Humanities
- Industrial arts
- Information systems
- Insurance
- Italian
- Jewish studies
- Journalism
- Latin American studies
- Linguistics
- Marketing
- Mathematics
- Mexican-American studies
- Middle East studies
- Military science
- Music
- Oceanography
- Personnel and industrial management
- Philosophy
- Physical education
- Physics
- Political science
- Portuguese
- Production and operations management
- Psychology
- Public administration
- Radio-television
- Real estate
- Recreation
- Religious studies
- Russian
- Social work
- Sociology
- Spanish
- Speech communication
- Speech pathology and audiology
- Women's studies
- Zoology
Courses and Curricula

Course Numbering

Courses numbered 100 through 299 are in the lower division (freshman and sophomore years); those numbered 300 through 499 are in the upper division (junior and senior years) and intended for undergraduates; those numbered 500 through 599 are in the upper division and are also acceptable for advanced degrees; those numbered 600 through 799 are doctoral courses; and those numbered 800 through 899 are doctoral courses. Courses numbered X-600 through X-999 are those offered only through Extension to meet specific academic needs of community groups. Courses at the X-600 level are designed to meet special or professional needs, and unless otherwise stated in the course description are not applicable as elective credit toward baccalaureate degree requirements at San Diego State University. Courses at the X-900 level are offered for upper division credit and may only be applied toward a major upon approval by the appropriate academic department. 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

Students must complete a course prerequisite (or its equivalent) prior to registering for the course to which it is prerequisite. Students who have not completed the stated prerequisite must notify the instructor by the end of the second week of class in order for the instructor to determine if the student has completed the equivalent of the prerequisite.

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. A "W" indicates a course offered during wintersession.

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

(3) I Three units, Offered in fall semester.
(3) II Three units, Offered in spring semester.
(3-3) Three units each semester. Year course normally beginning in fall semester.
(3-3) I, II 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 California State University may not be offered or may be postponed.

Common Courses

Experimental or Selected Studies or Topics or Workshop Courses (296, 496, 596)

Courses offered by departments under the numbers 296, 496, 596 are subject to the following conditions: no more than nine units of such courses shall be applicable toward a bachelor’s degree, such courses may be applicable toward the minor or toward preparation for the major only with the approval of the department chair.

Honors Courses (300)

These courses are intended for students with superior scholastic records and aptitude. Interested students should direct their inquiries to the chair 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. The student should seek out an instructor under whose supervision he/she wishes to work, discuss the topic with the instructor, and come to an understanding on the amount of time he/she is to devote to the topic, the credit to be earned, and the 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. Maximum credit six units per department.

Credit/No Credit Courses

Courses which are offered for credit/no credit are indicated by the symbols Cr/NC in the course title.
Academic Skills
In the College of Arts and Letters

Faculty
Emeritus: MacDonald
Chair: Basile
Professor: Basile
Associate Professor: Denman
Assistant Professor: Sweedler-Brown
Lecturers: Agatucci, Albanese, Allister, Beveridge, Brown, G., Bryant, Carella, Corona, Duran, Garber, Johnson, M., Johnson, P, Keitel, Maggio, Miller, Nower, Orton, Potts

Offered by the Academic Skills Center
Courses in reading, writing and learning skills.
Major or minor work in academic skills is not offered.

LOWER DIVISION COURSES

The Academic Skills Center, located in Professional Studies and Fine Arts, 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.

Academic skills courses may not be used to satisfy general education requirements and no more than three units of 143, 151 and 296 may be applied towards a bachelor's degree. Credit earned in Academic Skills 100, 111, 131, 132, 133, and 150 may not be applied toward a bachelor's degree.

100. Writing Development (3) I, II, S
Sentence, paragraph, and essay writing skills. Final is writing competency examination. Students not passing exam must take Academic Skills 150. Open to students who have not satisfied the writing competency requirement. Credit earned in this course not applicable to a bachelor's degree or General Education.

111. Reading Development (3) I, II Cr/NC
Two lectures and two hours of laboratory.
Improvement of individual reading effectiveness: speed and comprehension, reading for the main idea, skimming, scanning, and word power. Credit earned in this course not applicable to a bachelor's degree.

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 Academic Skills 132, or at the discretion of the instructor, Academic Skills 133. Credit earned in this course not applicable to a bachelor's degree.

132. English for International or Bilingual Students (3) I, II Cr/NC
One lecture and four hours of laboratory.
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 Academic Skills 133. Credit earned in this course not applicable to a bachelor's degree.

133. English for International or Bilingual Students (3) I, II Cr/NC
One lecture and four hours of laboratory.
Advanced listening, reading, writing and research skills. Use of study materials from several academic disciplines, writing of a short research paper in the student's area of interest. Credit earned in this course not applicable to a bachelor's degree.

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. Courses from this series are not applicable toward bachelor's degree credit.
A. Speed Reading
B. Vocabulary
C. Spelling
D. Learning Skills
E. Grammar
F. Research Paper
G. Communication Skills
H. Research Tools

143. Adjunct Writing: Selected Topics (1) Cr/NC
Instruction in basic writing skills required of a particular discipline. Writing assignments are not coordinated with those from designated lower division courses in selected disciplines, students will learn to write 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, S Cr/NC
Open only to students failing Academic Skills 100 final. Review of basic writing skills at the sentence, paragraph, and essay levels. Credit in this course satisfies the University Writing Competency Requirement. Credit earned in this course not applicable to a bachelor's degree or General Education.

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.

296. Experimental Topics (1-3) Cr/NC
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.
Aerospace Studies
In the College of Professional Studies and Fine Arts

Faculty
Chair: Boyer
Professor: Bayne, Deloatch, McOmber, Weber
Assistant Professors: Bayne, Deloatch, McOmber, Weber

Offered by the Department
AFROTC curriculum.
Minor in aerospace studies.

AFROTC Curriculum
The department offers a four-, three- or 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 course work 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.

Either a four- or six-week Field Training camp is required for all students during the summer between the sophomore and junior years. Field training emphasizes military orientation for the junior officer and aircraft and crew 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. 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 enter pilot or navigator training immediately upon graduation. Other graduates go on active duty in a specialty consistent with their academic major, their desires, and existing Air Force needs. Graduates may request a delay from entry on active duty to continue their education or may apply for Air Force sponsored graduate study to begin immediately upon entry on active duty.

Applying for the Program
SDSU students enroll in aerospace classes by signing up for courses in the same manner as other university classes. There is no advance application needed for the freshman or sophomore (AS 100/200) classes. The last two years of ROTC (AS 300-400) lead to the commission as a second lieutenant and students must apply as early as possible during their sophomore year. The application process involves taking the Air Force Officer Qualification Test, a physical examination, and a personal interview. Students from other institutions in the San Diego area are eligible to take AFROTC and should check with the department to obtain enrollment procedures. Veterans who can be commissioned by age 35 are also eligible for the program.

Flight Instruction and Pay
The Flight Instruction Program (FIP) is offered to qualified junior cadets who have selected 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 $400 during the Field Training Unit and are reimbursed for the cost of travel to and from the unit. Students may apply for ROTC-sponsored scholarships.

Aerospace Studies Minor
The minor in aerospace studies consists of a minimum of fifteen units in aerospace studies, nine of which must be upper division.

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 Air Force Today (2-2)
Semester I: The Air Force in the contemporary world, The total force structure, strategic offensive and defensive forces. Preparation for officer status. Semester II: General purpose and aerospace support forces and preparation for commissioned officer status.

200A-200B. The Development of Air Power (2-2)
Semester I: Development of air power from balloons and dirigibles through the peaceful employment of U.S. air power in relief missions and civic action programs in the late 1960s. Preparation for officer status. Semester II: Technological strides in the 50s, crisis in Cuba and Southeast Asia and preparation for commissioned officer status.

233. 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. (Formerly numbered Aerospace Studies 333-S.)

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.

350. Leadership Laboratory (1)
Two hours of laboratory.
Prerequisite: Concurrent registration in Aerospace Studies 300A-300B.
Demonstration laboratory designed to develop leadership and management skills, problem-solving skills, and exercise group planning, organizing and coordinating activities. Maximum credit two units.

400A-400B. National Security Forces in American Society (3-3)
Semester I: Role of professional officer in democratic society: socialization within Armed Services; and requisites for adequate national security forces. Semester II: Political, economic, and social constraints on national defense structure and impact of technological and international developments on defense policy making.

450. Leadership Laboratory (1)
Two hours at laboratory.
Prerequisite: Concurrent registration in Aerospace Studies 400A-400B.
Demonstration laboratory designed to develop leadership and management skills, problem-solving skills, and exercise group planning, organizing and coordinating activities. Maximum credit two units.

498. 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: Weber
Professors: Chambers, Kerri, Kornweibel, Meadows
Associate Professors: Scarborough, Thomas, Weber

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

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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, 286, three units selected from 102, 140, 230, 231, 232, 250, and three units selected from 170A, 170B, 180 or 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.

Writing Requirement
Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

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 I

Area II
Afro-American Studies 363, 460, 461, 470 and 490.

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 two 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
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 Lifestyles (3) II
Afro-American lifestyles in the past, present, and future. Examination of contemporary problems, their roots and their effects on twentieth-century America.

120. Composition (3) I, II
Prerequisite: Completion of Writing Competency requirement. (See Graduation Requirements, I. Competency Requirements, section of this catalog.) PROOF OF COMPLETION OF PREREQUISITE REQUIRED. Student to bring to first class meeting evidence of one of the following: test score of 42+ on SAT/TSWE or 17+ on ACT or B essay and 151+ total on EPT or satisfactory completion of Academic Skills 150 (grade slip or copy of student record).

Practiced to develop and enhance composition and reading skills. Focus on writing skills that contribute to academic growth and development. Not open to students with credit in English 100 or higher-numbered composition or creative writing course or Linguistics 100 or Mexican-American Studies 111B.

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 100.

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.

200. Intermediate Expository Writing and Research Fundamentals (3) I, II
Prerequisite: Afro-American Studies 120 or English 100 or Linguistics 100 or Mexican-American Studies 111B. Proof of completion of prerequisite required.

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. Ethnology 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 1890 to the present.

250. Psychology of Blackness (3) I, II
Facts, principles, and concepts which are basic to understanding human behavior. An analysis of the psychological motivations and behavioral responses of and toward Afro-Americans.

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

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

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496. 596 courses applicable to a bachelor's degree.
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) II
Prerequisite: Afro-American Studies 101 or 250.
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
Prerequisite: Afro-American Studies 101 or 250.
Structure and functions of the Black family in contemporary American society. Experience. Cognitive and experiential examination of contemporary issues around Black and non-Black interpersonal relations. Authenticity in relationships, interracial trust, personal development, conflict resolution, and proactive belief systems. Central aim to assist Blacks and non-Blacks to facilitate communication.

332. Black Women: Myth and Reality (3) I
Prerequisite: Afro-American Studies 101 and 102.
Images of Black women in America and how those images have been distorted. Interpretation and application of constitutional principles and judicial decisions to problems faced by Afro-Americans.

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

380. Blacks in the American Justice System (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.

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

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.
American Indian Studies
In the College of Arts and Letters

Faculty
Chair: Rouillard
Associate Professors: Rouillard, Tralzer
Lecturer: Russo

Offered by American Indian Studies
Minor in American Indian studies
Courses in American Indian studies.
Major work in American Indian studies is not offered.

American Indian Studies Minor
The minor in American Indian studies consists of a minimum of 15 units to include American Indian Studies 110; nine of the 15 units must be in upper division courses selected from American Indian studies or other appropriate departments (e.g., anthropology or history) 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

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.

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.

201. Hopi Language Readings and Literature (4) I, II
Prerequisite: Ability to speak Hopi.
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. (Formerly numbered American Indian Studies 201A.)

215. American Indian Psychological Perceptions (3) II
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.

265. American Indian Art (3) I, II
American Indian as a creative person and artistic products from earliest examples to present surveyed through cultural elements affecting symbols, material, and media. Diversity of forces generating forms which have become tradition will be central to the study.

286. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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.

320. 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. (Formerly numbered American Indian Studies 120.)

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

420. Indian Peoples of California (3) I
Indian peoples of California. Their histories and cultures from oral traditions to contemporary issues. Focus on selected Indian tribes and communities.

425. Indians of the Plains (3) II
Indian peoples of the Plains. Their histories and cultures from oral traditions to contemporary issues. Focus on selected Indian tribes and communities.

430. American Indian Poetry and Fiction (3) II
American Indian literatures, focusing on selected tribal traditions. Relationship between oral traditions and contemporary American Indian poetry and fiction explored in works of Welch, Ortiz, Momaday, Silko 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
Study of theories and purposes of development of community organizations and their 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) I, II
Spirits, prophecies, and renewals of the Indian way compared through symbols and ceremony. Religions will be surveyed as they have been influenced by foreign elements and philosophies. Influences on values and tribalism as reflected through symbols and other materials.

496. Topics in American Indian Studies (1-3)
An undergraduate seminar. Topics will be announced in the class schedule. Maximum credit six units. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

499. 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: Three units of American Indian Studies.
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 whose members are elected from among the faculties of several departments in the University. 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.
Minor in American studies.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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

American studies is an interdisciplinary program designed to bridge the division of knowledge into discrete disciplines. Each of the four program clusters combines American studies core courses, which relate materials and methods from various disciplines, with upper division courses from several disciplines. The courses are selected to focus on and bring into interrelation one group of American people, one social or cultural process, one place and one division courses from several disciplines. The courses are selected to focus on and bring into interrelation one group of American people, one social or cultural process, one place and one division courses from several disciplines.

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, 12 units selected from Anthropology 102; English 250A-250B (three or six units), History 110A-110B (three or six units) (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 courses 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."

Writing Requirement. History 430W, English 500W, 508W, 581W or Sociology 396W with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include American Studies 360 or 580, 499, 501, and nine courses from one of the following clusters or a specially designed cluster.

The courses are selected to focus on and bring into interrelation one group of American people, one social or cultural process, one place and one division courses from several disciplines.

The student may take no more than three courses in one discipline on the major program.

Cultural Pluralism

People: Ethnic Community
Sociology 325 and one of the following: Afro-American Studies 471B, American Indian Studies 440, Anthropology 446, Mexican-American Studies 320 or 350B.

Cultural Institutions and Artifacts

People: The Family

Process: Material Culture

Place: The City
American Studies 499.

American Communication

People: Decision Makers
Economics 370, History 496, Management 356; Political Science 335, 522, 531, 536; Public Administration 520; Sociology 521; Women's Studies 430.

Process: Communications
No more than one course in each discipline.

Afro-American Studies 360, 362, 461, 480; American Indian Studies 430; Art 558; English 524, 525; Journalism 408, 500, 502, 503, Mexican-American Studies 335; Music 351D; Political Science 326; Psychology 340, Sociology 545, 546; Speech Communication 475.

Place: United States

Special Study: American Studies 499.

Majority American Goals and Values

People: The Middle Class
Art 560, History 548, Political Science 531, Sociology 521, Women's Studies 430.

Process: Tradition and Change in the Evolution of American Goals and Values

No more than one course in each discipline.

Economics 474; Education 383; English 525, Geography 356; History 435, 545A, 545B, 546A, 548B; Management 356, 456; Philosophy 564; Political Science 335, 345, 346, 348; Sociology 424, 537, 546, 547.

Place: United States
English 521, 523, 524, 525, 527; Geography 371; History 540, 546B, 547A, 547B; Political Science 305, Religious Studies 520.
American Studies Minor

The minor in American studies consists of a minimum of 18 units to include American Studies 501 (Study of American Culture), and six units selected from History 546A-546B or 547A-547B or 548A-548B, and nine units selected from the courses listed below—six units from one grouping and three from the other, with no more than six units from any one department's or program's offerings.

**Humanities:** American Studies 360, 580; Art 560; English 522, 523.

**Social Sciences:** Anthropology 444; Economics 338; Geography 354; Political Science 305; Sociology 424.

With the consent of the American studies Adviser, six units in courses not listed here may be included in the student's program. Courses in the minor may not be counted towards the major but may be used to satisfy preparation for the major and general education requirements. In designing their American studies minor program, students may not include courses drawn from their major department.

LOWER DIVISION COURSES

201. Introduction to American Culture (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.

296. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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 explorations, how science and technology have influenced American values, environment, arts, politics, and national identity.

496. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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 interdisciplinary interests.

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: Ball, Bartel, Golkind, Henry, Leach, Lippold, Pendleton, Rohrli, Watson, Whitney

Associate Professors: Greenfield, Himes, Moore, Scoley

Assistant Professor: Sonok

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

Advising

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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 the section of this catalog on "Graduation Requirements."

A minor is not required with this major.

Basic Requirements for All Students

Preparation for the major. Anthropology 101, 102. (Six units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Passing Anthropology 396W with a grade of C (2.0) or better.

Major. A minimum of 33 upper division units in Anthropology to include Anthropology 301, 302, 304, 305, 396W and 18 upper division units of electives selected from one of the following areas.

(a) General Anthropology

Major (continued). Six units selected from each of the following categories: (a) Anthropology 406, 500-509, (b) Anthropology 470-483, 560, 561A, 561B, (c) Anthropology 330, 410, 420-452, 520, 531, 532, Anthropology 496, 499, 582 and 583 may be used in any category when subject is appropriate.

(b) Bio-Cultural

Major (continued). Eighteen units selected from Anthropology 406, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, Anthropology 496, 499, 582 and 583 may be used when subject is appropriate.

(c) Archaeology


Anthropology 496, 499, 582 and 583 may be used when subject is appropriate.
305. History of Anthropological Theory (3) I, II
Prerequisite: Anthropology 102.
Development of theories which lie behind the science of anthropology. Applications of the theory of culture to field methods and interpretation of findings.

350. World Ethnography (3)
Prerequisite: Anthropology 102.
Cultural patterns of representative peoples. Industries, arts, social organization and supernaturalism considered with view to environmental adjustment, historical development and functional interrelation. Ethnological theories reviewed and applied in interpreting illustrative societies.

351. Primitive Technology (3)
Two lectures and three hours of laboratory
Prerequisite: Anthropology 101 or 102.
Techniques of tool manufacture, subsistence, shelter, clothing and arts and crafts of nonindustrial peoples.

396W. Writing of Anthropology (3)
Prerequisites: Anthropology 101 and 102.
Will develop ability to write clearly, correctly and effectively about anthropological subjects. Students will read assigned examples of anthropological writing from the main subdisciplines, write mini-ethnographies, summaries and critiques, and report on assigned research projects. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

400A-400B. Principles of Anthropology (3-3) I, II (Offered at IVC only)
Anthropology 400A: Human evolution as a biocultural process from the perspectives of human paleontology and prehistory. Anthropology 400B: Systems of cultural cognition, family organization, government, and religion in non-Western societies, comparison with analogous Western institutions. Anthropology 400A is not open to students with credit in Anthropology 101. Anthropology 400B is not open to students with credit in Anthropology 102. Anthropology 400A-400B may not be used to fulfill minimal upper division requirements in the anthropology major or minor.

406. 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.
Survey of anthropological interests in the study of language and of linguistic interests in the sociocultural context of language.

420. Cross-Cultural Mythology (3)
Prerequisite: Anthropology 102.
Mythological motifs and traditions. How mythological accounts of gods, heroes, origins, explanations and other mythological themes relate to economic, social and political aspects of culture in societies around the world.

422. Music and Culture (3)
Prerequisite: Anthropology 102.
How the forms, functions and meanings of music vary cross-culturally. Understanding a society's music historically, holistically and experientially, with emphasis on non-Western music, Universalism of music and music use. Ethnological theories of music and music change.

424. Primitive Religion (3)
Prerequisite: Anthropology 102.
426. Cultural Change and Processes (3)  
Prerequisite: Anthropology 102.  
The individual and the culture pattern: the acquisition of culture, innovation and invention,  
direction of cultural development, diffusion and interpenetration of cultures. Illustrations from  
contemporary and historic peoples: Indians of the Southwest, Eskimos, aboriginal groups of  
Australia, Africa and Oceania.  

428. Ecological Anthropology (3)  
Prerequisite: Anthropology 102.  
Biological and cultural interactions with the environment in relation to adaptations of human  
populations. Examples from a worldwide sample of societies.  

429. Principles of Personality in Culture (3)  
Prerequisite: Anthropology 102.  
Principles related to the determinants of human behavior contained in culture. Studies of  
behavior cross-culturally.  

432. Cross-Cultural Cosmology (3)  
Prerequisite: Anthropology 102.  
Cultural perception and expression of the nature and origin of the universe, humanity and  
peoples' operative capabilities. American Indian, African, Asian and other societies'  
cosmologies compared and applied to contemporary American issues and progress.  

439. Ethnology Through Film (3)  
Principles of cultural anthropology to include signs and proxemics, cultural prerequisites,  
kinship and social organization, and law and values. Feature and documentary films.  

440. Cultures of Europe (3)  
Prerequisite: Anthropology 102.  
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.  

441. The California Indian (3)  
Prerequisite: Anthropology 102.  
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 ethnological evidence.  

442. Cultures of South America (3)  
Prerequisite: Anthropology 102.  
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.  

443. Contemporary Latin American Cultures (3)  
Prerequisite: Anthropology 102.  
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 change,  
social consequences of economic changes, changing stratification systems, values,  
institutional change.  

444. American Culture (3)  
An "inside-out" view of America. What culture has to do with feeling like an American. Theory  
and method in anthropology. Approaches include subcultures, American values, and mass  
media.  

445. Ethnology of North America (3)  
Prerequisite: Anthropology 102.  
Native cultures and the role of environmental and historical factors in North America.  

446. Southwestern Ethnology (3)  
Prerequisite: Anthropology 102.  
Indian cultures of the American Southwest in historic times; ecological adaptations,  
responses to white contact, adaptations to modern American life.  

448. Cultures of Oceania (3)  
The aboriginal cultures and peoples of Australia, Melanesia, Micronesia, and Polynesia in  
prehistoric, historic, and modern times.  

449. Cultures of Sub-Saharan Africa (3)  
Prerequisite: Anthropology 102.  
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.  

450. Cultures of India (3)  
Prerequisite: Anthropology 102.  
Indigenous peoples and cultures of India and contiguous areas of South Asia. The development  
of cultural traditions, social organization, and modern trends.  

452. Japanese Society (3)  
Prerequisite: Anthropology 102.  
Culture and social organization of Japanese people. Traditional Japanese economic, social,  
political and religious institutions. Korea, Okinawa and overseas Japanese. Recent industrial  
and urban changes in modern Japan.  

470. Prehistory of South America (3)  
Prerequisite: Anthropology 101 or 102.  
Development of native South American cultures from initial occupation to the 16th century.  
Emphasis on major historical trends, particularly of the Andean area.  

471. Archaeology of North America (3)  
Prerequisite: Anthropology 101 or 102.  
Origin of the American Indian and survey of the main prehistoric cultures of the North  
American continent.  

472. Southwestern Prehistory (3)  
Prerequisite: Anthropology 101 or 102.  
Prehistoric Indian cultures in the American Southwest: ecological adaptations and outside  
cultural influences.  

474. Archaeology of Western and Central Asia (3)  
Prerequisite: Anthropology 101 or 102.  
Culture change in the area from Anatolia eastwards to India and including the Arabian  
peninsula beginning with the first evidence of hominid activity through ethnohistorically known  
societies.  

476. Ancient Civilizations of Mexico and Central America (3)  
Prerequisite: Anthropology 101 or 102.  
General overview and selected topics in prehistory of Mexico and Central America from rise  
of Olmec civilization to Aztec times. Emphasis on Olmec, Maya, Teotihuacan, Zapotec, Mixtec,  
and Toltec peoples' cultures.  

481. Archaeology of East Asia and Oceania (3)  
Prerequisite: Anthropology 101 or 102.  
Culture change in the areas of China, Siberia, southeast Asia, Australia, Japan and Oceania  
beginning with the first evidence of hominid activity through ethnohistorically known societies.  

483. Health and Nutrition in Antiquity (3)  
Prerequisite: Anthropology 101 or 102.  
Health and disease patterns in human populations from the earliest times. Analysis of food  
resources, their impact on health and nutrition of prehistoric peoples.
496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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. Primate Social Behavior (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101.
Analysis of modes of primate socialization. Development of social behavior with emphasis on communication, group structure, aggression, and sex. Various methods of analysis and observation practiced utilizing primate collection at the San Diego Zoo.

501. Human Paleontology (3)
Prerequisite: Anthropology 101.
Comparative anatomy of fossil man and other primates; evolutionary relationships and cultural associations.

502. Microevolution (3)
Prerequisite: Anthropology 101. Recommended: Anthropology 301.
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.

503. Human Variation (3)
Prerequisite: Anthropology 101.
Morphological, physiological and genetic aspects of human variability. Significance of this diversity in the biological adaptations of human populations.

504. Primate Anatomy (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101.
Primate anatomy both regional and systemic, including skeletal, cardiovascular and digestive systems, the integument and otolaryngology of primates.

505. Human Osteology (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101.
Theory and practice of techniques in measurement and description of biological variations in modern populations.

506. Physical Anthropology of the Living (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101. Recommended: Anthropology 301.
Theory and practice of techniques in measurement and description of biological variations in modern populations.

507. Genetic Markers and Anthropology (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101.
Use of genetic markers in the study of human populations. Biology of blood groups, serum proteins, enzymes, etc., and analyses of gene frequencies. Significance of genetic markers in evolutionary studies.

508. Medical Anthropology (3)
Prerequisite: Anthropology 101 or 102.
Evolution and ecology of disease, medical beliefs and practices in non-Western cultures, and complexities of health care delivery in pluralistic societies.

509. Culture and Biological Aging (3)
Prerequisite: Anthropology 101 or 102.
Do different cultures age at different rates? Theories of biological aging, genetics of longevity and cultural influences on biological aging. Process of aging and role of the aged in various cultures.

520. Ethnological Field Methods (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 102.
The problems and techniques of obtaining data in ethnological and social anthropological field work; preparation, gaining and maintaining rapport, evaluating data, participant observation. A review of literature followed by work with informants.

531. Applied Anthropology (3)
Prerequisite: Anthropology 102. Recommended: Anthropology 426.
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.

560. Advanced Archaeological Field Methods (3)
One lecture and six hours of laboratory.
Prerequisite: Anthropology 101 or 102.
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, paleontology and technologies. Semester II: Practical applications of materials from 561A. Individual laboratory research project required.

562. Ethnoarchaeology (3)
Prerequisite: Anthropology 302.
Theoretical perspective and methodology for analyzing contemporary societies in order to acquire archaeological insights into behavioral patterns. Survey of experiments duplicating technology of the past. Worldwide ethnographic examples. (Formerly numbered Anthropology 482.)

582. Regional Anthropology (3)
Prerequisite: Anthropology 102.
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 102.
In-depth study of a major subdiscipline such as Political Anthropology, Economic Anthropology, Social Anthropology, Psychological Anthropology, Cultural Ecology, Applied Anthropology, Anthropological Genetics, or Environmental Archaeology. See Class Schedule for specific content.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Art

In the College of Professional Studies and Fine Arts

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: Bigelow, Bowne, Dirks, Hodge, Jackson, Longenecker, Scorsen, Swiggett
Chair: Orth
Associate Professors: Cotten, Dominguez, Dumia, Esser, Frick, Mansfield, Papworth, Perczel, Rigby, Roberts-Fields, Sherman
Assistant Professors: Baker, R. Cauley, Hayakawa, Moaney, Yasuda
Lecturers: Komei, Nakamura, Rosen, Schamu, Tibbs

Offered by the Department
Major in art with the A.B. degree in liberal arts and sciences. A minor is not required with this major. This major in art may be planned with an emphasis in crafts, environmental and interior design, graphic communication, painting and printmaking, or sculpture. The programs in environmental and interior design and in graphic communication have a preprofessional orientation supplemented by a strong liberal arts background. Environmental and interior design can lead to interior, architectural, landscape design or city planning. Graphic communication prepares the student for the areas of environmental graphics, art direction, and 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 continuation of their educational experience in graduate schools with the goal of teaching at 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.

Minor in art history.

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, 105, 157, 204, 206, 258 and 259; Philosophy 101 (33 units.)

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

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in art to include nine units selected from three of the areas listed below, and three units of extended work in one of the selected areas; six units of art electives; and six units of art history. Twelve units of advanced work in one area are strongly recommended.

Fiber: Art 334, 341, 346, 534 and 535
Metal: Art 331, 343, 531, 532
Clay: Art 325, 425, 525, 526
Enamel: Art 429, 529 (9 units)
Wood: Art 332, 423, 523

Emphasis in Graphic Communication
Preparation for the major. Art 100, 101, 102, 103, 210, 224, 256, 265, and six units of art electives (27 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in art to include nine units selected from three of the areas listed below, and three units of extended work in one of the selected areas; six units of art electives; and six units of art history. Twelve units of advanced work in one area are strongly recommended.

Ancient and Medieval Art: Art 371, 557, 558, 567
Renaissance and Baroque Art: Art 356, 557, 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 365, 369, 572

Emphasis in Environmental and Interior Design
Preparation for the major. Art 100, 101, 102, 103, 210, 224, 256, 265, and six units of art electives (27 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 27 upper division units in art to include Art 341, 441, 541; six units of art history; and twelve units selected from Art 340, 440, 442, 444, 540, 542, 543, 544

Emphasis in Environmental and Interior Design
Preparation for the major. Art 100, 101, 102, 103, 210, 224, 256, 265, and six units of art electives (27 units.) Recommended: Art 205, 234, 241; Family Studies and Consumer Sciences 245; Languages with a grade of C (2.0) or better.
Major: A minimum of 24 upper division units in art selected from Group I (Interior Design) or Group II (Environmental Design) in consultation with an adviser.

Group I: Art 451, 453, 553, 554; six units selected from Art 381, 481, 581; three units selected from Art 323, 348, 450, 547, 577; and three additional units of art history.

Group II: Art 450, 454, 547, 553, 577; six units selected from Art 348, 381, 416, 451, 453, 481, 553, 581; and three additional units of art history.

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.)

Writing Requirement: Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major: A minimum of 24 upper division units in art to include six units of art history, and 18 units selected in consultation with the advisor 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, 226, 231, 234. (24 units.)

Writing Requirement: Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major: A minimum of 24 upper division units to include Art 416 or 517, 498A, 516; six 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 63-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 electives in art. (27 units.)

Writing Requirement: Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Teaching Major: A minimum of 27 upper division units in art to include six units of art history, and 21 units from Group I or Group II in consultation with the Art Education Adviser.

Group I: Eighteen units of one major emphasis area, including Art 445 and 586, and three units of one other emphasis area. (21 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 445 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.

Art History Minor
The minor in art history includes a minimum of 18 units in art, 12 units of which must be in upper division, selected from one of the following areas:

Western Tradition: Art 258, 259, and 12 units selected from Art 371, 557, 558, 562, 568, 573, 575.

Non-Western Tradition: Art 198, 264, 265, and 12 units selected from Art 365, 366, 569, 570, 572.

Courses in the minor may not be used 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.

103. Three Dimensional Design (3)
Six hours
Prerequisite: Art 101.
Introduction and investigation of design and theory and practice in three dimensions.

157. Introduction to Art (3) I, II
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. Arts of Native America, Sub-Saharan Africa and Oceania (3)
Introduction to tribal arts of Native America, Sub-Saharan Africa and Oceania in cultural context, from ancient to 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.
Drawing from the nude model. Maximum credit six units.

204. Painting (3) I, II
Six hours
Prerequisites: Art 101, 102.
Pictorial composition and techniques of painting. Maximum credit six units.

205. Waterbase Media (3) I, II
Six hours.
Prerequisites: Art 101, 102.
Composition of still-life and landscape in aqueous media. Maximum credit six units.

210. Printmaking (3) I, II
Six hours.
Prerequisites: Art 101, 102 and consent of instructor.
Introduction and exploration of basic printmaking media. Emphasis on aesthetic and technical processes in intaglio, lithography, relief and serigraphy.

216. Sculpture (3) I, II
Six hours.
Prerequisite: Art 103.
Introduction and experimentation of basic sculpture ideas, methods and materials. Maximum credit six units.
217. Life Modeling—Sculpture (3) I, II  
Six hours.  
Prerequisite: Art 103.  
Creative experimentation with sculptural forms from the human figure.

220. Design in Crafts (3) I, II  
Six hours.  
Prerequisite: Art 103.  
Visual and structural form in crafts.

225. Ceramics (3) I, II  
Six hours.  
Prerequisite: Art 103.  
Introduction of glaze for surface enrichment. Maximum credit six units.

231. Beginning Jewelry Design (3) I, II  
Six hours.  
Prerequisite: Art 220.  
Design and fashioning of jewelry.

234. Weaving (3) I, II  
Six hours.  
Prerequisite: Art 220.  
Structure and design of woven fabrics. Maximum credit six units.

240. Graphic Imagery (3) I, II  
Six hours.  
Prerequisites: Art 100, 103.  
The organization concepts of design applied to experimental photographic and technical reproductive media, and environmental graphics.

241. Beginning Graphic Communication (3) I, II  
Six hours.  
Prerequisites: Art 102 and 103.  
Creative projects exploring the interrelation of fundamental art principles and design using phonetic symbols and typography.

242. Fashion Imagery (3) II  
Six hours.  
Prerequisites: Art 100 and 101.  
Design of original contemporary costumes and the drawing of the fashion image. Maximum credit six units.

243. Intermediate Graphic Communication (3) I, II  
Six hours.  
Prerequisite: Art 241.  
Typographic and design concepts applied to layout for contemporary media.

247. The House and Its Environment (3) I, II  
Architecture, interior design, landscape and city planning for forming man's physical and aesthetic environment.

248. Visual Presentation (3) I, II  
Six hours.  
Prerequisites: Art 102 and 103.  
Methods, materials, and tools of the professional environmental designer stressing art principles.

249. Visual Presentation (3) I, II  
Six hours.  
Prerequisite: Art 248.  
Methods, materials, and tools of the professional environmental designer stressing art principles.

250. The Contemporary House (3) I, II  
Six hours.  
Prerequisite: Art 248.  
Elementary problems in neighborhood planning, house design, and landscaping.

251. Interior Design (3) I, II  
Six hours.  
Prerequisite: Art 103.  
Elementary functional and aesthetic studies in interior space and form. Relationships of light, color, texture, shape and volume.

257. Modern Art (3) II  
Development of painting, sculpture and architecture from the French Revolution to the present.

258. Appreciation and History of Art (3) I, II  
Art development in painting, sculpture, architecture, and handicrafts from the dawn of art to the Renaissance. Illustrated.

259. Appreciation and History of Art (3) II  
The period from the Renaissance through the modern school treated in the same manner as in Art 258.

261. Chinese Art (3) I  
A study of the arts of China.

262. Japanese Art (3) II  
A study of the arts of Japan.

296. Experimental Topics (1-4)  
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES  
(Intended for Undergraduates)

323. Furniture Design (3) I, II  
Six hours.  
Prerequisite: Art 101.  
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 and Metalwork (3) I, II  
Six hours.  
Prerequisite: Art 220.  
Creative design and construction in metal of jewelry and small objects. Techniques in three-dimensional forming and constructions in nonferrous metals. 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.

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
Architectural, 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)
Six hours.
Prerequisite: Art 249.
The communication of Environmental Design using photography, miniatures, mock-ups, and transfers with terminal emphasis in transparency projection.

366. The Art of Persia and the Islamic World (3) I
Prerequisite: Upper division standing.
Painting, architecture and sculpture and minor arts of Persia and the Islamic world which manifest cultural history and heritage. Field/museum trips. (Formerly numbered Art 566.)

366. The Art of India and Southeast Asia (3) II
Prerequisite: Upper division standing.
Painting, architecture and sculpture of India and Southeast Asia viewed through their cultural history and aesthetic values. Field/museum trips. (Formerly numbered Art 565.)

381. History and Theory of Environmental Design (3) Irregular
Prerequisites: Art 256, 259.
Environmental arts. From earliest times to the 19th 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.

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 205.
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 203, 210.
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.
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.
Individual investigations into sculpture ideas, methods, and materials. Individual development in sculpture. 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.
Creative design and techniques in metalsmithing.

435. Nonwoven Textile Construction (3) I, II
Six hours.
Prerequisite: Art 220.
Textile structures with an emphasis on nonloom techniques.

436. Textile Design (3) I, II
Six hours.
Prerequisite: Art 203.
Textile design. Study of visual design for the textile surface, using a broad variety of media and processes appropriate for the individual designer and commercial reproduction. Media include stencil, block, silkscreen, batik, and tie-dye. Maximum credit six units.

440. Advanced Graphic Communications - Environmental Graphics (3)
Six hours.
Prerequisite: Art 241.
Study of visual design for contemporary architectural, motivational, display traffic and guidance graphics.

441. Advanced Graphic Communication - Media (3)
Six hours.
Prerequisite: Art 341.
Application of visual design concepts to graphic design, advertising media and technical reproductive processes.

442. Advanced Fashion Imagery (3) I, II
Six hours.
Prerequisite: Art 242.
Emphasis on developing individual drawing concepts and creative techniques in industrial 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)
Six hours.
Prerequisites: Art 103 and 203.
Disciplines of realistic, descriptive illustration. Methods, materials and tools of the professional graphic designer and illustrator.
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.

445. Internship in Graphic Communication (3) I, II Cr/NC
Nine hours.
Prerequisite: Art 441.
Field experience in design, business procedures, management, client relationships, and supervision of subcontractual work with local practicing professionals.

450. Synergetic Environments (3)
Six hours.
Prerequisites: Art 249, 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, 250, 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: Art 453.
Field experience with local professional interior designers in client relationships, business procedures, supervision of subcontracted work and installation, and execution of contracts. Maximum credit six units.

453. Professional Methods and Materials of Interior Design (3)
One lecture and four hours of activity.
Prerequisites: Art 249, 250, 251.
Materials and techniques of nonresidential space planning. Estimating, specification writing, contractual agreements, record keeping, budgets, and project supervision. Required field trips to professional offices, studios and showrooms. (Formerly numbered Art 552.)

454. Environmental Design (3) I, II
Six hours.
Prerequisite: Art 247.
Survey, analysis and design synthesis of problems of more complexity, through interiors, to architectural planning and, finally, concern for city design.

461. History and Theory of Environmental Design (3) II
Prerequisites: Art 256 and 259.
Environmental arts. From the 15th to the 19th century.

483. Museum Internship (1-6) I, II
Prerequisites: Upper division standing in art and consent of instructor. Internship in assigned local museums and galleries under the direction of an art historian.
Maximum credit six units.

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.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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 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.

501. Professional Orientation in the Arts (3) I, II
Prerequisite: Twelve units of upper division art or graduate standing in art.
Conditions met in professional art world as well as opportunities available. Exhibitions, marketing system, legal and tax responsibilities, public and private collections, grants, fellowships and professional positions investigated.

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 204 and 403.
Drawing and painting from nupe 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. Relief Printmaking (3) I, II
Six hours.
Prerequisites: Art 203 and 210.
Woodcut, wood engraving, gessocut, linoleum, collograph, and relief printmaking processes. Emphasis on fine print quality and technical development using mixed media. 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, drypoint, 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.
Prerequisites: Art 203, 210.
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 233, 323 and 523 limited to twelve units.
Prerequisite: Art 243.
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 429.
Design and production of vitreous enamels. Maximum credit nine units; six units applicable on a master’s degree.

531. Advanced Jewelry and Metalwork (3) I, II
Six hours.
Prerequisite: Art 431.
Problems involving fabrication processes already studied in order to increase technical competence while exploring personal design statements. Maximum credit six units.

532. Advanced Metalsmithing (3) I, II
Six hours.
Prerequisite: Art 431.
Advanced problems involving metalsmithing processes already studied in order to increase technical competence while exploring personal design statements. Maximum credit six units.

533. Textile Techniques in Metal (3) II
Six hours.
Prerequisite: Art 331 or 435
Textile structures as applied to precious and nonprecious metals. Individually designed projects utilizing information acquired through samples and documentation. For students of fiber, metal and sculpture.

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.

540. Advanced Graphic Imagery (3) I, II
Six hours.
Prerequisite: Art 340
Investigation of experimental photographic and technical reproductive media.

541. Advanced Graphic Communication – Communication Systems (3) I, II
Six hours.
Prerequisite: Art 341
Symbolic processes, materials and structures, visual communications systems relating to corporate and visual identification programs. Maximum credit six units.

542. Advanced Professional Problems in Graphic Communication (3)
Six hours.
Prerequisite: Art 441 or 541
Refinement of personal visual imagery and the application of design concepts to production situations. Study of professional responsibilities, conduct and business procedures. Development of a professional level portfolio.

543. Advanced Drawing and Illustration for Graphic Communication (3) II
Six hours.
Prerequisite: Art 443.
Refinement of visual imagery and advanced illustration problems.

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)
Prerequisites: Art 247 or 347.
Survey of alternative solutions to the problem of design of the physical environment.

550. Environmental Prototypes (3)
Six hours.
Prerequisites: Art 247, 250, 450.
Research and development of creative architectural concepts with emphasis in space enclosure systems and cybernetics.

553. Nonresidential Interior Design (3) I
Six hours.
Prerequisites: Art 451, 453.
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) I, II
Two lectures and two hours of activity.
Prerequisite: Art 453.
Proxemics and study of literature pertaining to relevant controlled experiments involving use and perception of enclosed spaces. Application to field problems.

557. Art of the Nineteenth Century (3) I, II
Prerequisites: Art 258 and 259.
Development of painting, sculpture, and architecture from the French Revolution to 1900.

558. Art of the Twentieth 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.

559. Art Since 1945 (3) I, II
Prerequisite: Art 558.
Criticism of developments in the visual arts since 1945.

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. Art of Pre-Hispanic America (3) I
Prerequisite: Upper division standing.
Art of ancient Meso-America, Central America, Caribbean and South America from earliest times until contact with Europe.

562. Art of Latin America (3) II
Prerequisite: Upper division standing.
Art and architecture of Latin America from the colonial period to the present. Field trips included.

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: Upper division standing.
Form and content of the art of Sub-Saharan Africa viewed within its cultural context.

570. Art of Oceania (3) II
Prerequisite: Upper division standing.
Form and content of the art of Australia, Melanesia, Polynesia, and Micronesia viewed within its cultural context.

572. Coptic and Byzantine Art (3) Irregular
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: Upper division standing.
Form and content of the arts of North American Indians viewed within a cultural context. Field trips.

577. History of Architecture (3) Irregular
Prerequisites: Art 157, 258, 259.
Architecture from primitive times to the present.

580. History of Costume (3)
One lecture and four hours of activity.
Prerequisites: Art 258 and 259.
Historic origins of body coverings traced from prehistoric to contemporary times. Aesthetic, sociological, political and cultural influences are interrelated to costumes. Lecture with visual activities developing into term projects, both verbal and visual.

581. History and Theory of Environmental Design (3) II
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.

583. 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: Art 157, or Art 258 and 259.
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

In the College of Arts and Letters

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, Education, Engineering, and Sciences; and the Library. Professor Pakchin Chu is director, Professor Alvin R. Coax is graduate adviser, and Professor Thomas R. Cox is undergraduate adviser.

Offered by Asian Studies

Master of Arts degree in Asian studies.

Minor in Asian studies.

Advising

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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 105, 106, 120, 121, or Philosophy 101 and 102. Six units in Anthropology 101 and 102, Economics 101 and 102, Geography 101 and 102, or Political Science 101 and 103, and Asian Studies 105A-105B. (18 units.) Art 264 and 265 (unless waived by the instructor) are needed if Art 366 is selected in the major. Art 264 and 265 are recommended.

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

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 30 upper division units to include six units from Asian Studies 458A-458B (not open to students with credit in Asian Studies 105A-105B), 499 or 596; from the humanities not less than 12 units from at least two departments selected from Art 366, Comparative Literature 430, 470*, 490*, 495*, 571*, 577*, 560*, History 496*, 561A-561B, 562, 564A-564B, 565, 566, 567, 568, 569, 570, 596; Linguistics 496*, Philosophy 301 (unless waived by the 575 instructor) and 575*, 596; Religious Studies 401, 403, 506, 538, 580*, 581* and 499*; and from the social sciences no less than 12 units from at least two departments selected from Anthropology 448, 450, 452, 481*, 496*; Economics 330, 336*, 360, 365*, 465, 489, 496* and 499*; Geography 331, 350, 540*, Political Science 361, 362, 499.

* When relevant.

Asian Studies Minor

The minor in Asian Studies consists of a minimum of 21 units to include History 120 and 121, or Asian Studies 105A-105B. Other lower division courses acceptable for the minor are Art 264 and 265, and four units of an appropriate Asian language. Twelve units must be in upper division. Upper division courses acceptable for the minor include:

Humanities: Not less than six units selected from History 561A-561B, 562, 563, 564A-564B, 566, 567, 568, 569, 570; Philosophy 301 (unless waived by the 575 instructor) and 575 (when relevant), 596; Religious Studies 491*, 403*, 506*, 508*;

Social Sciences: No less than six units selected from Anthropology 450*, Economics 330, 465; Geography 331, 540 (when relevant); Marketing 376; Political Science 362, 499.

No more than six units may be selected from among History 566, 567, 568, 569, 570, and Anthropology 451. No more than six units may be selected from among History 566, 567, 568, 569, 570, and Anthropology 452. Three units from Asian Studies 499 or 596 may be substituted for three units in either Humanities or Social 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 COURSE

105A-105B. The Asian Heritage (3-3)

An interdisciplinary course on the cultures of Southern, Southeastern, and Eastern Asia, with emphasis on the interaction of ideas, peoples and their environment.

UPPER DIVISION COURSES

(Intended for Undergraduates)

458A-458B. Asian Cultures (3-3)

An interdisciplinary study of the people of Southern, Southeastern, and Eastern Asia emphasizing social, cultural, economic and political aspects of Asian societies. Not open to students with credit in Asian Studies 105A-105B.

499. Special Study (1-3)

Prerequisites: At least six units of upper division work completed toward the major or minor in Asian studies and the consent of the instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSE

(Also Acceptable for Advanced Degrees)

596. Selected Studies in Asian Cultures (3)

Topics on various aspects of Asian cultures. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES

Refer to the Graduate Bulletin.
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, 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.

* Prerequisites for this minor include Physics 195, 195L, 196, 196L, 197, 197L, and Mathematics 150, 151, 152, unless waived by the Department.

LOWER DIVISION COURSES

101. Principles of Astronomy (3) I, II

Pursuit of insights into the fundamental nature of: the naked-eye night sky, the Solar System, stars and the Galaxy, and the mysteries of the remote universe.

103. The Structure of Scientific Thought (3)

An inquiry into the origins and development of human thought about natural phenomena using historical perspective. Emphasis on the development of physics and astronomy from ancient notions to current conceptions—insight into the nature of human science.

109. Astronomy Laboratory (1) I, II

Three hours of laboratory. Prerequisite: Credit or concurrent registration in Astronomy 101 or 103.

122. Elementary Navigation (3) I

Compass corrections, time, line of position, use of celestial coordinates, tables such as H.O. 229 for the solution of the navigational triangle.

296, Experimental Topics (1-4)

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES

(Improved for Undergraduates)

300. Honors Course (1-3) I, II

Refer to Honors Program.

301. Cosmology and Gravitational Collapse (3) I, II

Prerequisites: Three units of lower division physical science. Einstein theory of general relativity applied to problems of gravitational collapse (stellar evolution, neutron stars, pulsars, and black holes) and cosmology (origin and evolution of the Universe).

304A-304B. Advanced Astronomy (3-3)

Prolegomena: Astronomy 101 or 103 and credit or concurrent registration in both Mathematics 151 and Physics 197, 197L.

Problems in practical astronomy, such as atmospheric refraction, proper motion, photographic and photometric photometry, solar system astrophysics.

305. Historic Development of Astronomy (3) I

A study of the more important problems and astronomical concepts in the light of their historical development. Particular attention is given to the biography and contributions of the more important astronomers, such as Galileo, Kepler, Newton, Herschel, Bessel.

312A-312B. Astrophysics (3-3)

Prerequisites: Astronomy 101 or 103 and Physics 197, 197L. Astronomy 312A is prerequisite to 312B.

An application of modern physics to a study of the sun and the stellar system.

498A. Senior Project (1) I

Prerequisite: An acceptable master plan for graduation within one year.

Consists of the selection and design of individual projects; oral and written progress reports.

Astronomy in the College of Sciences

Faculty

Emeritus: Huffer, Smith
Chair: Nelson
Professors: Angione, Daub, Nelson, Schopp, Young
Associate Professor: Talbert

Offered by the Department

Master of Science degree in astronomy.

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; 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."

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.


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; Physics 195, 195L, 196, 196L, 197, 197L. (16 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.


Astronomy in the College of Sciences

Faculty

Emeritus: Huffer, Smith
Chair: Nelson
Professors: Angione, Daub, Nelson, Schopp, Young
Associate Professor: Talbert

Offered by the Department

Master of Science degree in astronomy.

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; 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."

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.


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; Physics 195, 195L, 196, 196L, 197, 197L. (16 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.


498B. Senior Project (2) II
Six hours of laboratory.
Prerequisite: Astronomy 496A.
Laboratory work, progress reports, oral and written reports.

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)

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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
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.

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

Biology 215; Botany 200; Chemistry 200, 201, and 230 or 231; Mathematics 121 and 122 or 150; Physics 180A-180B and 182A-182B; Zoology 200 (38-39 units).

Writing Requirement

Passing the University Writing Examination or completing English 304A.

Major

A minimum of 36 upper division units in the biological sciences to include Biology 400; Biology 411, 430, 501, or Biology 411, 502, 503; Biology 572; Biology 497E, 497G, or 497P; Microbiology 310; Zoology 503 or 510 or 570, and eight units selected with the approval of the Teaching Credential advisor.

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

Prerequisite recommended: Concurrent registration in Biology 100L

A beginning course in biology stressing processes common to living organisms.

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.

Man's ecosystem interrelationships; past, present and future. Examination of how human activities disturb stable ecosystem relationships and how they may be modified to reestablish steady-state patterns of ecosystem function.

145. Introduction to Heredity (3) I, II

Hereditary 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)

Two lectures and three hours of laboratory.

An introduction to plants and animals in relation to their environments and to one another, with emphasis on local forms and their habitats.

215. Introduction to Quantitative Biology (3) I, II

Two lectures and three hours of laboratory.

Prerequisites: Mathematics 121 or 140, Botany 200, credit or concurrent registration in Zoology 200.

Methods and experience in defining and solving quantitative problems in biology, including the design of experiments, and parametric and nonparametric statistical techniques.

261. Human Physiology (5) I, II

Three lectures and six hours of laboratory.

Prerequisites: Chemistry 100, Zoology 108, credit or concurrent registration in Chemistry 130.

Human function viewed from cellular through organ system levels of organization. Intended primarily for prenursing students. Not acceptable for credit in Biological Sciences curriculum programs (see Biology 572).

296. Experimental Topics (1-4)

Content: See Class Schedule for specific content. May be repeated with new content. Same level of credit as 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES

(Intended 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.

310. Biology of Sex (3)

Prerequisites: Completion of Foundations of Learning requirement.

Traces the genetics and physiology of human reproduction from fertilization and development of the fetus to menopause and aging. Explores the biological aspects of puberty, sex hormones, menstruation, pregnancy, parturition, lactation, sterility, birth control, sexual responses, birth defects, and fetal research.

330. Energy and Environment (2-3)

Ecological implications of energy extraction, use, and development. Emphasis on policy issues.

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)

Prerequisite: A college course in biology.

The relation of modern concepts of genetics, ecology and physiology to natural 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. Body maintenance and nerve and muscle 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 students majoring in a natural science; see Biology 572.

380. Evolution (3)

Prerequisite: Biology 100.

Modern theory of organic evolution with emphasis on processes involved as they relate to past, present, and future evolution of mankind. 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.

405. History of Biology (3)
Prerequisite: One course in the biological sciences at the 400 or 500 level.
Lectures and reports tracing scientific development of biology. (Formerly numbered Biology 505.)

411. Ecology (4) I, II
Three lectures and three hours of laboratory.
Prerequisites: Biology 215, Physics 180B and 182B, Chemistry 201.
Ecological concepts covering all levels of organization from the individual to the ecosystem.

420. Conservation of Wildlife (3) I, II
Prerequisite: Biology 100 or Zoology 200.
Plant and animal resources with emphasis on their conservation and intelligent use.

430. Molecular Biology (4)
Three lectures and three hours of laboratory.
Prerequisites: Biology 215, Chemistry 230 or 231.
Cell chemistry and metabolism, diploid and haploid inheritance, mutations, the genetic material. Not open to students with credit in Biology 502 or 503.

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.

473. Biology of Aging (3)
Prerequisite: Biology 100 or Zoology 200.
Concepts and theories of aging in biological systems from the population to the molecular level. (Formerly numbered Biology 573.)

480. Analytical Procedures in Cellular Physiology (3)
One lecture and six hours of laboratory.
Prerequisites: Biology 502 or Chemistry 361A-361B or Chemistry 560A-560B.
Analytical course designed to provide undergraduates with practical laboratory experience. Includes procedures such as cell fractionation, analysis of marker enzymes and nucleic acids, biophysical measurements, microelectrode recording and computerized data acquisition.

496. Experimental Topics (1-4)
Select topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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.

497F. 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) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 215, Chemistry 230 or 231, Physics 180B and 182B.
Cellular structure, macromolecules, energetics, growth, division, transport, excitability and motility.

503. Genetics (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 215, Chemistry 230 or 231.
Principles of transmission and molecular genetics, mutation, population genetics and evolution.

519. Statistical Methods in Biology (3)
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 filed with the Evaluations Office.

525. Agricultural Ecology (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 411.
Mechanisms controlling fertility, productivity and regulation in agricultural ecosystems. The ecological design and management of agroecosystems.

528. Ecology of Renewable Resources (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 411 or 420.
Ecological principles in exploitation and management of forest, range, watershed, and recreation lands for sustained human benefit.

530. Limnology (4)
Two lectures and six hours of laboratory.
Prerequisite: Biology 411.
Biological, chemical, and physical considerations of inland waters.

531. Biological Oceanography (4)
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)
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.
Advanced topics in the application of mathematical modeling and simulation techniques to analyses of ecological problems.
541. Developmental Biology (3)
Prerequisite: Biology 430 or 503.
Analysis of development with emphasis on embryonic differentiation.

544. Human Genetics (4) I, II
Three lectures and three hours of laboratory.
Prerequisites: Biology 503 and either Biology 502 or Chemistry 361A.
Genetics as related to human biology. Molecular and cytogenetic causes of genetic disease and the genetics of human populations.

546. Mutagenesis (3)
Prerequisite: Biology 430 or 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)
Prerequisite: Biology 430 or 503.
The genetic involvement of single and multiple gene systems in animal behavior.

548. Behavioral Genetics (3)
Prerequisite: Biology 503.
Theory underlying microbial genetics.

549. Evolution and Population Genetics (3)
Prerequisites: Biology 430 and 501, or 503.
Theory of evolution and modeling of genetic systems.

559. Advanced Genetics (3)
Prerequisite: Biology 430 or 503.
Current topics in molecular, organismal or population genetics. Maximum credit six units.

561. Topics in Cellular Physiology (3)
Prerequisite: Biology 502 or Chemistry 361A-361B or Chemistry 560A-560B.
Topics selected from chromatin structure function and regulation; cell cycle analysis and regulation; cellular membrane formation, structure and function. Other topics irregularly scheduled. May be repeated once with new content.

562. Topics in Comparative Physiology (3)
Prerequisite: Biology 502 or Zoology 540.
Topics vary each semester and are chosen from three areas: digestion, nutrition, respiration, metabolism, blood, circulation, osmoregulation, excretion, sensory reception, neural integration and muscle function; endocrine mechanisms. May be repeated once with new content. See Class Schedule for specific content.

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. Immunochemistry (3)
Prerequisite: Biology 502 or Microbiology 540.
Structure and function of the immunoglobulins and the chemical and physical nature of the antigen-antibody reaction.

570. Radiation Biology (3)
Prerequisites: Physics 180B and 182B. Biology 430 or Zoology 200. Recommended: Biology 502.
Principles underlying radiological reactions of ionizing radiations. Effects of ionizing radiations at the biochemical, cellular, organ, and organism levels.

570L. Radiation Biology Laboratory (2)
Six hours of laboratory.
Prerequisite: Consent of instructor.
The laboratory determination of the effects of ionizing radiation on biological systems.
Botany in the College of Sciences

Faculty
Emeritus: Gallup, Harvey, Preston
Chair: Johnson
Professors: Johnson, Kummerow, Rayle
Associate Professor: Alexander, Weiss
Assistant Professors: Carmichael, Donohue

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

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, 201, and either 230 or 231; Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B; Zoology 200; (38-39 units)

Foreign Language Requirement:
- Competency (equivalent to that which is normally attained through three consecutive courses 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 section of catalog on "Graduation Requirements."

Writing Requirement:
- Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better

Major:
- A minimum of 24 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; 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 and emphasis on the interrelationships of plants and man.

100L. Plants and Man Laboratory (1) I, II
- Prerequisite: Credit or concurrent registration in Botany 100.
- Observation, experimentation and demonstration of plants and their activities, emphasizing practical applications. Topics include plant cell structure and division, photosynthesis, mineral nutrition, morphology, anatomy, asexual and sexual reproduction, growth and development, and diversity.

200. Introduction to Botany (4) I, II
- Three lectures and three hours of laboratory.
- Prerequisite: Chemistry 200.
- Basic botany for Life Sciences majors. Origin of life; evolution; basic metabolism; the plant cell; classification; concepts of genetics and plant ecology.

296. Experimental Topics (1-4)
- Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496. 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

312. Cultivated Trees and Shrubs (3)
- 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.

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 program of the School of Education by the Biological Science Credential Screening Committee.

Preparation for the major:
- Biology 215; Botany 200, Chemistry 200, 201, and either 230 or 231; Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B; Zoology 200; (38-39 units)

Writing Requirement:
- Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better

Major:
- A minimum of 37 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 490, 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.

100L. Plants and Man Laboratory (1) I, II
- Prerequisite: Credit or concurrent registration in Botany 100.
- Observation, experimentation and demonstration of plants and their activities, emphasizing practical applications. Topics include plant cell structure and division, photosynthesis, mineral nutrition, morphology, anatomy, asexual and sexual reproduction, growth and development, and diversity.

200. Introduction to Botany (4) I, II
- Three lectures and three hours of laboratory.
- Prerequisite: Chemistry 200.
- Basic botany for Life Sciences majors. Origin of life; evolution; basic metabolism; the plant cell; classification; basic concepts of genetics and plant ecology.

296. Experimental Topics (1-4)
- Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496. 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

312. Cultivated Trees and Shrubs (3)
- 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.
315. Plants and History (3)
Prerequisite: Completion of a college-level course in life sciences.
Introduction to plant structure. History of economically and culturally important plants, techniques of obtaining various plant products, impact of these plants or plant products on the course of human events.

320. Agricultural Botany of the Imperial Valley with Laboratory (4) (Offered at IVC only)
Three lectures and three hours of laboratory.
Basic botany of economically important plants using farming techniques and crops from the Imperial Valley as examples. Emphasis on relationships between human society and development of systematic agriculture. Plants examined in laboratory and on local field trips.

350. California Flora (3) II
Two lectures and three hours of laboratory (Field).
Prerequisite: Botany 100 or Biology 100 or Zoology 100.
Local native and naturalized plants in San Diego County and selected areas of California. Identification of plants and plant communities.

490A. Senior Investigation and Report (1) I, II
One discussion period and two additional hours to be arranged.
Prerequisites: Botany 501 or 502 or 503, and senior standing.
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 content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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)
Three lectures and three hours of laboratory.
Prerequisite: Botany 200.
Morphology and phylogenetic relationships of the algae.

502. Mycology (4)
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.
The structure, development and phylogenetic relationships of the bryophytes and vascular plants.

510. Introduction to Scanning Electron Microscopy (2) I, II
One lecture and three hours of laboratory.
Prerequisite: Botany 200.
Theory and use of a scanning electron microscope for biological research. Laboratory is project oriented.

514. Plant Taxonomy (4) I
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)
Three lectures and three 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 (3)
Prerequisites: Botany 200. Chemistry 201 and either 230 or 231.
Activities of plants, including photosynthesis, ion transport, translocation, water relations, growth and development.

531. Plant Physiology Laboratory (1)
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Botany 530.
Laboratory experiments designed to demonstrate principles of water movement, ion transport, energy metabolism, growth and development in plants.

540. Plant Anatomy (4)
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.

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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units with three units applicable to a master's degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.
College of Business Administration
A member of the American Assembly of Collegiate Schools of Business

Faculty
Dean: Bailey
Associate Dean: Crawford
Associate Dean, Graduate Studies: Barber
Associate Dean, External Relations: Brown
Assistant Dean, Student Affairs: Newton

Offered by the College of Business Administration
Master of Science degree in accounting
Master of Science degree in business administration.
Majors with the B.S. degree in business administration in the following fields: accounting, finance, financial services, information systems, insurance, management, marketing, real estate.

Teaching major in business for the single subject teaching credential.

Minors in the following fields: accounting, business management, personnel and industrial relations, finance, information systems, marketing, production and operations management, real estate.

Certificate in business administration (available at Imperial Valley Campus only).

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 first admitted to the prebusiness 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: Accountancy 121, Accounting Fundamentals, Finance 140, Business Law, Economics 101, Principles of Economics (Macro), Economics 102, Principles of Economics (Micro), Information Systems 180, Principles of Information Systems: Information Systems 290, Written Communications in Business (not required for accounting majors); Mathematics 119, Elementary Statistics; and Mathematics 120, Mathematics for Business Analysis (Mathematics 141 for accounting majors).

Supplemental admissions criteria must be met before students may declare an upper division major and be eligible for upper division courses. For current information concerning admissions criteria and procedures, contact the Undergraduate Planning and Advising Center in the College of Business Administration.

Students will be required to take a proficiency test in accounting fundamentals before they will be admitted to an accounting major.

Transfer Credit

No credit will be given for upper division business majors course work taken at an institution having a business program that has not been accredited by the American Assembly of Collegiate Schools of Business. Exceptions made upon recommendation of the student's major department. Credit will be given for the unaccredited work on a course-by-course basis.

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. A minimum of 52 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.
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 college.
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. A minimum of 49 units in general education, to include a minimum of nine upper division units. No more than 12 units may be used for general education credit from any one department or academic unit. A maximum of three upper division units in excess of 36 units for the B.S. degree required for the major but taught outside the major department may satisfy the requirements both for general education and the major if such courses have been approved for general education.
10. Application for graduation.
11. Effective the 1982-83 academic year, upper division concentrations must be declared to be eligible for a B.S. degree in Business Administration. "Generic" B.S. degrees in business will no longer be available. Students who had been advised about the existence of a generic degree will be awarded this degree only upon specific request.

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. No student will be permitted to register for an upper division course who has not completed the prerequisites for that course.

Also required as preparation for the major are the lower division prerequisite courses.

Business administration majors are not required to complete a minor for the degree.

For information on general education and other degree requirements, refer to the section of this catalog on Graduation Requirements.

A minimum of 52 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.

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 students who decide to go on to pursue the B.S. degree with a major in either management, 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 self-improvement opportunities for the purpose of securing employment, promotion or upward mobility on the job.

All students seeking admission to the program must have successfully completed 56 transferable lower division units with a grade point average of 2.0. This includes completion of the lower division preparation required for any business administration major, i.e., Accountancy 210A-210B or 212, Finance 140; Information Systems 180, 290; Economics 101 and 102; Mathematics 119 or Economics 201, and Mathematics 120.

The Certificate will be awarded upon successful completion of the following courses:
Finance 333, Management 301 or 302, 350, Marketing 370, and three units selected from Accountancy 315, Business Administration 388, Finance 321, 339, 341, or Management 356. (15 units.)
UPPER DIVISION COURSES IN BUSINESS ADMINISTRATION

(Designed for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

306. 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.

389. Consumer Income Management (3)
Functions and responsibilities of consumers; problems of choice making, planning expenditures for housing, household operation, insurance and investments, Economics of installment buying, borrowing procedures, control of frauds, legislation affecting consumers.

401. Business Internship (1-3) I, II
Prerequisite: Consent of faculty adviser.
Students to be assigned to business firms to work under the joint supervision of the business firm's supervisor and the course instructor.

402. Business Professions (3)
Prerequisites: Finance 323, Management 301 or 302, 350; Marketing 370.
For seniors in College of Business Administration.
Enables students to evaluate their professional potentials through series of classroom panels of business executives representing wide range of business-industry areas and through personal interview with business executives.

404. Small Business Administration (3)
Prerequisites: Finance 323, Management 301 or 302, 350, Marketing 370, and consent of instructor.
Counseling of existing small businesses in conjunction with the Small Business Administration. Application of principles from all fields of business administration. Maximum credit six units.

406. Methods in Teaching Business Skills (3) II
Philosophy and psychology of teaching business skills; presentation and evaluation of objectives, techniques, and materials for skill development.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

GRADUATE COURSES IN BUSINESS ADMINISTRATION
Refer to the Graduate Bulletin.

Accountancy

Faculty
Emeritus: Brown, Dodds, Ferrel, Harned, Odmark, Wright
Director: Samuelson
Professors: Bailey (Dean), Barnett, Brodshatzer, Butler, Lamden, Lightner, K., Meier, Meigs, Samuelson, Snudden, Whittenburg, Williamson
Associate Professors: Baker, Knutsen, Lightner, S., Toole, Whittington
Lecturers: Buller, Carle, Henning, Winston

Offered by the Department
Master of Science degree in accounting.
Major in accounting with the B.S. degree in business administration.
Teaching major in business for the single subject teaching credential.
Minor in accounting.

Accounting Major
With the B.S. Degree in Business Administration
The basic objective of the bachelor of science program in accounting is to provide basic conceptual accounting and business knowledge to students seeking professional careers in the field of accounting. The knowledge acquired in the B.S. program should be sufficient for entry-level positions in government, industry, and public accounting. The program provides the opportunity to gain the necessary knowledge to pass professional examinations in accounting such as the CPA and CMA examinations. The accounting curriculum in the B.S. program also provides the foundation for future career development and for expansion of the student's knowledge of accounting in the future.

Students will be required to take a proficiency test in accounting fundamentals before they will be admitted to an accounting major.

Preparation for the major.
Accountancy 210A-210B or 212; Economics 101 and 102; Economics 201 or Mathematics 119; Finance 140; Information Systems 160; and Mathematics 141. (23 units)

Writing Requirement.
Information Systems 490W with a grade of C (2.0) or better.

Major.
A minimum of 50 upper division units to include Accountancy 310, 311, 312, 410, 414; Economics 320 or 321, 325; Information Systems 380, 490W, Management 301 or 302, 350, 405, Marketing 370, and six units selected from Accountancy 314, 511, 512, 515, Finance 340. A minimum of 62 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.

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 under the College of Education. 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.

Accounting Minor
The minor in accounting consists of a minimum of 20 units to include Accountancy 212, 310, 311, 312 and 410.
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 IN ACCOUNTANCY

210A-210B. (2-2) or 212. (4) Accounting Fundamentals I, II
Prerequisite: Accountancy 210A is prerequisite to 210B.
Organizing, recording, and communicating economic information relating to the business entity.

UPPER DIVISION COURSES IN ACCOUNTANCY
(Also Acceptable for Advanced Degrees)

310. Intermediate Accounting (4) I, II
Prerequisite: Minimum grade of C in Accountancy 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: Accountancy 310 with minimum grade of C.
Equity accounting issues; theory construction; various income concepts; contemporary financial accounting issues; statement analysis.

312. Managerial Cost Accounting Systems (4) I, II
Prerequisites: Minimum grade of C in Accountancy 210A-210B or 212; Management 301 or 302.
Management use and design of accounting systems for planning and control; theories and practices of cost accounting, job order cost systems, process cost systems, standard cost systems, inventory control systems, distribution analysis, and capital budgeting.

314. Advanced Accounting Problems (4) I, II
Prerequisite: Credit or concurrent registration in Accountancy 311.
Problems involved in partnerships, consolidations, receiverships, foreign exchange, fund accounting, and other specialized areas.

315. Accounting for Managers (4) I, II
Prerequisites: Accountancy 212 and credit or concurrent registration in Management 350.
Managerial accounting and financial accounting for nonaccountants. Not open to students with credit in Accountancy 310 or 312.

316. The Accounting Profession (1) Cr/NC
Prerequisite: Completion of preparation for major.
Analysis and evaluation of professional opportunities that utilize the accounting and reporting functions.

410. Federal Income Tax I (4) I, II
Prerequisite: Minimum grade of C in Accountancy 310 or 315.
Taxation of corporations, partnerships, estates, and trusts. Gift and estate tax. (Formerly numbered Business Administration 410.)

511. Federal Income Tax II (3) I, II
Prerequisite: Accountancy 410.
Taxes on income, deductions, credits, social security taxes, and property transactions.

414. Auditing (4) I, II
Prerequisites: Accountancy 311 and 312; 314 recommended.
Consideration of internal control in the design of accounting systems; flow-charting techniques; duties, ethics, and responsibilities of the auditor; operational auditing; procedures for verification of financial statements; auditor's reports.

496. Selected Topics in Business Administration (1-4) I, II
Prerequisite: Consent of Department Chair.
Selected areas of concern in accounting. See Class Schedule for specific content. May be repeated with new content with consent of Department Chair. Limit of nine units of any combination of 496, 596 courses applicable to a bachelor’s degree. Maximum credit six units.

498. Investigation and Report (1-3) I, II
Prerequisites: Senior standing and consent of instructor.
May be repeated with new content. Maximum credit six units.
A comprehensive and original study of a problem connected with accounting under the direction of one or more members of the accounting staff.
Finance

Faculty
Emeritus: Fisher, H., Schmier, Winhoits
Chair: Vandenberg
Professors: Hippaka, Hungate, Hutchins, Neuberger, Nye, Reints, Short, Vandenberg
Associate Professors: Block, Brown, Cherin, Fisher, R., Haddad, Sachdeva, Sterk,
Warschauer
Assistant Professors: Bost, Salehizadeh, Wilbur

Offered by the Department
Master of Science degree in business administration.
Master of Business Administration.
Major in finance with the B.S. degree in business administration.
Major in financial services with the B.S. degree in business administration.
Major in real estate with the B.S. degree in business administration.
Teaching major in business for the single subject teaching credential.
Minor in finance.
Minor in insurance.
Minor in real estate.

Finance Major
With the B.S. Degree in Business Administration
Preparation for the major. Accountancy 210A-210B or 212; Finance 140; Information Systems 180, 290; Economics 101 and 102; Mathematics 120 or 150, and Economics 201 or Mathematics 119. (25-27 units.)
Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.
Major. A minimum of 40 upper division units to include Accountancy 310, Finance 321, 323, 325, 327, 423; Management 301 or 302, 330, 405; Marketing 370; Economics 490; at least three units selected from Finance 329 and 425, and three units of electives selected from Business Administration. A minimum of 52 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.

Financial Services Major
With the B.S. Degree in Business Administration
Preparation for the major. Accountancy 210A-210B or 212; Economics 101 and 102; Mathematics 119, 120 or 150, 120, and 150. (25-27 units.)
Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.
Major. A minimum of 47 upper division units to include Accountancy 310, Finance 321, 323, 325, 327, 423; Management 301 or 302, 330, 405; Marketing 370; Economics 490; at least nine units selected from Finance 329 and 425, and nine units of 490. A minimum of 52 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.

Real Estate Major
With the B.S. Degree in Business Administration
Preparation for the major. Accountancy 210A-210B or 212; Finance 140; Information Systems 180, 290; Economics 101 and 102; Economics 201 or Mathematics 119; and Mathematics 120 or 150. (25-27 units.)
Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

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 under the College of Education. 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.

Finance Minor
The minor in finance consists of a minimum of 19 units to include Accountancy 210A-210B or 212; Finance 321, 323, 327, and 329; Mathematics 119. 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.

Insurance Minor
The minor in insurance consists of a minimum of 15 units to include Finance 140, 342, 521, 523, and three additional upper division units in business administration with consent of insurance 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.

Real Estate Minor
The minor in real estate consists of a minimum of 18 units to include Economics 102; Finance 140, 331, 335, 433, and three units selected from Finance 333, 341, and 437.
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 IN FINANCE

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: Finance 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 Finance 340 instead of 141.

UPPER DIVISION COURSES IN FINANCE
(Intended for Undergraduates)

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 and their relationship to 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. Internal financial management. Introduction to the cost of capital, valuation, dividend policy, leverage and the techniques of present value and its applications. Sources of capital.
325. Planning of Capital Expenditures (3) I, II
Prerequisites: Finance 323 and Management 301 or 302. The capital expenditure decision process. Measuring and evaluating benefits and costs. The cost of capital and the evaluation process. Capital rationing problems. Risk and uncertainty in the decision process. Emphasis on quantitative and computer methods in the decision-making process.

326. Financial Institutions Management (3)
Prerequisite: Finance 323.
Management of financial institutions including savings and loan associations, mutual savings banks, credit unions, private pension plans, brokerage houses, investment companies, consumer credit institutions, federal credit agencies, and commercial banks. Emphasis on internal financial management of these institutions.

327. Investments (3) I, II
Prerequisite: Finance 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, mechanics of purchase and sale, investment trusts, real estate mortgages, and the like.

329. International Business Finance (3) I, II
Prerequisite: Finance 323.
The financing of international business transactions; international payments and their environment; international financial institutions.

331. Real Estate Essentials (3) I, II
Prerequisite: Completion of lower division course requirements in business major or minor. Fundamental operations of the real estate market, principles of real property valuation, financing, law, investment, brokerage, management, and development. (Formerly numbered Finance 231.)

333. Law of Real Property (3) I, II
Prerequisite: Finance 323.
Legal theory and practice of estates in land; landlord and tenant relationships; land transactions; mortgages and trust deeds; easements; land use; ownership rights in land; environmental law.

335. Land Markets and Real Estate Analysis (3) I, II
Prerequisite: Finance 331.

339. Consumer Law (3) I, II
Prerequisite: Finance 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
Prerequisites: Finance 140, accounting major.
Legal concepts and cases involving business organization, negotiable instruments, property, security devices, creditors' rights, bankruptcy, insurance, wills, trusts, estates, and suretyship. Special emphasis on problem-solving techniques. Not open to students with credit in Finance 141.

341. Law in a Business Society (3) I, II
Prerequisite: Finance 140.
The nature of law as a process of resolving economic disputes and social conflicts. Analysis of the rationale in statutes, judicial decisions, and doctrine. The role of law in the development of business concepts.

342. General Insurance (3) I, II
History of insurance; economic and social implications; principles of insurance contracts; theory of risk; law of large numbers; Survey of all major insurance fields and policies including life, fire, marine, inland marine, casualty and surety bonding.

344. Social Insurance (3) II
Prerequisite: Economics 102.
Public assistance. Old age, survivors, disability, and hospitalization insurance; workers' compensation; unemployment compensation and disability insurance. Administration, coverage, financing, and benefit provisions. Strength and weakness of existing systems.

421. Security Analysis and Investment Strategies (3) I, II
Prerequisite: Finance 327.

423. Financial Analysis and Management (3) I, II
Prerequisites: Finance 325 and Economics 490.
Integration of various aspects of finance. Application of financial theory. Financial decision making in the firm.

425. Business Forecasting (3) I, II
Prerequisites: Finance 323, Management 301 or 302, and Marketing 370.
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: Finance 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 Value (3) I, II
Prerequisite: Finance 335.
Introduction to theories of real property value. Techniques of value determination. Data analysis techniques.

435. Income Real Estate Analysis (3)
Prerequisite: Finance 433.
Analysis of income producing real estate in order to establish its value for investment and financing purposes.

437. Housing: Policy and Analysis (3) I, II
Prerequisites: Finance 331 and 337.

445. Estate Planning (3) I, II
Prerequisites: Finance 333.
Programming fundamentals with emphasis on economic, actuarial, and legal principles, program coordination and integration with wills; guardianships; estate planning fundamentals; taxation; business life insurance. Analysis of life insurance selling as a career.

496. Selected Topics in Business Administration (1-4) I, II
Prerequisite: Consent of Department Chair.
Selected areas of concern in finance; see Class Schedule for specific content. May be repeated with new content with consent of Department Chair. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

498. Investigation and Report (1-3) I, II
Prerequisites: Senior standing and consent of instructor.
May be repeated with new content. Maximum credit six units.
A comprehensive and original study of a problem connected with finance under the direction of one or more members of the finance staff.
UPPER DIVISION COURSES IN FINANCE
(Also Acceptable for Advanced Degrees)

521. Life and Health Insurance (3) II
Prerequisite: Finance 342.
Economic and social aspects of life and health insurance: nature of life and health insurance and of annuities; theory of probabilities, premiums, reserves and nonforfeiture values; company and agency operations and management, legal aspects, relationship to personal financial planning. (Formerly numbered Finance 348.)

523. Property and Liability Insurance (3) I
Prerequisite: Finance 342.
Standard forms of property insurance: identification of personal, business and professional liability. Analysis of liability insurance contracts. Other areas include marketing, underwriting, investment, insurance exchanges, regulation, loss adjusting, reinsurance and reserves of property and casualty insurers. Not open to students with credit in Finance 441 and 443.

GRADUATE COURSES IN FINANCE
Refer to the Graduate Bulletin.

Information Systems

Faculty
Emeritus: Archer, Gibson, Langentbach, LeBarron, Straub
Chair: Sondak
Professors: Crawford (Associate Dean), Sondak, Spaulding
Associate Professors: Feeley, Hatch, Perry, Saraswat, Vik
Assistant Professors: Flatley, Ruch
Lecturers: Cooper, Salier, Van Zandt

Offered by the Department
Master of Science degree in business administration.
Master of Business Administration.
Major in information systems with the B.S. degree in business administration.
Teaching major in business for the single subject teaching credential.
Minor in information systems.

Information Systems Major
With the B.S. Degree in Business Administration

Preparation for the major. Accountancy 210A-210B or 212; Finance 140; Information Systems 180, 280, 290; Economics 101 and 102; Mathematics 120 or 150; and Economics 201 or Mathematics 119. (28-30 units.)

Writing Requirement. Information Systems 396W with a grade of C (2.0) or better, or other approved writing course, or passing the University Writing Examination.

Major. A minimum of 43 upper division units to include Accountancy 315; Finance 323, Information Systems 380, 384, 396W, 480; Management 301, 350, 405; Marketing 370; three units of electives selected from Information Systems 361, 383, 388, 482, 484, 486, 488, Management 360; and nine units from one of the following areas:

Automated Administrative Systems: Information Systems 388, 482, 484.
Systems Analysis: Information Systems 368, 484, 486.

A minimum of 52 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.

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 under the College of Education. 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.

Information Systems Minor

The minor in information systems consists of a minimum of 21 units to include Information Systems 180, 280, 380, 381, 384, 480, and three units selected from Information Systems 383, 388, 396W, 482, 484, 486.

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 IN INFORMATION SYSTEMS

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.
280. COBOL Programming (3)  
Prerequisite: Information Systems 180.  
Introduction to COBOL programming. Emphasis on coding techniques, file organization, and report preparation.

290. Written Communications in Business (3)  
Principles of effective writing applied to business and industrial situations and to the organization and presentation of reports.

UPPER DIVISION COURSES IN INFORMATION SYSTEMS  
(Intended for Undergraduates)

380. Information Systems Analysis and Design (3)  
Prerequisite: Completion of lower division courses required in the major or minor. Concepts and techniques for the analysis, design, and implementation of computer-based information systems.

381. Assembly Language for Business Applications (3)  
Prerequisite: Completion of lower division courses required in the major or minor. Assembly language programming and computer organization for business applications.

382. Information Systems Analysis (3)  
Prerequisite: Information Systems 180 and a minimum of three upper division units in the student's major or minor. Characteristics of computer-based information systems in business. Includes general systems theory and techniques of analysis, design, and implementation. Emphasis on application to fields of accounting, marketing, finance, and management. Not open to students with credit in Information Systems 380.

383. Advanced COBOL Programming (3)  
Prerequisite: Information Systems 280. Advanced COBOL programming emphasizing documentation standards and program efficiency.

384. Comparative Programming Languages (3)  
Prerequisite: Information Systems 280. Comparative study and evaluation of programming languages in the business context. Examples of business applications using programming languages such as PL/I, RPGII, Pascal, and APL.

387. Information and Records Management (3)  
Establishment, implementation, and maintenance of records control programs in all types of organizations, from small, individually owned business to large corporations to government units at the local, state, regional, and national levels.

388. Automated Administrative Systems (3)  
Prerequisite: Information Systems 380. Computer as an information and symbol processor. Text data storage and representation, non-numeric programming, text editors and output processors, mini- and micro-computer implementations. Word processing system design and evaluation.

396W. Report Writing (3)  
Prerequisite: Information Systems 290. Advanced study of preparation of analytical and technical reports used in business and other organizations. Includes individualized study of reports in student's career field. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication. (Formerly numbered Business Administration 390.)

480. Data Management Systems (3)  

482. Data Processing Practicum (3) Cr/NC  
Prerequisites: Information Systems 380 and six additional upper division units in information systems. Fundamentals of systems flow charting and computer programming; computer applications to typical automated data processing problems.

484. Data Communication (3)  
Prerequisite: Completion of lower division courses required in the major or minor. Public and private communication networks, data transmission, information flow and control, message switching, systems networking, distributed data processing.

485. Operating Systems Analysis (3)  
Prerequisite: Information Systems 381. Batch and interactive processing, storage management, file structures, and current operating systems for business data processing.

486. Advanced Systems Analysis and Design (3)  
Prerequisite: Information Systems 380. Application of concepts and techniques for design, development, and implementation of computer-based information systems. Examples of applications from current business environments including distributed systems, data bases, and data communication systems.

490W. Report Writing for Accountants (3)  
Prerequisite: Twelve upper division units in accounting. Advanced report writing with application to the professional needs of accountants. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

496. Selected Topics in Business Administration (1-4) I, II  
Selected areas of concern in information systems; see Class Schedule for specific content. May be repeated with new content with consent of Department Chair. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

498. Investigation and Report (1-3) I, II  
Prerequisites: Senior standing and consent of instructor. May be repeated with new content. Maximum credit six units. A comprehensive and original study of a problem connected with information systems under the direction of one or more members of the information systems staff.

GRADUATE COURSES IN INFORMATION SYSTEMS  
Refer to the Graduate Bulletin.
Management

Faculty
Emeritus: Torbert
Chair: Beatty
Professors: Atchison, Beatty, Belasco, Belcher, Gadon, Galbraith, Ghorpadé, Hampton, Mitton, Peters, Pierson, Robbins, Sherrard, Srbich, Unterman
Associate Professors: Chen, Janner, Lackritz, Nebeke
Assistant Professors: Brady N., Brady, S., Castaldi, Wright
Lecturers: Bardwick, Chadwick-Brown, Foulis, Hosomatsu, Jostefowitz, Omens, Rodenrys

Offered by the Department.
- Master of Science degree in business administration
- Master of Business Administration
- Major in management with the B.S. degree in business administration
- Teaching major in business for the single subject teaching credential.
- Minor in business management
- Minor in personnel and industrial relations
- Minor in production and operations management.

Management Major
With the B.S. Degree in Business Administration
The major in management is a flexible program which allows the student to specialize in two areas of study in the major or to obtain a broad background in management with a specialization in one of the areas of study within the major.

(1) Professional Curriculum Within the Major Field
Preparation for the major. Accountancy 210A-210B or 212, Finance 140, Information Systems 180, 290, Economics 101 and 102, Mathematics 119, and Mathematics 120 or 150, (25-27 units)
Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.
Major. Accountancy 315; Finance 323, Management 301 or 302, 350, 351, 352, 355, 360, 405, Marketing 370. (31 units)

(2) Areas of Specialization Within the Major Field
Select 12 units from Management 366, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468. (Six units must be within one of the areas below.)
(a) Personnel and Industrial Relations: Management 452, 453, 460
(b) Production and Operations Management: Management 461, 462
(c) Organizational Behavior: Management 451, 454, 468
(d) Statistics and Management Science: Management 366, 463, 464
(e) Business Environment: Management 455, 456
(f) Strategic, General, and International Management: Management 450, 457, 458, 459, 465, 466, 467

(3) Pattern Requirements Outside the Department of Economics and the College of Business Administration
A minimum of 52 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.

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 the section of the catalog under the College of Education. 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.

Business Management Minor
The minor in business management consists of a minimum of 22 units to include Economics 101 and 102, Accountancy 210A-210B or 212, Management 350, and nine units selected from Management 351 or 352, 356, 360.
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.

Personnel and Industrial Relations Minor
The minor in personnel and industrial relations consists of a minimum of 22 units to include Economics 101 and 102, Accountancy 210A-210B or 212, Management 350, 352, and six units selected from Management 351, 452, 453, 460.
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.

Production and Operations Management Minor
The minor in production and operations management consists of a minimum of 22 units to include Economics 101 and 102, Accountancy 210A-210B or 212, Management 301 or 302, 350, 360, and three units selected from Management 366, 461, 462.
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.

LOWERING DIVISION COURSE IN MANAGEMENT

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.

UPPER DIVISION COURSES IN MANAGEMENT
(Individual for Undergraduates)

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 linear programming and queuing theory.

350. Management and Organization (3) I, II
Prerequisites: Completion of lower division courses required in the major or minor.
Principles 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
Pre requisite: Management 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 conflict resolution.

352. Personnel and Industrial Relations (3) I, II
Pre requisite: Management 350.
Management of human resources including manpower planning and staffing, training and development, performance appraisal, compensation and union-management relations. Emphasis on effect of economic, sociological and psychological factors on concepts and practices.

356. The Corporation in Modern Society (3)
Pre requisite: Management 350.
Impact of the corporation in contemporary American life. Emphasis on examining major social issues of corporate-society interaction, and the social responsibilities of corporations.

360. Fundamentals of Production and Operations Management (3) I, II
Pre requisite: Management 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.

366. Statistical Methodology for Business Research (3)
Pre requisite: Management 301.
Design and application of quantitative methods related to business research, with an applied emphasis on factorial analysis of variance, covariance, experimental design, multiple regression, research reporting, and analysis of methodology appearing in business literature.

405. Business Strategy and Integration (3) I, II
Pre requisite: Finance 303, Management 301 or 302, 350 and Marketing 370.
Integration of principles and concepts from the fields of business administration. Emphasis on interaction of disciplines for effective strategy and establishment of top management policy through a combination of case study and a business simulation game.

451. Organization Theory and Analysis (3)
Pre requisite: Management 351.
Organizations as systems. Analysis of the impact of technological, structural and administrative factors on management.

452. Wage and Salary Administration (3) I, II
Pre requisite: Management 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
Pre requisite: Management 352.
Relationships and interactions among unions, workers, and management. Emphasis on unionization, collective bargaining and central administration, interaction of union and management relative to society.

454. Interpersonal Processes (3)
Pre requisite: Management 351.
Interpersonal aspects of management; interpersonal perception, communication, group dynamics, and influence from a managerial perspective.

455. American Business History (3)
Pre requisite: Management 350.

457. Applications in Management (1-3) I, II
Pre requisite: Senior standing and consent of instructor.
Developing specific skills in areas of management.

458. Management Decision Games (1-3) I, II
Pre requisite: Consent of instructor.
Integrated managerial decision making within a dynamic environment through the use of business games.

459. Strategic Management of Not-For-Profit Organizations (3)
Pre requisite: Management 405.
Use of the latest managerial techniques for the strategic formulation and implementation of Not-For-Profit institutions such as foundations, schools, etc. Substitutes measurements of success of objectives where no normal profits appear.

460. Personnel Staffing and Development (3) I, II
Pre requisite: Management 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.

461. Systems and Methods Analysis (3) I, II
Two lectures and three hours of laboratory.
Pre requisite: Management 360.
Examination of systems approach as applied to methods analysis and work measurement. Modeling, analysis, synthesis, and management of systems. Analysis of case studies.

Pre requisite: Management 301 or 302, and 360.
Problems in the design of single- and multiproduct integrated production and inventory control systems. Detailed and aggregate scheduling of operations under deterministic and stochastic demand conditions.

463. Management Science: Deterministic Systems (3)
Pre requisite: Management 302.
Derivation and application of optimization techniques for deterministic systems. Linear programming, nonlinear dynamic and integer programs.

464. Management Science (3)
Pre requisite: Management 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.

465. Formal Planning Systems (3)
Pre requisite: Management 405.
Theory and practice of formalized, systematic corporate and divisional planning; nature of the planning process; role of the corporate planner; models and techniques of planning; design and implementation of formal planning systems.

466. International Business Strategy and Multinational Enterprises (3)
Pre requisite: Management 405.
Business activities across national boundaries, including strategies, policies, risks, organizing, directing and controlling. Cases, readings and directed study of various developed and developing countries.

467. Strategic Management Through Negotiation (3)
Pre requisite: Management 405.
Negotiation related to management of a strategy: Exchange of ideas with intention of changing relationships, as in acquiring, divesting, purchasing, hiring, training, merging, and evaluating.
458. Women in Management (3) I, II
Prerequisite: Management 350.
Personal and organizational issues women face at work in both manager and worker roles.
Barriers, strategies, conflict, male/female dynamics. Practice and skill building for effective managing.

456. Selected Topics in Department Chair. (1-4) I, II
Prerequisite: Consent of Dean of College of Business Administration.
Selected areas of concern in management; see Class Schedule for specific content. May be repeated with new content with consent of Department Chair. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

498. Investigation and Report (1-3) I, II
Prerequisites: Senior standing and consent of instructor.
A comprehensive and original study of a problem connected with management under the direction of one or more members of the management staff.

GRADUATE COURSES IN MANAGEMENT
Refer to the Graduate Bulletin.

Marketing

Faculty
Emeritus: Akers, Darley
Chair: Vanier
Professors: Barber (Associate Dean, Graduate Studies), Haas, Hale, Heiba (Visiting Professor), Lindgren, McFall, Sciglimpaglia, Settle, Vanier, Wotruba
Associate Professors: Belch, G., Belch, M., Tyagi (Visiting Professor)
Assistant Professor: Kreruler
Lecturers: Blanchette, Kallis

Offered by the Department
Master of Science degree in business administration.
Master of Business Administration.
Major in marketing with the B.S. degree in business administration.
Teaching major in business for the single subject teaching credential.
Minor in marketing.

Marketing Major
With the B.S. Degree in Business Administration
Preparation for the major. Accounting 210A-210B or 212; Finance 140; Information Systems 180, 290; Economics 101 and 102; Mathematics 120 or 150; and Economics 201 or Mathematics 119. (25-27 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 37 upper division units to include Finance 323; Management 301, 350, 405; Marketing 370, 371, 470, 471, 479; nine units selected from Marketing 372, 373, 375, 376, 472, 473, 474, 475, and 476; and three units of electives selected from remaining upper division business administration courses except those listed above. A minimum of 52 units of course work applicable to the bachelor's degree must be completed outside the areas of business administration and economics.

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 under the College of Education. 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.

Marketing Minor
The minor in marketing consists of a minimum of 20 units to include Accounting 210A; Marketing 370; Economics 102; and 12 units selected from Management 301, Marketing 371, 372, 373, 374, 375, 376, 470, 472, 473, 474, 475, and 476.
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 IN MARKETING
(Intended for Undergraduates)

370. Marketing (3) I, II
Prerequisite: Completion of all lower division course requirements for the major or minor.
Function of marketing in the organization and in society. Topics include market analysis and consumer behavior, product planning, pricing, promotion, distribution, and international marketing.
371. Consumer Behavior (3) I, II
Prerequisite: Marketing 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: Marketing 370
Study of retail stores, emphasizing the problems of store managers and merchandising executives: store location, organization, personnel, sales promotion, buying and handling of merchandise, inventory, turnover, and control methods. Problems of profitable operation under changing conditions.

373. Marketing Communication and Promotion (3)
Prerequisite: Marketing 370
Management of the marketing communications function. Topics include advertising theory and measurement; communications theory; promotional strategies; public relations and publicity; consumer behavior and analysis; and consumer education and promotional ethics.

374. Physical Distribution Management (3)
Prerequisite: Marketing 370
Physical distribution organization and functions. Economic and operational characteristics of modes of transportation, documentation, terminal operations, materials handling, claims management, and government regulations.

375. Purchasing and Buying (3) I, II
Prerequisites: Management 350 and Marketing 370
Policies for purchasing raw materials, parts, supplies and finished goods for manufacturing operations, for commercial use, and for wholesale and retail resale. Buying procedures, inventory control, vendor relations, legal problems, quality control, financing.

376. International Marketing (3) I, II
Prerequisite: Marketing 370
Marketing in an international setting. Topics include entry strategies, importing-exporting, barter, channel selection, transfer pricing, advertising and selling differences, and the external environment within which the marketing manager operates.

470. Marketing Research (3) I, II
Prerequisites: Management 301 and Marketing 370
Methods and procedures used to generate and interpret information for marketing decision making. Topics include problem analysis, sources of information, alternative research designs, data collection, analysis and interpretation.

471. Marketing Research Project (1) I, II
Two hours of activity.
Prerequisite: Marketing 470
Application of marketing research techniques to specific topics. Design, implementation and analysis of a marketing research project. Use of computerized statistical methods for data analysis.

472. Advertising Management (3)
Prerequisites: Marketing 371 and 373
The management of the advertising and sales promotion function.

473. Sales Management (3) I, II
Prerequisite: Marketing 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.

474. Industrial Marketing (3) I, II
Prerequisites: Management 350 and Marketing 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.

475. Marketing Problems (3) I, II
Prerequisite: Marketing 370
Complex cases in marketing involving analysis of business situations.

476. Advanced Marketing Research (3) I, II
Prerequisite: Marketing 470
Marketing research methods. Analysis and interpretation of data generated by research. Topics in survey methods and statistical analysis. Use of computerized statistical methods such as cross-tabulation, analysis of group differences, correlation and multivariate analysis.

477. Marketing Nonprofit Organizations and Social Causes (3) I, II
Prerequisite: Marketing 370
Marketing in nonprofit organizations and other nontraditional situations. Application of marketing techniques to development of marketing programs in such institutions.

479. Marketing Management (3) I, II
Prerequisites: Marketing 371 and 470
Planning and implementing marketing strategy by integrating the specific elements within the marketing function. The application of the appropriate decision techniques in developing the overall marketing mix and in solving marketing problems.

498. Investigation and Report (1-3) I, II
Prerequisite: Consent of Department Chair
Selected areas of concern in marketing; see Class Schedule for specific content. May be repeated with new content with consent of Department Chair. Limit of nine units of any combination of 496, 498, 598 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES IN MARKETING
Refer to the Graduate Bulletin.
**Chemistry**

In the College of Sciences
The department is on the approved list of the American Chemical Society.

**Faculty**
Emeritus: Harrington, Isensee, Joseph, Robinson, Rowe, Spangler, Wick.
Chair: Roeder
Professors: Abbott, Bennett, Cobble, Coffey, Dahms, Grubbs, Hellberg, Jensen, Jones, Landis, Laub, Lebherz, Mak, Malley, Mathewson, O'Neal, Richardson, Ring, Roeder, Sharts, Stewart, Wadsworth, Waite, Woodson.
Associate Professor: Stumph
Assistant Professor: Chatfield

**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.
Major in chemistry with the B.S. degree in applied arts and sciences with the Certificate of the American Chemical Society.
Major in 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.
Minor in 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*, 201*, 231, and 251*; Mathematics 150, 151, and 152; Physics 195, 195L, 196, 196L, 197, 197L, 196L; 197, 197L (43 units.)

**Writing Requirement.** Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Chemistry 407, 410A-410B, 431, 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.

**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 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.

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*, 201*, 231, 237, and 251*; Mathematics 150, 151, and 152; and Physics 195, 195L, 196, 196L, 197, 197L (44 units.)

**Writing Requirement.** Passing the University Writing Examination or screening in Chemistry 457A or 457B.

Major. A minimum of 36 upper division units to include Chemistry 407, 410A-410B, 431, 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.

**OUTLINE FOR THE B.S. DEGREE AND CERTIFICATE**

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<th>Units</th>
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* Chemistry 204A-204B replaces Chemistry 200, 201, and 251.

1. Some students will be required to take Mathematics 104 or 140 or both in their first semester because of failure to qualify on the placement exam. The appropriate number of units should then be subtracted from General Electives.
2. Students are advised to choose the appropriate course or the Humanities or Social Science sections of General Education to meet half of this six-unit requirement. If this requirement is met entirely by examination, add three units General Education and three units to General Electives.
3. Students who must begin with Mathematics 140 rather than 150 should take Chemistry 401A in the first semester of their third year.
Emphasis in Biochemistry

Preparation for the major. Chemistry 200*, 201*, 231, 237, 251*; Mathematics 150, 151, 152; Physics 195, 195L, 196, 196L; Botany 200, and Zoology 200. (46 units.) Physics 197, 197L strongly recommended.

Writing Requirement. Passing the University Writing Examination or screening in Chemistry 457A or 457B.

Major. A minimum of 37 upper division units to include Chemistry 407, 410A-410B, 431, 457A, 550, 560A-560B, 567, and one unit of 498. Biology 503** and three additional units of biology to be specified by the advisor, and six units selected from Chemistry 520A, 537; Biology 541, 544, 547, 566, 568, 572; Botany 530; Microbiology 310, 515, 535, 535L, 540; Zoology 503.

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*, 201*, 231, 237, and 251*; Mathematics 150, 151, and 152; and Physics 195, 195L, 196, 196L. 197, 197L. (44 units.)

Writing Requirement. Passing the University Writing Examination or screening in Chemistry 457A or 457B.

Major. A minimum of 25 upper division units in chemistry to include Chemistry 407, 410A-410B, 431, 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.

OUTLINE FOR THE A.B. DEGREE AND CERTIFICATE

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</table>

Chemistry 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."

This plan is designed for only those students who desire the training in a premedical or preprofessional curriculum. This plan cannot be taken by students who intend to become professional chemists or who intend to earn advanced degrees in chemistry or who plan to teach in community colleges. Application for admission to the plan must be made to the department chairman upon achieving junior class standing. All transfer students with upper division standing must apply before the second semester of work at San Diego State University. With an appropriate choice of electives, graduates can meet the requirements for admission to professional schools, medical, dental, and pharmaceutical schools.

Preparation for the major. Chemistry 200*, 201*, 231, 237, 251*; Mathematics 150, 151, Botany 200, and Zoology 200. (50 units.)

Writing Requirement. Passing the University Writing Examination or screening in Chemistry 457A or 457B.


Minor. A minor in biology or zoology is expected for preprofessional students.

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 chemistry 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*, 201*, 230 or 231, and 250; and six units of upper division electives. Chemistry 310A-310B* or 410A-410B* are strongly recommended.

Courses in the minor may not be counted toward the major, but may be used to satisfy requirements for the major and general education requirements, if applicable.

Graduation with Distinction

A student desiring to graduate with Distinction in Chemistry must meet the university requirements listed in the section of this catalog on "Graduation Requirements" and in addition have completed four units of Chemistry 498 by the time of graduation and be recommended by the faculty member directing the Chemistry 498 project.

* Chemistry 200A-204B replaces Chemistry 200, 201, 251.
** Chemistry 407 may be substituted for Biology 215 as a prerequisite for Biology 503.
† Refer to catalog section on General Education requirements. The department strongly recommends that students take German 151 and 102 for seven units of credit under the Humanities section of General Education.
‡ Students eligible to take Mathematics 150 in their first semester should do so and substitute for Mathematics 104 and/or 140 two to five units of general electives.
§ Students are advised to choose the appropriate course in the Humanities or Social Sciences sections of General Education Education and three units to General Electives to meet half of this six-unit requirement. If this requirement is met entirely by examination, add three units to General Electives.

* Chemistry 200A-204B replaces Chemistry 200, 201, and 250.
** Additional prerequisites in mathematics and physics required for these courses.
100. Introduction to General Chemistry with Laboratory (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Two years of high school algebra or equivalent.
Elementary principles of chemistry used to illustrate nature and development of modern scientific thought.

107. Glass Blowing (1)
Three hours of laboratory.
Prerequisite: Chemistry 201.
Elementary training in the manipulation of glass.

110. Chemistry and Life (3)
Chemistry of biological processes for the non-science major. Basic concepts in chemistry that provide the chemical basis for understanding the nature of life.

130. Elementary Organic Chemistry (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Chemistry 100 or 200.
Introduction to the compounds of carbon including both aliphatic and aromatic substances. Not open to students with credit in Chemistry 201 or 202.

160. Introductory Biochemistry (3) I, II
Prerequisite: Chemistry 130.
Fundamental principles of the chemistry of living processes. This course intended primarily for majors in home economics, nursing, and related fields.

200. General Chemistry (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: High school chemistry or a grade of "C" or better in Chemistry 100, and two years of high school algebra or equivalent.
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 and 200 will receive a total of 5 units of credit toward graduation.

201. General Chemistry (5) I, II
Three lectures and six hours of laboratory.
Prerequisite: Chemistry 200 or 204A.
Continuation of Chemistry 200. General principles of chemistry with emphasis on organic materials and qualitative analysis. Duplicate credit will not be allowed for the corresponding course in Chemistry 202 or 204A.

202. General Chemistry for Engineers (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Chemistry 200.
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.

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-204B takes the place of Chemistry 200, 201, and 251 for these students as prerequisites for further courses in chemistry.

230. Introductory Organic Chemistry (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Chemistry 201.
Aliphatic and aromatic compounds including reaction mechanisms. For students needing only one semester of organic chemistry. Not open to students with credit in Chemistry 231.

231. Organic Chemistry (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Chemistry 201.
Properties and synthesis of organic compounds including reaction mechanisms. First half of a year course. Not open to students with credit in Chemistry 230.

237. Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Open only to students enrolled concurrently in Chemistry 231.
The theory and practice of laboratory operations.

250. Techniques of Analytical Chemistry (5) I, II
Three lectures and six hours of laboratory.
Prerequisite: Chemistry 201 or 202. It is recommended that students who wish to enroll in this course do so the semester following completion of the prerequisite.
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.

251. Analytical Chemistry (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Chemistry 201 and credit or concurrent registration in Mathematics 122 or 150. It is recommended that students who plan to enroll in this course do so the semester following completion of the prerequisites.
The theory and practice of gravimetric and volumetric methods of chemical analysis and introduction to instrumental methods of analysis. Not open to students with credit in Chemistry 250. Duplicate credit will not be allowed for equivalent work in Chemistry 204A-204B.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

301. Chemical Principles in Environmental Protection (3)
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.

302. Chemistry and Society (3)
Prerequisites: Completion of natural sciences requirements under the Foundations of Learning component of General Education. Recommended: Chemistry 130.
Application and implications of chemical technology in the contemporary world. Advances in fuels, materials, medicinal and agricultural chemistry. Political, economic and ethical implications. Not open to chemistry majors.

310A-310B. Fundamentals of Physical Chemistry (3-3)
Prerequisites: Chemistry 250 or 251, Mathematics 122, and Physics 180B and 182B.
Chemistry 310A is prerequisite to 310B. Not open to students who have credit in Chemistry 410A or 410B.
Fundamental principles of theoretical chemistry. This course cannot apply to the A.B. and certificate or B.S. major in chemistry. Intended mainly for life science majors and preprofessional health students.

361A-361B. Fundamentals of Biochemistry (3-3) I, II
Prerequisites: Chemistry 230 or 231.
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.
Prerequisite: Chemistry 250 or 251.
Acquisition and statistical analysis of data and experimental design.
410A-410B. Physical Chemistry (3-3)
Prerequisites: Chemistry 201, 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 (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Chemistry 231.
Continuation of Chemistry 231.

437. Organic Chemistry Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Open only to students enrolled concurrently in Chemistry 431. Principles and techniques of laboratory operations.

457A-457B. Advanced Laboratory Techniques (2-2) I, II
Six hours of laboratory.
Prerequisites: 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. Clinical Biochemistry Laboratory (2)
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Chemistry 361A.
Biochemical laboratory techniques. Methods used in clinical laboratories.

496. 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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

498. Senior Project (1-3) I, II Cr/NC
Prerequisite: Three one-year courses in chemistry. 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. Problems, reports, and field trips.

501. Chemical Oceanography (3)
Three lectures and occasional field trips.
Prerequisites: Chemistry 201 and 231. Strongly recommended: Chemistry 250 or 251. Recommended: Chemistry 310B or 410B and Oceanography 320 or 541. 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)
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)
Prerequisites: Chemistry 310A or 410A, and 431. Recommended: Credit or concurrent registration in Chemistry 310B or 410B. Electronic and physical properties of organic molecules: structure-reactivity correlations; Electronic structure of molecules (qualitative molecular orbital theory); stereochemistry; and linear free energy relationships.

537. Organic Qualitative Analysis (4)
Two lectures and six hours of laboratory.
Prerequisites: Chemistry 431 and credit or concurrent registration in Chemistry 310A or 410A. Chemistry 457A-457B recommended.
Chemical, physical, and spectral methods discussed and employed to determine structure of organic compounds. Purification and separation techniques stressed.

550. Instrumental Methods of Chemical Analysis (2)
Prerequisites: Chemistry 431 and credit or concurrent registration in Chemistry 410B.
Theory and application of those instrumental methods of chemical separation and analysis most frequently used in all subdisciplines of chemistry.

551. Advanced Analytical Chemistry (5)
Three lectures and six hours of laboratory.
Prerequisite: Chemistry 550.

560A-560B. General Biochemistry (3-3)
Prerequisites: Chemistry 431 and credit or concurrent registration in Chemistry 310A or 410A.
The structure, function, metabolism, and thermodynamic relationships of chemical entities in living systems. Not open to students with credit in Chemistry 361A-361B.

567. Biochemistry Laboratory (2)
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Chemistry 361A or 560A.
Theory and practice of procedures used in study of life at molecular level. Includes purification and characterization of enzymes, isolation of cell components, and use of radioactive tracer techniques.

577. 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 radioisotopes.

596. Advanced Special Topics in Chemistry (1-3)
Prerequisite: Consent of instructor.
Advanced selected topics in modern chemistry. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
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) I
Four lectures and one hour of laboratory.
Prerequisites: Chinese 101.

202. Elementary (4) II
Four lectures and one hour of laboratory.
Prerequisite: Chinese 101

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(undergraduates)

303. Readings in Contemporary Chinese (4) I
Prerequisite: Chinese 202.

304. Readings in Chinese (4) II
Prerequisite: Chinese 303.

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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit eight units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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-202G, Classics 250G, Classics 101L-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 major.

Writing Requirement. Satisfied only by passing a departmental scrutiny of any number of formal essays or papers graded C (2.0) or higher in courses acceptable for the major and totaling at least 2,000 words.

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 the high school language sequence may be repeated in college for graduation credit, not to exceed four units of repeated foreign language work. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.
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 units from classics, Anthropology 473, Art 568, Religious Studies 310, or Speech Communication 350, six units of Greek or Latin, and three units of Classics 599 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 major.

Writing Requirement. Satisfied only by passing a departmental scrutiny of any number of formal essays or papers graded C (2.0) or higher in courses acceptable for the major and totaling at least 2,000 words.

Major. A minimum of 30 upper division units to include Classics 320 and History 500A; nine additional units selected from classics, History 500B, 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 major.

Writing Requirement. Satisfied only by passing a departmental scrutiny of any number of formal essays or papers graded C (2.0) or higher in courses acceptable for the major and totaling at least 2,000 words.

Major. A minimum of 30 upper division units to include Classics 320 and History 500B; nine additional units selected from classics, History 500B, 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 101G-202G, or Classics 250G; Classics 101L-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 major.

Writing Requirement. Satisfied only by passing a departmental scrutiny of any number of formal essays or papers graded C (2.0) or higher in courses acceptable for the major and totaling at least 2,000 words.

Major. A minimum of 30 upper division units to include Classics 320; nine additional 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-202L. (10 units)

Writing Requirement. Satisfied only by passing a departmental scrutiny of any number of formal essays or papers graded C (2.0) or higher in courses acceptable for the major and totaling at least 2,000 words.

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 599, as a course in teaching techniques.

Classical Humanities Minor

The minor in classical humanities consists of a minimum of 15 units, at least 12 of which must be upper division. Lower division units may be selected only from Classics 120, 130, 140, or 296. Six to nine upper division units must be selected from courses in classics (non-language), three to six units from Anthropology 473, Art 568, History 500A, 500B, Philosophy 301, Religious Studies 310, or 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. Three to nine upper division units must be selected from classics (non-language), History 500A, 500B, or Philosophy 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.

LOWER DIVISION COURSES

No credit will be given for Classics 101G, 202G, 302G, 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) I

Introduction to ancient Greek emphasizing grammatical foundations of New Testament and Attic prose. Aimed toward rapid comprehension. Not open to students with credit in Classics 250G.

101L. Elementary Latin I (5) I

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. Not open to students with credit in Classics 250L.

120. Latin and Greek Word Derivation (3) I, II

A general and elementary course in philology, emphasizing frequently occurring Latin and Greek bases and their English derivatives.

130. Scientific Terminology (3)

Etymological and grammatical analysis of scientific terminology of Greek and Latin derivation.

140. The Heritage of Greece and Rome (3) I, II

Greek and Roman art, literature, and institutions as reflected in the Western tradition.

202G. Elementary Greek II (5) II

Prerequisite: Classics 101G

Continuation of Greek grammar with selections illustrating syntax and style. Not open to students with credit in Classics 250G.

202L. Elementary Latin II (5) II

Prerequisite: Classics 101L

Continuation of Latin grammar with selections illustrating syntax and style. Not open to students with credit in Classics 250L.

8-77136
250G. Accelerated Elementary Greek (8) S
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.

250L. Accelerated Elementary Latin (8) S
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.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.
C. Experimental Topics in Classics.
G. Experimental Topics in Greek.
L. Experimental Topics in Latin.

UPPER DIVISION COURSES
(Intended for Undergraduates)

303G. Readings in Greek Prose (3) I
Prerequisite: Classics 202G or 250G.
Readings selected from Greek history, philosophy, oratory, and New Testament. Authors may include Xenophon, Plato, Lysias, the Evangelists. Emphasis on rapid reading.

303L. Readings in Latin Prose (3) I
Prerequisite: Classics 202L or 250L.
Readings selected from classical Latin history, philosophy, oratory, letters. Authors may include Sallust, Cicero, Pliny the Younger. Emphasis on rapid reading.

304G. Readings in Greek Poetry (3) II
Prerequisite: Classics 303G.
Readings selected from Greek epic, elegy, tragedy. Authors may include Homer, Sophocles, Euripides.

304L. Readings in Latin Poetry (3) II
Prerequisite: Classics 303L.
Readings selected from classical Latin epic, lyric, elegy, comedy. Authors may include Vergil, Catullus, Ovid, Plautus.

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.

330. Classical Drama (3) II
Reading in translation of Greek and Roman tragedies and comedies. Playwrights such as Aeschylus, Sophocles, Euripides, Aristophanes, Plautus, Seneca. Literary, dramatic, historical criticism.

340. Classical Civilization (3)
Greek and Roman civilization from Bronze Age to Late Empire. Integration of history, philosophy, literature, the arts, and society.

350. Eros and Amor (3)
Reading in translation of Greek and Latin works concerned with love and sexuality. Emphasis on the great literary affaires d'amour as well as common, mythical, and philosophical attitudes. Authors such as Sappho, Euripides, Plato, Catullus, Ovid, Longus. Literary criticism and cultural comparisons.

496. Topics in Classical Studies (1-4)
Topics in classical languages, literatures, cultures, and linguistics. May be repeated with new content. See Class Schedule for specific content. Maximum credit nine units. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.
C. Topics in Classics.
G. Topics in Greek. Advanced reading in an author, genre, or period, or work in linguistics.
L. Topics in Latin. Advanced reading in an author, genre, or period, or work in linguistics.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

599. Special Study (1-3) I, II
Prerequisites: Consent of major or graduate adviser; to be arranged by department chair and instructor. For 599C, Classics 304G or 304L. For 599G, 304G. For 599L, 304L. Individual study. Maximum credit six units.
C. Special Study in Classics.
G. Special Study in Greek.
L. Special Study in Latin.
Communicative Disorders
In the College of Human Services

The clinical services area is accredited by the American Speech-Language-Hearing Association.

Faculty
Emeritus: Earnest, Pfaff
Chair: Singh
Professors: Kopp, Nichols, Reem, Singh, Thia
Associate Professors: Allen, Hodson, Newhoff, Novak
Assistant Professors: Christensen, Gould, Jones, Williams
Lecturers: Fischer, Launer, Magid, Rowe, Wallace

Offered by the Department.
Master of Arts degree in speech pathology and audiology
Major in speech pathology and audiology with the A.B. degree in applied arts and sciences
Minor in speech pathology and audiology

Speech Pathology and Audiology 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 the major.

Preparation for the major. Passing the SDSU Mathematics Placement Examination or successful completion of any mathematics course for which Mathematics 105 is a prerequisite; Communication Disorders 106 and 205; Physics 201; Psychology 101, 260, 270 (18 units).

Writing Requirement. Passing departmental screening in the following courses: one selected from Communication Disorders 526/546/556 or Communication Disorders 322, 423; and one selected from Communication Disorders 551, 552, 553, or 557. Student may elect to obtain passing grade on University Writing Examination in lieu of one of the screening courses.

Major. A minimum of 24 upper division units in communicative disorders to include Communicative Disorders 320, 321, 322, 340, 341, 531, Psychology 330, and five units of electives selected from Communication Disorders 358, 401, 423, 458, 530, 539, 543, 547, 550, 551, 552, 553, 554, 555.

Speech Pathology and Audiology Minor
The minor in speech pathology and audiology consists of 23 units in communicative disorders to include Communicative Disorders 104, 106, 205, 320, 321, 340, 423, and 322 or 550.

Prerequisites for the minor include Physics 201; Psychology 101 and 260 (10 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.

Credentials
The Department of Communicative Disorders offers academic and practica course work applicable to two credentials in the Ryan Credential Program. Students desiring to work in the Clinical Services area must obtain the Specialist Credential (C-RS) or the Clinical Rehabilitative Services Credential (CRS). The Specialist Credential is competency-based, and is specific to specializations or areas of specialization. Students may choose the Specialist Credential or the Clinical Rehabilitative Services Credential upon completion of required courses or their equivalents, or by demonstrating competency in equivalent programs at undergraduate or graduate levels.

1. Communication Handicapped Specialization general course work: Communication Handicapped (C-RS). Each credential has designated areas of specialization. Students wishing to prepare to be Teachers of the Deaf or Deaf-Blind are obliged to meet the requirements of the CH credential.
2. Students preparing to serve as School Audiologists must follow the CRS credential program.
3. Students desiring preparation as itinerant Language, Speech and Hearing Specialists or as Classroom Teachers of Severe Language Handicapped (or Aphasic) pupils may pursue either the CH or C-RS Credential Program.

Specialist Credential for the Communication Handicapped
The Specialist Credential for the Communication Handicapped prepares students for an emphasis in one or more of the following areas of handicap:
- Deaf and Severely Hard of Hearing
- Deaf-Blind
- Severe Oral Language (including aphasia)
- Speech and Hearing

The Specialist Credential for the Communication Handicapped specifies a sequence of communicative disorders courses plus a sequence of education courses.

Admission Requirements
1. Formal application to the Department of Communicative Disorders.
2. Interview with a faculty member in the Department of Communicative Disorders.
3. Admission to the program for the Single Subject Credential (Secondary) or Multiple Subjects Credential (Elementary).
4. A basic teaching credential. Students should consult with appropriate advisers in the College of Education for specific requirements.
5. 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 specialists credential, complete the single subject credential (primary or clear) or the multiple subjects credential (primary or clear).
2. Students may choose to pursue either a. or b.
   a. Major in Liberal Studies (offered by the College of Education) in conjunction with specified communicative disorders 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.
3. Complete a minimum of one year of study, including:
   a. The Special Education generic course work: Special Education 500, 501.
   b. Courses outside of the Department of Communicative Disorders including Psychology 101, 260, 270, Physics 201.
   c. Advanced work in the area of specialization in the Department of Communicative Disorders including:
      (1) Communication Handicapped Specialization general course work: Communication Handicapped (C-RS) Courses 106, 205, 320, 321, 322, 340, 341, 453, 531, 551, 552, 553.
      (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.
3. A postbaccalaureate year (minimum of 30 semester units) is required of all candidates.

Clinical Rehabilitative Services Credential
Clinical Rehabilitative Services (CRS) Credentials are available in the following areas:
- Language, Speech and Hearing (LSH)
- Audiology
- Severe Language Handicapped/Aphasic (SLH)
A postbaccalaureate year (minimum of 30 semester units) is required of all candidates. The following generic courses within the Department of Communicative Disorders are required: Communicative Disorders 103, 206, 291, 292, 295 or 297, 340, 341, 342, 343, 344, 347, 350, 353, 351, 354, 346, and 355. Courses from other departments include: Psychology 101 or Sociology 101; Psychology 106, 200, or 300; Psychology 330 or Family Studies and Consumer Sciences 320; Psychology 340 or Sociology 440 or Family Studies and Consumer Sciences 436, 271 or 576; Physics 201; Special Education 500, 506.

The Advanced Specialization Program in Language, Speech, and Hearing Disorders (LSH) requires the following courses: Communicative Disorders 401, 433, 528, 528L, 529, 552, 553, 626, and 648 (or 546). Courses from other departments include Linguistics 553.

The Severe Language Handicapped (SLH) credential requires the following courses within the Department of Communicative Disorders: Communicative Disorders 325 (SLH class placement), 529, 533, 554, 555, and 493 (SLH class placement). Courses in other departments include Elementary Education 411 or 421, 413, Education 631, Special Education 501.

In addition to the generic program, the Advanced Specialization Program in Audiology requires the following courses within the Department of Communicative Disorders: Communicative Disorders 358, 433 (Audiology class placement), 529, 542, 542L, 543, 547, 550, 552, 553, 600, 644, 649 (Pediatrics), 656 and 657.

Certificates and Licensure

Preparation Leading to the Certificate of Clinical Competence from the American Speech-Language-Hearing Association

Students may complete the academic and clinical practice requirements leading to the Certificate of Clinical Competence in Speech Pathology (CCCSP) and/or the Certificate of Clinical Competence in Audiology (CCC-A) given by the American Speech-Language-Hearing Association (ASHA). The certificate requires 60 units of course work, 30 units of which must be completed at the graduate level; 300 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 practice 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 practical requirements leading to the State Credential and the Professional Certificate given by the Council on Education of the Deaf, the American Speech-Language-Hearing Association and the American Speech-Language-Hearing Association of California. The certificate requires 24 semester hours of course work, 30 units of which must be completed at the graduate level; 300 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 practice requirements must meet certain specifications. Consult an advisor in the Program for Education of the Deaf for specific information.

Preparation Leading to State Licensure in Speech Pathology or Audiology

Students may complete the academic and clinical practice requirements leading to the California State Credential in Speech Pathology or in Audiology, a legal requirement for all individuals professionally employed in nonpublic school settings. The Speech Pathology and Audiology Examining Committee which operates within the California State Board of Medical Examination requires evidence of completion of at least 40 semester hours of course work in the clinical experience, nine months of full-time experience (Required Professional Experience), and 300 hours of observation. Not open to speech, hearing and language disorderers.

LOWER DIVISION COURSES

104. Voice and Articulation (3) I, II

Vocal and articulatory dynamics as bases of standard and nonstandard oral language patterns. Practice in recognition and recall of such patterns. Introduction to use of the International Phonetic Alphabet in broad transcription.


106. Communicative Disorders (3) I, II

Orientation to the field of speech pathology and audiology. Survey of communicative disorders, covering all areas of exceptionality. Normal growth and development as it relates to speech and language. Fifteen hours of observation or project required. Waiver of this course permitted only upon satisfactory passage of a competency examination.

107. Management of Clinical Activities (1) I, II Cr/NC

Assisting in the operations of the speech and hearing clinic. Maximum credit two units.

108. Oral Communication Laboratory (1) I, II Cr/NC

Two hours of laboratory per week. Prerequisite: Consent of instructor. Individual laboratory training on specific speech problems. Student chosen through testing by Department of Communicative Disorders.

205. Introduction to Audiology (3) I, II

Prerequisite: Consent of instructor. Introduction to the field of hearing loss and rehabilitation. Medical practice, hearing conservation and research. Includes physical and medical aspects of hearing loss and rehabilitation. Fifteen hours of observation required. (Formerly numbered Speech Pathology and Audiology 105.)

UPPER DIVISION COURSES

(Intended for Undergraduates)

305. Speech and Language Development and Communication Disorders (3) I, II

Normal development of speech and language disorders. Five hours of observation required. Not open to communicative disorders majors.

320. Phonetics (3) I, II

Two lectures and three hours of laboratory. Prerequisite: Communicative Disorders 104. Recommended: Communicative Disorders 104. Recommended: Consent of instructor. Rapid identification, prevention and remediation of speech, language, and communication disorders. Fifteen hours of observation required. Not open to communicative disorders majors.

321. Anatomy and Physiology of Speech (3) I, II

Two lectures and three hours of laboratory. Prerequisite: Consent of instructor. Recommended: Consent of instructor. Rapid identification, prevention and remediation of speech, language, and communication disorders. Fifteen hours of observation required. Not open to communicative disorders majors.

322. Functional Communication Disorders (3-4)

Prerequisite: Consent of instructor. Communicative Disorders 106; Psychology 101; credit or concurrent registration in Psychology 330. Prerequisite: Consent of instructor. Communicative Disorders 106; Psychology 101; credit or concurrent registration in Psychology 330. Prerequisite: Consent of instructor. Communicative Disorders 106; Psychology 101; credit or concurrent registration in Psychology 330. Prerequisite: Consent of instructor. Communicative Disorders 106; Psychology 101; credit or concurrent registration in Psychology 330.

325. Fieldwork in Speech, Hearing and Language (1-3) I, II Cr/NC

Field observation and participation under supervision with small groups or with individuals who have speech, hearing, or language impairment. Maximum credit three units.
340. Audiology: Principles (3)
Prerequisites: Communicative Disorders 205, Physics 201, Psychology 260 and concurrent registration in Communicative Disorders 341.
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 Audiology (1) I, II
Three hours of laboratory
Prerequisite: Credit or concurrent registration in Communicative Disorders 340.
First enrollment should be concurrent with Communicative Disorders 340 to provide laboratory experience with pure tone, speech, and impedance audiometric tests presented in Communicative Disorders 340; also develops audiological competencies needed by nurses for the California School Audiomicroscope Certificate. May be repeated to obtain the contact hours in audiometric screening as required by the American Speech-Language-Audiology Association and to develop the audiological competences required by the Clinically Rehabilitative Services Credential. Maximum credit two units.

357. Fieldwork with the Deaf (1-2) I, II Cr/NC
Field observation and participation under supervision with small groups of hearing impaired youngsters. Maximum combined credit six units for Communicative Disorders 357, 556, and 656.

358. Manual Communication for the Hearing Impaired (2) I, II
Prerequisites: Demonstrated professional need and consent of instructor. Recommended: Communicative Disorders 106 or 205; credit or concurrent registration in Communicative Disorders 357.
Structure, vocabulary and syntax of manual communication including the development of competencies in manual communication and in the use of manual communication as a method of teaching the hearing impaired.

401. Voice Disorders (3)
Two lectures and three hours of laboratory
Prerequisite: Communicative Disorders 321.
Theory and practice in the remediation of voice problems. Perceptual training and measurement of vocal dimensions.

423. Organic Communicative Disorders (3)
Prerequisites: Communicative Disorders 320, 321, 340, 341, and 531; competency examination.
Survey of cleft palate, cerebral palsy and neuromotor disorders, adult aphasias, autism, and neurologically based language disorders in children. Includes etiological factors, speech, language and related symptomatology, as well as speech and language evaluation and therapy procedures. (Formerly numbered Communicative Disorders 323.)

433. Clinical Practice in Public Schools (4) I, II Cr/NC
Prerequisites: Communicative Disorders 529, four units of practice, 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. Applies only toward Language, Speech and Hearing (LSH), Audiology, and Severe Language Handicap (SLH) tracks of the Clinical Rehabilitation Services Credential (Ryan) or for the Certificate of Clinical Competence in Speech Pathology (ASHA). Pracitum for the LSH track, both LSH track and SLH track experience may be undertaken together for a total of two hundred ten hours of practicum.

453. Directed Internship: Communication Handicapped (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. (Formerly numbered Special Education 480.)

458. Total Communication for Teachers of the Hearing Impaired (2)
Prerequisite: Communicative Disorders 358. Concurrent registration in 458L, recommended. Intermediate level course in the use of total communication with emphasis on developing formal and informal nonverbal communication skills.

458L. Total Communication Laboratory (1)
Three hours of laboratory
Prerequisite: Credit or concurrent registration in Communicative Disorders 458. Laboratory experience to develop receptive and expressive total communication skills. Maximum credit two units.

496. Topics in Communicative Disorders (1-3) I, II
Study of some problem in communicative disorders. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. 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)

524. Methods for Speech-Language Pathology (3) I, II
Prerequisites: Communicative Disorders 322, 429, 552, 553.
Remediation models and clinical approaches, procedures, and techniques. Integration of theoretical information and clinical applications. (Formerly numbered Communicative Disorders 324.)

526. Clinical Practica in Speech-Language Pathology (1-3) I, II
Three hours of laboratory
Prerequisites: Communicative Disorders 524, 527. Admission is based on passage of a competency examination prior to enrollment and departmental approval. Supervised practice with representative speech and language problems. Up to three units may be taken concurrently; maximum credit three units. Maximum combined credit eight units for Communicative Disorders 528, 545, 546, and 626. One unit represents 26 hours of direct clinical practice. Qualified transfer students must enroll in at least one unit of 526 prior to 626. (Formerly numbered Communicative Disorders 326.)

527. Diagnostic Methods in Speech-Language Pathology (3) I, II
Prerequisites: Communicative Disorders 423, 552, 553. Credit or concurrent registration in Communicative Disorders 524.
Principles and procedures in the assessment and prognosis of communication disorders to include delayed speech and mental retardation. Case histories, testing, interviewing, and clinical reporting. Child, parent, and teacher counseling.

528. Diagnostic Practicum in Speech-Language Pathology (3) I, II
One lecture and six hours of laboratory
Prerequisite: Communicative Disorders 527 and passage of a competency examination. Supervised clinical practice in diagnostic methods. Experience in multidisciplinary assessment.

528L. Diagnostic Practicum in Communicative Disorders: Multidisciplinary Assessment (1) I, II
Three hours of laboratory
Prerequisites: Communicative Disorders 527 and credit or concurrent registration in 528.
Participation in Central Intake process of SDSU Clinical Training Center, including diagnostic team assessments and staffings.

529. Orientation to Public School Practicum (3) I, II
Prerequisites: Communicative Disorders 524 and 527. Minimum of 50 hours of supervised practicum. Communicative Disorders 526, 546, 626 or 646. Registration in Communicative Disorders 529, 546, 626 or 646.

530. Family Communication Dynamics (3)
Prerequisites: Communicative Disorders 322 and 556.
531. Language Structure (3)
Prerequisite: Communicative Disorders 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)
Prerequisite: Communicative Disorders 531.

539. Neuropathologies of Speech, Hearing and Language (3) II
Prerequisites: Communicative Disorders 321 and 340. Recommended: Communicative Disorders 423.
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.

542. Audiology: Application (3) I, II
Prerequisites: Communicative Disorders 341 and concurrent registration in 542L.
Pure tone and speech audiometry; masking; impedance audiometry; tests for nonorganic and for sensorineural hearing loss; reporting test results; audiometer calibration. (Formerly numbered Communicative Disorders 342.)

542L. Audiology: Laboratory (1) I, II
Prerequisites: Communicative Disorders 341 and concurrent registration in 542.
Laboratory experience in administering audiometric test batteries and in calibrating audiometric equipment. (Formerly numbered Communicative Disorders 342.)

543. Hearing Amplification (1 or 3) I
Prerequisites: Module I. Communicative Disorders 340. Module II: Communicative Disorders 542.
Module I includes hearing aid components, functions, trouble shooting and client orientation to amplification (1 unit). Module II includes hearing aid evaluations, fittings, and care of hearing-impaired clients. Students may elect Module I (1 unit) or Modules I and II (3 units).

545. Clinical Practice in Audiolingual Assessment (1-3) I, II
Three hours of laboratory.
Prerequisite: Communicative Disorders 542.
Supervised practicum with pure tone, speech, and special audiologic testing and with hearing aid evaluation. One unit represents two hours of clinical contact and one hour of staffing per week. Up to three units may be taken concurrently: maximum credit three units. Maximum credit eight units for Communicative Disorders 526, 545, 546, 626, 645 or 646. (Formerly numbered Communicative Disorders 345.)

546. Clinical Practice with Hard of Hearing (1-3) I, II
Three hours of laboratory.
Prerequisites: Communicative Disorders 526, 551. Recommended: Communicative Disorders 543. Module I: 552 and 553.
Supervised practicum in aural habilitation with hard of hearing clients. One unit represents two hours of clinical contact and one hour of staffing per week. Three units may be taken concurrently: maximum credit three units. Maximum combined credit eight units for Communicative Disorders 526, 545, 546, 626, 645 and 646. (Formerly numbered Communicative Disorders 346.)

547. Hearing Conservation (2-3)
Prerequisite: Communicative Disorders 341
Module I: Core information (noise measurement, analysis, reduction in effect on hearing conservation); application to school hearing conservation programs. (2 units.)
Module II: Damage risk criteria and methods of hearing protection; application of core information to industrial settings. (1 unit.)
Students may elect Module I (2 units) or Modules I and II (3 units).

550. Problems of Deafness (3) I
Educational programs, services and resources for hearing impaired; historical background, philosophy, sociocultural and psychological problems.
Comparative Literature

In the College of Arts and Letters

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.

Advising
All College of Arts and Letters majors are urged to consult with their department advisor as soon as possible; they are required to meet with their department advisor within the first two semesters after declaration or change of major.

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.

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 courses 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.”

Writing Requirement. Passing the University Writing Examination or English 500W, 506W, 581W, 582W with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in comparative literature courses or one of the following alternatives: (1) 18 units in comparative literature and six units in a foreign language (recommended for students who expect to do graduate work in comparative literature); or (2) 18 units in comparative literature and six units in English language literature, comprised of upper division courses in either British or American literature.

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 must be either in Comparative Literature 210 or in a course preparatory to the student's interest area. The 12 units of upper division work must be selected with adviser’s approval, from within the following interest areas:

European: Comparative Literature 505, 510, 511, 512, 513, 514, 526.
Asian and Third World: Comparative Literature 430, 440, 445, 526, 535.
Literary Theory, Criticism and Genres: Comparative Literature 560, 561, 562, 563, 580, 581, 586, 573, 574.

Advising
In addition the following variable content courses may be used in any of the above categories when they are appropriate: Comparative Literature 470, 490, 495, 550, 561, 562, 563, 571, 577, 580, 581.

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 title and content. See Class Schedule for specific content. Maximum credit six units.

210. Introduction to Comparative Literature (3) Cr/NC
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.

272. Third World Literature (3)
Modern literature from Third World cultures. Literature by ethnic minorities in the U.S. (Formerly numbered Comparative Literature 272B.)

UPPER DIVISION COURSES
(Constituted for Undergraduates)

430. 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 title and content. Maximum credit six units of which three units may be applicable to General Education. (Formerly numbered Comparative Literature 530.)

440. 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. (Formerly numbered Comparative Literature 540.)

445. Modern Latin American Literature (3) I, II
Reading selections from major Latin American authors. (Formerly numbered Comparative Literature 545.)

470. Folk Literature (3)
Studies in the ballad, bards, poetry, oral and popular literature and folklore. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units of which three units may be applicable to General Education. (Formerly numbered Comparative Literature 570.)

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 title and 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 title and content. See Class Schedule for specific content. Maximum credit six units.
499. Special Study (1-3) I, II Cr/NC
Prerequisites: Consent of instructor and approval of department chair.
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. Continental Renaissance (3)
Representative selections from authors of the Renaissance period in Continental Europe.

511. Medieval Literature (3)
Representative selections from authors of the Middle Ages.

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 authors of the 20th Century.

526. Modern Jewish Literature (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.

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 title and content. Maximum credit
six units.

550. Seminar (3)
An intensive study of a topic to be selected by the instructor. May be repeated with new title
and 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. May be repeated with new title and content. 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 title and content. See Class Schedule
for specific content. Maximum credit six units.

562. Drama (3)
Forms and themes in drama. Focus of course to be set by instructor. May be repeated with
new title and 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 title and content. See Class Schedule for specific content.
Maximum credit six units applicable on a master's degree.

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,
Goethe, Dostoyevsky or Proust. May be repeated with new title and content. See Class
Schedule for 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 title and
content. See Class Schedule for specific content. Maximum credit six units.
Criminal Justice Administration

In the School of Public Administration and Urban Studies
In the College of Professional Studies and Fine Arts

Faculty
Professor: Gilchick
Associate Professors: Boostrom, Sutton
Assistant Professor: Henderson

Offered by the School of Public Administration and Urban Studies

Major in criminal justice administration with the B.S. degree in applied arts and sciences.

Criminal Justice Administration 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 in the section of this catalog on “Graduation Requirements.” A minor is not required with this major.

Preparation for the major. Political Science 102, Sociology 101 and 110, and a three-unit course in elementary statistics (e.g., Sociology 201, Mathematics 250, 12 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Public Administration 301, Criminal Justice Administration 301, 497 or 498, 499, and six units selected from courses. A major outline for courses must be approved by a faculty adviser (may be any of the full-time faculty listed above) in selecting appropriate courses. A major outline for courses in the major must be approved by a faculty adviser and filed with the Evaluations Office at least one semester before graduation. It is recommended that the student complete a preliminary major outline of courses as soon as possible after declaring the major.

LOWER DIVISION COURSE

200. Introduction to Criminal Justice Administration (3)
Survey of the structure, functions and problems of controlling criminal activity while preserving individual freedoms in a democratic society.

UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

301. Social Control, Social Policy and Administration of Justice (3) I, II
Interrelationship of social control, social policy and administration of criminal justice in contemporary American society.

310. Law Enforcement Administration (3)
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 argument 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)
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.

333. Judicial Administration (3)
Prerequisites: 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.

496. Selected Topics in Criminal Justice Administration (3)
Selected current topics in criminal justice administration. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree. Maximum credit six units. (Formerly numbered Criminal Justice Administration 496.)

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
Prerequisite: Twelve units of upper division criminal justice administration and consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES

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 prosecutor's 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)
Prerequisite: Criminal Justice Administration 330
 Constitutional law principles, 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) I, II
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
Application of planning, research and program development and evaluation principles to the field of criminal justice administration.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Drama
In the College of Professional Studies and Fine Arts
The Department of Drama is a Member of the National Association of Schools of Theatre.

Faculty
Emeritus: Povenmire, Powell, Sellman
Chair: Lessley
Professors: Amble, Harvey, Lessley, McKerrow, Owen, Salzer, Stephenson
Associate Professor: Annas
Assistant Professors: Bellinghieri, Christian
Lecturer: Harvey, A.C.

Offered by the Department
Master of Arts degree in drama.
Master of Fine Arts degree in drama.
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.)

Writing Requirement. Passing the University Writing Examination or English 305W or 500W with a grade of C (2.0) or better.

Major. A minimum of 24-25 upper division units in drama to include Drama 420, 440, 457, 458 or 459, 460A-460B, and seven units of electives in drama (except Drama 442 and 499) selected with the approval of the adviser.

In addition to course requirements the student must participate in a total of five Major Theatre performances and three Experimental Theatre activities. Students in the Emphasis in Children's Drama must adhere to an additional requirement which is that three of the five required Major Theatre performances must be in the area of children's drama.

Drama Emphasis in Children’s Drama
Preparation for the major. Drama 105, 110, 120, 130, 231, 240, 250 and 255. (24 units.)

Writing Requirement. Passing the University Writing Examination or English 305W with a grade of C (2.0) or better.

Major. A minimum of 35 upper division units to include Drama 310, 329A or 329B, 420, 440, 457, 460A, 460B, 480, 511, 515; Elementary Education 512; and either Drama 431, 432 or 458.

In addition to course requirements the student must participate in a total of two Major Theatre performances and three Children’s Theatre performances and three Experimental Theatre activities.

Drama Emphasis in Design for Drama
Preparation for the major. Drama 105, 110, 120, 130, 231, 240, and 250. (21 units.)

Writing Requirement. Passing the University Writing Examination or English 304W with a grade of C (2.0) or better.

Major. A minimum of 32-33 upper division units in drama to include Drama 420, 440, 452, 457, 458 or 459, 460A-460B, 540, 552, 545A, and select either 448, 545B or 554.

In addition to course requirements the student must participate in a minimum of five Major Theatre performances and three Experimental Theatre activities.
Drama Minor

The following courses are prerequisite to the drama minor and do not count toward the 24 units required for the minor: Drama 105, 110 and 120 (9 units).

The minor in drama consists of a minimum of 24 units in drama to include Drama 105, 110, 120, 130, 231, 240, 250, (21 units.)

In addition to course requirements the student must act 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, 250, 260, 280. (Prerequisites for Telecommunications and Film 260 and 280: Telecommunications and Film 110 and 121, are waived for students in this emphasis.) (24 units.)

Writing Requirement. Passing the University Writing Examination or English 305W with a grade of C (2.0) or better.

Major. A minimum of 40 upper division units in drama to include Drama 420, 432, 440, 452, 457, 458 or 459, 460A or 460B, 533A-533B, 551, and select either 310, 326, 330 or 431.

In addition to course requirements the student must act in a minimum 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.)

Writing Requirement. Passing the University Writing Examination or English 305W with a grade of C (2.0) or better.

Major. A minimum of 40 upper division units in drama to include Drama 420, 432, 440, 452, 457, 458 or 459, 460A-460B, 533A, 545A, 551, and select either 326, 351, 515 or 551.

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, 120, 240, 250. Telecommunications and Film 120, 122, 123, and 260 or 280. (Prerequisites for Telecommunications and Film 260 and 280: Telecommunications and Film 110 and 121, are waived for students in this emphasis.) (24 units.)

Writing Requirement. Passing the University Writing Examination or English 305W or 500W with a grade of C (2.0) or better.

Major. A minimum of 31 upper division units to include Drama 440, 448, 452, 540, 545A, 545B, Telecommunications and Film 315, 501, 550, and select either Drama 546 or three units of 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.

In addition to course requirements, the student must participate in a minimum of three Main Stage productions and two Experimental Theatre activities.

Preparation for the major. Drama 105, 110, 120, 130, 231, 240, 250. (21 units.)

Writing Requirement. Passing the University Writing Examination or English 500W with a grade of B (3.0) or better.

Major. A minimum of 26 upper division units to include Drama 440, 448, 452, 457, 460A-460B, 533A, 545A, and three units in English selected from English 541A, 541B, and approved sections of 527.

Credential requirements. A minimum of three lower division units in English selected from English 100, three upper division units in linguistics selected from Linguistics 410, 420, 524, and three upper division units in English selected from English 533, 546. (9 units.)

Drama

Pages 4 and 5 continue...
UPPER DIVISION COURSES
(Intended for Undergraduates)

301. Management of Drama Activities (1-6) I, II
   Three hours.
   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 Drama (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 Classical 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) I
   Prerequisites: Drama 231 and consent of instructor.
   Theory and principles of production of modern musicals.

327. Movement Repertory for the Musical Theatre (3) I, II
   One lecture and four hours of activity.
   Prerequisites: Drama 231 and consent of instructor.
   Basic performing techniques and movement repertory for the actor-singer-dancer in
   musical theatre production.

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 levels.
   Practical experience through participation in university-sponsored productions.

330. Accents and Dialects for the Stage (3) II
   Prerequisite: Drama 130.
   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.

431. Workshop in Improvisational Acting (3) I
   Prerequisite: Drama 231.
   Theories and principles of improvisational acting.

432. Advanced Acting (3)
   Prerequisite: Drama 231.
   Problems in characterization in contemporary drama.

440. Scenic Design (3) I
   Prerequisite: Drama 240.
   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.

442. Theatre Workshop (1-3) I, II Cr/NC (3-6) S 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.

445. Rehearsal and Performance (1-6) Cr/NC
   Two hours per unit.
   Practical experience in departmental public performance. 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.

452. Costume History and Design for the Theatre (3) I
   Two lectures and three hours of laboratory.
   Prerequisite: Drama 250.
   Chronological study of clothing and theatrical dress from earliest times to the present, with
   practical applications in terms of contemporary costume design for the theatre. Egyptian
   through Cavalier periods. Elements and principles of costume design.

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.
   Planned for prospective directors of plays in schools, colleges, and community theatres. A
   comprehensive study of the various problems confronting a stage director.

458. Stage Direction: Scenes (2) I, II
   One lecture and three hours of laboratory: attendance of one-act plays and selected
   performances.
   Prerequisite: Drama 457 and consent of instructor.
   Experience and group evaluation in directing scenes in acting classes.

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.

460A-460B. History of the Theatre (3-3) I, II
   The theatre from primitive times to the present. Special attention will be given to the theatre
   as a mirror of the social and cultural background of the various countries and periods in which it
   is studied. Drama 460B may be taken without 460A.

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 of any combination of 296, 496, 596 courses applicable to a
   bachelor's degree.

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 Drama (3) I, II
Prerequisite: Drama 310.
Advanced techniques and procedures in the teaching of creative drama. Lectures and reading on the application of creative drama with emphasis on the different styles of creative drama 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.

520. History of Musical Theatre (3) I
Prerequisite: Drama 460A.
Musical theatre from early Viennese operettas to musicals of modern times; representative works.

533A-533B. Theory and Styles in Acting and Directing (3-3)
Prerequisite: Drama 231.
Acting and directing problems in theory and style related to the production of plays from great periods in theatre history, with attention to characterization, dramatic values, creative directing and production approaches. Semester I: Shakespearean tragedy and history, melodrama, and farce. Semester II: Greek tragedy, Shakespearean comedy and plays of Ibsen and Strindberg. (Formerly numbered Drama 533 and 534.)

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 production for stage, television and cinema.

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.

552. Costume History and Design for the Theatre (3) II
Two lectures and three hours of laboratory.
Prerequisite: Drama 452.
A continuation of Drama 451 to include chronological study of clothing and theatrical dress from the Restoration period to 1930, with practical applications in terms of contemporary costume design for the theatre.

554. Costume Construction Techniques (3)
Two lecture-demonstrations and three hours of laboratory.
Prerequisite: Drama 250.
Period pattern drafting, draping, cutting, construction. Wig, millinery, armour, mask, accessory construction. Costume paint and dye techniques.

555. Musical Theatre Dance Repertory (2) I
Four hours of activity.
Prerequisite: Drama 327.
Musical theatre dance repertory styles and forms for the actor-singer-dancer-director as they pertain to arranged composition of a musical theatre production.

559. Musical Theatre Stage Direction: One Acts (3) II
One lecture and four hours of activity.
Prerequisite: Drama 459.
Experience and group evaluation in directing scenes and one-act musical theatre performances before departmental or public audiences; attendance at musical theatre performances and other selected musical presentations. Problems confronting a musical theatre stage director.

596. 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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. 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: Bankert
Professors: Babbit, Barcley, Clement, Flagg, Gifford, Jencics, Kartman, Leasure, Madhavan, Nam, Neuner, Popp, Poroy, Sebold, Venneris
Associate Professors: Boddy, Frantz, Green, Grossbard-Shechtman, Hamilton, Stewart, Thayer
Assistant Professors: Seidman, Vogt
Lecturers: Bresnuck, Hageman, Ruppert

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.

Advising
All College of Arts and Letters majors are urged to consult with their departmental adviser as soon as possible; they are required to meet with their departmental adviser within the first two semesters after declaration or change of major.

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 and 201; one course from Mathematics 121, 140, 141 or 150; and Mathematics 107 or another computer-related course. (15-17 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units. Six units of upper division credit in related fields may be counted toward the major if prior approval of the department's undergraduate adviser is obtained. The 24 units must include Economics 320, 321, and 347 or 541, plus 15 units of electives. 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 all majors consult an undergraduate adviser. The following program areas have been devised to aid students in selecting their upper division courses.

Theoretical Economics: Students interested in building a theoretical background in economics are advised to take courses in alternative economic theories, history of thought and quantitative economics to include Economics 307, 311, 313, 330, 332, 335, 338, 360, 365, 380, 420, 421, 422, 423, 464, 471, 502, 505, 520, 555, 561, and 592.

Economics of Business and Government: Students interested in preparing for operational positions in business or government are advised to take courses from among Economics 306, 370, 380, 401, 422, 452, 453, 454, 458, 474, 475, 477, 482, 484, 490, 502, 555, 558, and 592.

Pre-Law: Students interested in preparing for law school are strongly recommended to take courses from among Economics 370, 380, 401, 490, and 505. Also recommended are Economics 330, 332, 453, 454, 474, 477, 482, and 555.

LOWER DIVISION COURSES

100. Contemporary Economic Problems (3) I, II
Investigates economic bases for such 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.

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 on macroanalysis including national income analysis, money and banking, business cycles, and economic stabilization.

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 on the direction of production, the allocation of resources, and the distribution of income, through the price system (microanalysis); and international economics.

201. Statistical Methods (3) I, II
A minimum of 24 upper division units. Six units at this University or qualification on the Mathematics Placement Examination.

Introduction to descriptive statistics, statistical inference, correlation, index numbers, and time series. Students with credit or concurrent registration in another statistics course will be awarded a total of four units for the two (or more) courses.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

300. Honors Course (1-3)
Refer to Honors Program.

307. Quantitative Economics (3) II
Prerequisites: Economics 101, 102, and any successfully completed calculus course.

The quantitative approach to economic problems. The use of mathematics in economic analysis. (Formerly numbered Economics 447.)
311. History of Economic Thought (3)
Prerequisites: Economics 101 and 102.
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. Marxian 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 period in which they were conceived and to modern times.

320. Intermediate Economic Theory (3), II
Prerequisite: Economics 101, or Economics 100 with approval of department.
Economic theory with special reference to national income analysis and the theory of investment.

321. Intermediate Economic Theory (3), II
Prerequisite: Economics 102 or Economics 100 with approval of department.
Economic theory with special reference to the theory of the firm and the industry; value and distribution.

330. Comparative Economic Systems (3)
Prerequisites: Economics 100 or 101 or 102.
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 100 or 101 or 102.
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 100 or 101.
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 100 or 101.
Evolution of economic organization, institutions, and policies of Africa, Asia, and Latin America. Regional emphasis will vary. Maximum credit six units.

338. Economic History of the United States (3)
Prerequisite: Economics 100 or 101.
American economic development and national legislation. Studies of agriculture, industry, the labor force, and national output. (formerly numbered Economics 3388.)

347. Research Design and Method (3)
Prerequisites: Economics 101, 102 and 201. Economics 320 and 321 recommended.
Instruction in the practical application of the various techniques of economic research to a range of problems typically encountered in the economics profession: sources and limitations of basic data, survey research, industry studies, economic forecasting, national impact studies, area and regional studies.

360. International Economic Problems (3)
Prerequisites: Economics 101 and 102. Not open to students with credit in Economics 561. International problems, economic communities, organizations, and other selected topics.

365. Economics of Underdeveloped Areas (3)
Prerequisite: Economics 102.
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.
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.
475. Industry Studies (3)
Prerequisites: Economics 101 and 102.
Evaluation of the structure, conduct and performance of selected industries in terms of social and economic goals.

477. Public Utilities (3)
Prerequisites: Economics 101 and 102.

482. Collective Bargaining (3)
Prerequisites: Economics 101 and 102.
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 and 102. 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.

484. Economics of Health and Education (3)
Prerequisite: Economics 100 or 101 or 102.

485. Population and Economic Growth (3)
Prerequisite: Economics 100 or 101 or 102.
Interrelationship between the components of population change (fertility, mortality, and migration) and economic growth in developed and underdeveloped areas.

490. Money and Banking (3) I, II
Prerequisites: Economics 101 and 102. The elements of monetary theory. History and principles of banking with special reference to the banking system of the United States.

496. Experimental Topics (1-3)
Prerequisite: Consent of instructor.
Selected topics in economics. May be repeated with approval of the instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

498. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. May be repeated for a maximum of six units, maximum credit in 498 limited to six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

502. Public Economics (3)
Prerequisite: Economics 321 or 401.
General equilibrium. Externalities of consumption and production. Their impact on allocative efficiency. Theory of social welfare and public goods supply. Theoretical treatment of individual and community preference ordering and decision making. Proposals for improving the allocation of resources.

503. Welfare Economics (3)
Prerequisites: Economics 102 and 321.
Theories of individual and social well-being. Economic and ethical bases of optimum welfare arrangements; individual values and social decision making; tests of improvement; interdependence and externalities; public and private sectors; properties of social welfare functions.

520. Advanced Economic Theory (3)
Prerequisite: Economics 320.
Recent contributions to the advanced theory of the firm, consumer demand, employment, and growth.
College of Education
Member of the American Association of Colleges for Teacher Education

Faculty
Dean: Goolder
Acting Associate Dean: Chamley
Acting Assistant Dean: Rodriguez

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.
Master of Science degree in rehabilitation counseling.
B.V.E. degree.
Teaching credentials in all areas.
Minor in Educational Technology and Librarianship.
Certificate in Instructional Technology.

Teaching/Service Credentials
The College of Education offers programs which lead to teaching, specialist, and services credentials. Students who desire to seek a credential should consult with departmental advisors in order to determine their status and needed requirements. Information on these credentials is available in the offices of the several departments of the College of Education and in the Credentials Office, College of Education. The College of Education has obtained 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.

Specialist Credentials
Bilingual/CrossCultural
Early Childhood
Reading Specialist
Special Education:
Communication Handicapped (Dept. of Communicative Disorders)
Physically Handicapped
Learning Handicapped
Severely Handicapped
Gifted
Visually Handicapped

Service Credentials
Administrative Services
Clinical Rehabilitative Services (Dept. of Communicative Disorders)
Library
Pupil Personnel
School Psychology
Health - School Nurse (School of Nursing)

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.

LOWER DIVISION COURSE IN EDUCATION

295. Experimental Topics (1-4)
   Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 295, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES IN EDUCATION

301. Education and the American Society (3)
   Analysis of conflicting value patterns, both institutional and noninstitutional, of education.
   Educational controversies, community educational agencies, equal rights, the international scene and future and progress.

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.

380. Community College Occupational Education (3) I, II, S
   Prerequisite: Two years of occupational experience in a community college subject matter area.
   Principles, practices, scope and functions of education.

381. Community College Occupational Curriculum (3) II, S
   Prerequisite: Education 380.
   Materials and methods of instruction, curriculum development and evaluation.

382. Directed Teaching (4) CR/NC
   Prerequisite: Education 351, 381 or 565.
   Systematic observation, participation, and teaching under supervision in an occupational area in a community college. Application to take this course must be made in preceding semester.

383. History and Philosophy of Education (2) I, II
   Historical backgrounds and underlying philosophies 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) Extenslon, II
   Offered only in Extension.
   Prerequisite: Consent of instructor.
   Class study of specially selected problems in education. Does not apply to pattern requirements for credentials.

496. Experimental Topics (1-4)
   Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 295, 496, 596 courses applicable to a bachelor's degree.

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.
   9-71136
568. Human Relations and Counseling in Adult Education (1-3)
Prerequisite: Possession of a valid teaching credential.

590. Computer Solutions to Instructional Problems (3) I, II
Prerequisites: Educational Technology and Librarianship 571; admission to a credential program or a teaching credential or experience in teaching.
Using the computer, especially the microcomputer, as an instructional tool. Programming techniques and instructional design.

596. Topics 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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES IN EDUCATION
Refer to the Graduate Bulletin.

Counselor Education

Faculty
Emeritus: Manios
Chair: Cummins
Professors: Bruce, Carnevale, Chamley, Cummins, Feinberg, Hawley, Jones, Malcolm, McFarlane, Miller, Ramage, Senour
Associate Professors: Howard, Jacobs, Patton, Thompson
Assistant Professors: Cochran, Robinson

Offered by the Department
- Master of Science degree in Counseling.
- Master of Science degree in Rehabilitation Counseling.
- Pupil Personnel Services Credential.
- School Psychology Credential.

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.

Requirements
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, or 615, 620, 640, 640L, 650, 650L, 660, 660L, 670, 670L, 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 PPS 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 Counselor Education and a minimum of 36 acceptable graduate units (27 units in residence) are required.

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.
A school psychologist is a credentialed professional whose primary objective is the application of scientific principles of learning and behavior to ameliorate school-related problems and to facilitate the learning and development of children in the public schools of California. To accomplish this objective the school psychologist provides services to children, teachers, parents, community agencies, and the school system itself.

Requirements
1. Admission to the University and to the Department of Counselor Education.
2. The School Psychology Credential program is built around developing certain competencies, which can be developed by completing the approved program for the Pupil Personnel
School Psychology Program which includes Counselor Education 621, 641A-641B, 720, 752, 760, Education 511, and Special Education 500, 501, 510, or equivalent. Students who have had comparable coursework outside the Department of Counselor Education and who desire to apply for the School Psychology Credential through the department are required to provide evidence 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 experiences will vary according to the background of each student.

UPPER DIVISION COURSES IN COUNSELOR EDUCATION

(Also Acceptable for Advanced Degrees)

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.

596. Selected Studies (1-3) I, II
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. (Formerly numbered and entitled Counselor Education 506, Guidance Conference.)

GRADUATE COURSES IN COUNSELOR EDUCATION

Refer to the Graduate Bulletin.
### LOWER DIVISION COURSE IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ETL 485 School Library Media Programs</td>
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<tr>
<td>ETL 483 Directed Teaching—Ed Tech and Librarianship</td>
<td>3</td>
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<tr>
<td>ETL 532 Design and Production of Instructional Materials</td>
<td>3</td>
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<tr>
<td>ETL 540 Instructional Technology</td>
<td>3</td>
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<tr>
<td>ETL 546 Basic Reference Materials</td>
<td>3</td>
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<tr>
<td>ETL 547 Selection of Instructional Materials</td>
<td>3</td>
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<tr>
<td>ETL 548 Cataloging and Classification</td>
<td>3</td>
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<tr>
<td>ETL 675 Seminar in the Administration of Instructional Media Centers</td>
<td>3</td>
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<tr>
<td>ETL 678 Literature for Children</td>
<td>3</td>
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<td>ETL 679 Literature for Adolescents</td>
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</tbody>
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### UPPER DIVISION COURSES IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP

#### Intended for Undergraduates

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>532. Design and Production of Instructional Materials</td>
<td>3</td>
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<tr>
<td>540. Instructional Technology</td>
<td>5</td>
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<tr>
<td>541. Media Production</td>
<td>3</td>
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<tr>
<td>542. Advanced Production Techniques</td>
<td>3</td>
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<tr>
<td>544. Instructional Design</td>
<td>3</td>
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<tr>
<td>546. Basic Reference Materials</td>
<td>3</td>
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<td>547. Selection of Instructional Materials</td>
<td>3</td>
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<tr>
<td>548. Cataloging and Classification</td>
<td>3</td>
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<tr>
<td>549. Ethnic Materials for Children and Young People</td>
<td>3</td>
</tr>
<tr>
<td>553. Workshop in Educational Television</td>
<td>3</td>
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</tbody>
</table>

#### Also Acceptable for Advanced Degrees

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>404. Instructional Media, Equipment and Production</td>
<td>3</td>
</tr>
<tr>
<td>408. Technology and Lifelong Learning</td>
<td>3</td>
</tr>
<tr>
<td>445. School Library Media Programs</td>
<td>3</td>
</tr>
<tr>
<td>446. Basic Reference Materials</td>
<td>3</td>
</tr>
<tr>
<td>447. Selection of Instructional Materials</td>
<td>3</td>
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<tr>
<td>448. Cataloging and Classification</td>
<td>3</td>
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<tr>
<td>449. Ethnic Materials for Children and Young People</td>
<td>3</td>
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<tr>
<td>533. Workshop in Educational Television</td>
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**Program**

The following program elements are required of all library credential candidates:

- **Units**
  - ETL 445 School Library Media Programs: 3 units
  - ETL 483 Directed Teaching—Ed Tech and Librarianship: 3 units
  - ETL 532 Design and Production of Instructional Materials: 3 units
  - ETL 540 Instructional Technology: 3 units
  - ETL 546 Basic Reference Materials: 3 units
  - ETL 547 Selection of Instructional Materials: 3 units
  - ETL 548 Cataloging and Classification: 3 units
  - ETL 675 Seminar in the Administration of Instructional Media Centers: 3 units
  - ETL 678 Literature for Children: 3 units
  - ETL 679 Literature for Adolescents: 3 units

**Total Units:** 31
571. Introduction to Computers in Education (3) I
One lecture and six hours of laboratory.
Prerequisite: required for preservice students, recommended for inservice students:
Information Systems 180 or Mathematics 107 or Engineering 120.
Introduction to uses of computers in education and training. History, present and future
hardware and software, social impact, costs, interface between instruction and software
development, and survey of computer applications in education and training.

578. Children’s Literature on Film (3)
Six hours of activity.
Current and classic children’s literature as expressed on film. Selection criteria, sources,
and identification of guidance and film-related activities.

596. Workshop in Educational Technology and Librarianship (1-3)
Selected problems in educational technology and librarianship. Limit of nine units of any
combination of 296, 496, 596 courses applicable to a bachelor’s degree. Maximum credit six
units. See Class Schedule for specific content.

GRADUATE COURSES IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP
Refer to the Graduate Bulletin.

Elementary Education

Faculty
Emeritus: Anderson, Bacon, Baker, Birch, Blanc, Byrdegaard, Campbell, Elliott, Fisher,
Groff, Hammack, LaPray, LuPone, Madden, Pettes, Rodney, Stough, Tossas,
Chair: Treadway
Professors: Anderson, Becker, Berg, Burnside, Charles, Fox, Gast, Gates, Gega, Goodson,
Groff, Hill, Huls, Inseekep, Kendall, Moreno, Murphy, Nagel, Nardielli, Retson, Rixman, Ross,
Rowland, Survey Strom, Treadway, Wiling
Associate Professors: Botkin, Clark, Ford, Kaatz, Mooers, Morris, Pacheco, Reel, Ross
Assistant Professors: Klann, Thompson

Offered by the Department
Master of Arts degree in education:
Early Childhood Education Specialist Credential.
Multiple Subjects Credential

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.
Required courses are Education 690 and Elementary Education 502, 571, 710, 711, 712,
713.
4. Verification of two years of successful teaching experience at the preschool or primary
grade levels.

Multiple Subjects Credential (Elementary Education)

Standards for Admission
1. Formal application to the education program must be filed during the semester prior to
beginning the credential program.
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 in typical elementary classroom settings.
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. Laboratory activity courses providing such experiences are available to satisfy
this requirement. Contact department for further information.
4. Successful completion of the Reading Comprehension and Writing Competency
tests. These tests are offered several times each semester. 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,
tuberculin clearance must be obtained.
6. Interview. Interview(s) for specific program admission should be scheduled during the weeks following the application period. (See application packet for specific dates.)

7. Student teaching block selection. Application for a student teaching block 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. Credential advising 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. Admission priority will be given to students who have completed all of the prerequisites.

   - Health Science 101, "Health and Lifestyle," 3 units
   - Music 102, "Basic Musicianship for Non-Music Majors," 3 units
   - Physical Education 241, "Physical Education of Children," 2 units

11. Major. The Liberal Studies Major may be selected for the teaching credential.

   - Academic majors other than Liberal Studies, Option 2, are required to pass the National Teacher Examination, Common Exams Section. Students are required to take the examination prior to admission to the Multiple Subjects Credential program. Information may be obtained through the Test Office or through advisers in Elementary Education.

New Students Who Seek to Complete a Credential

Teachers with a preliminary credential who are working toward a clear credential may have a program designed to fit their background. Evaluation of college credit completed to date, and arrangements for programming should be made through the College of Education (Room 100).

265-6116

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, prerequisites and courses in education are reevaluated and subject to reduction in credit, in light of new requirements and changes in educational official adviser 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 who typically pursue the Multiple Subjects Credential which authorizes the holder to teach in any self-contained classroom. Attainment of this credential requires:

1. A bachelor's degree (or higher) with any major other than education.
2. Completion of a fifth year of study (30 units of upper division or graduate units)
3. Completion of an approved program of professional education (see Department of Elementary Education for further information about the approved programs)
4. Passage of subject matter examination(s) NTE-Commons or waiver thereof through Liberal Studies major.
5. Knowledge of methods of teaching reading.
8. Course work/fieldwork and/or other to satisfy PL 94142: "Mainstreaming".

Multiple Subjects (Elementary) — Preliminary Credential

An applicant may be granted a preliminary teaching credential if the applicant has met the requirements listed above in items 1, 3, 4 and 5. 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 remaining requirements 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 related to bilingual emphasis courses which are available in the Liberal Studies major. 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 and Option 3. 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." A minor is not required with Options 2 or 3. The Liberal Studies Major Options 2 and 3 meet all the requirements for the multiple subjects/elementary major as specified for the Multiple Subjects Credential.

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 adviser in the Department of Elementary Education. The following course work is required for acceptance into the education program and may be included in the Liberal Studies Major unless otherwise noted:

- Mathematics 210A, 210B
- Health Science 101 or 320
- Music 102
- Physical Education 241 (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 Division of Undergraduate Studies to secure program approval.

General advising for Liberal Studies Option II is available at the University Advising Center.

LOWER DIVISION COURSE IN ELEMENTARY EDUCATION

200. Careers in Elementary Education (3) I, II

Six hours of activity fieldwork required.

Prerequisite: Satisfactory completion of 12 hours of university course work.

Exploring elementary education as a profession, to include review of preparation requirements, patterns of classroom and school organization, and the role of the elementary educator in various instructional environments. Observation and participation in schools and school related settings.
### Upper Division Courses in Elementary Education

#### 301. Basic Student Teaching Seminar (1-2) I, II Cr/NC
- Prerequisite: 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
- Prerequisite: 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, social, and cultural factors on learning.

#### 305. 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.

#### 306. Fieldwork in Community Service in Education (2) I, II
- One lecture and six hours of supervised fieldwork.
  
  Working on a tutorial basis with children in the community who have educational needs.

  Maximum credit four units.

#### 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 schools.

#### 313. Classroom Management Skills (1) I, II
- Two hours of activity.
  
  Prerequisite: Provisional or complete admission to elementary education.
  
  Skills in interpreting the legal aspects of education, identifying various kinds of school and classroom organization, and using instructional media and verbal stimuli to facilitate learning.

#### 314. Field Experience in Classroom Management (1) I, II
- Prerequisites: 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 using the 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, inquiry, 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.
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
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
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
Two hours of activity per unit.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Developing and using instructional programs to facilitate learning 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.

423. 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.

432. Techniques for Substitutes (3) I, II
One lecture and four hours of activity.
Prerequisite: Admission to a credential program or a teaching credential.
Preparation for persons entering the field of substituting. Skills in adapting to the temporary
status of substitute teaching, compilation of substitute teaching materials, and workshops to
create materials.

436. Adapting Arts and Crafts to Individual Needs (3) I, II
One and one-half hours of lecture and three hours of activity.
Prerequisite: Admission to elementary education or possession of a teaching credential.
Adapting arts and crafts instruction for individuals with physical, sensory, cognitive needs.
Emphasis on visual arts for enhancement of growth and development. Discussion, demonstration,
practice of broad range of techniques, materials, strategies.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific
content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a
bachelor's degree.

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 ELEMENTARY EDUCATION
(Also Acceptable for Advanced Degrees)

502. Field Experience in Early Childhood Education (1-6) I, II
Prerequisite: Elementary student teaching or approved full-time teaching experience.
Supervised field experience in preschool or primary grades. 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)
Prerequisite: Elementary Education 414.
Selecting and organizing content, analyzing materials, and developing instructional units in
elementary social studies for classroom use.

522. Storytelling (3)
Prerequisites: Basic language arts course, children's literature.
Art of storytelling, including planning of the story hour, locating suitable materials,
techniques for learning and presenting various story types. Selection of literature appropriate
for oral presentation to different groups and age levels. Not open to students with credit in
Education 596 or Elementary Education 596, Storytelling.

523. Classroom Diagnosis and Remediation of Underachievers in Mathematics (3)
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.

526. Arts and Crafts for Teachers: A Multicultural Approach (3)
One lecture and four hours of activity.
Prerequisite: Twelve units in education or history.
Art histories and craft traditions from world cultures. Creation of instructional materials from
different cultural sources. Not open to students with credit in Education 596 or Elementary
Education 596, Multicultural Arts and Crafts.

532. Discipline and Classroom Management (3) I, II
Prerequisite: Admission to upper division units in education, psychology or sociology.
Analysis of research and theories of classroom discipline, management, and teaching
effectiveness, with practical application to the elementary classroom setting.

550. Teaching the Special Child in the Regular Classroom (2)
Prerequisite: Admission to upper division units in elementary education.
Knowledge, skills, and instructional programs for teaching handicapped students in the
regular classroom. Meets the mainstreaming requirements for the California Multiple Subjects
Credential (clear). Not open to students with credit in Education 596, Special Education 550.
Teaching the Special Child in the Regular Classroom. Fieldwork required.

562. Measurement and Evaluation in Elementary Education (3) Irregular
The use of intelligence and achievement tests in the diagnosis and improvement of learning;
construction of objective examinations; problems of evaluation in education; the elements of
statistical techniques.

571. Seminar in Child Development (3)
Prerequisite: One course in child development.
Patterns in human development, especially in children ages eight and younger. Interpreting
child development data for differentiated staff, para-professionals, parents and community members.
Planning for continuous progress. Reporting progress to parents.

596. Topics in Elementary Education (1-6) I, II, S
To meet the needs of individuals or groups of teachers who desire to study selected
problems in elementary education. The observation of classroom teaching will be provided for
members in attendance. Interested persons should contact the Coordinator of Elementary
Education. May be repeated with new content for more than six units. See Class Schedule for
specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a
bachelor's degree. Maximum credit six units applicable to a master's degree.

GRADUATE COURSES IN ELEMENTARY EDUCATION
Refer to the Graduate Bulletin.
Multicultural Education

Faculty
Chair: Rodriguez
Professors: Cornejo, Trueba
Associate Professors: Espinosa, Ochoa, Rodriguez
Assistant Professor: Kuhlman

Offered by the Department
Master of Arts degree in education.
Bilingual/Cross-Cultural Specialist Credential.

Bilingual/Cross-Cultural Specialist Credential
Candidates in the credential program must possess a valid California Teaching Credential, must have completed Multicultural Education 551 or equivalent, and must successfully complete the following 27 units and a comprehensive examination. Candidates must have approval of their adviser for their course of study and must notify the Credentials Office of their program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MED 553</td>
<td>Oral Language Assessment Techniques</td>
<td>3</td>
</tr>
<tr>
<td>MED 601</td>
<td>Philosophy of Cultural Pluralism</td>
<td>3</td>
</tr>
<tr>
<td>MED 602</td>
<td>Cross-Cultural Experience in Classroom Interaction</td>
<td>3</td>
</tr>
<tr>
<td>MED 603</td>
<td>Sociocultural and Community Influences in Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>MED 650</td>
<td>Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies</td>
<td>3</td>
</tr>
<tr>
<td>MED 651</td>
<td>Multicultural Methods and Curriculum in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>MED 688</td>
<td>Colloquium in Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>MED 690</td>
<td>Procedures of Investigation and Report</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective (to be taken outside the College of Education with consent of adviser)

Oral and written proficiency in English and in a second language must be demonstrated prior to completion of the credential program.

UPPER DIVISION COURSE IN MULTICULTURAL EDUCATION
(Intended for Undergraduates)

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 MULTICULTURAL EDUCATION
(Also Acceptable for Advanced Degrees)

551. Introduction to Multicultural Education (3)
Overview of cultural pluralism in education, industry, business, other institutions and society at large.

552. Teaching Writing in Multilingual Settings (3)
Methodologies in teaching primarily expository writing to students from various language backgrounds, focusing on skills such as those needed to avoid syntactic, semantic and stylistic language interference.

553. Oral Language Assessment Techniques (3)
Theoretical and applied linguistics: language functions in the bilingual classroom; implications of sociolinguistics for diagnosis and classification of bilingual children; analysis and application of language assessment instruments; comparison of diverse linguistic systems associated with different cultures. (Formerly numbered Education 553.)

554. Cultural Foundations of Education (3)
How cultural foundations affect learning patterns and students’ responses in instructional settings, domestic life, kinship, legal, sociocultural systems and other factors affecting socialization patterns and therefore learning styles.

GRADUATE COURSES IN MULTICULTURAL EDUCATION
Refer to the Graduate Bulletin.
Secondary Education

Faculty
Eminent: Bradley Fishburn, Friedrich, Fulkerson, Gjerde, Hunter, Kinder, Meek, Person, Prouty, Schnurr, Smith, H. Strand, White, Yarborough
Chair: McLevie
Professors: Ackley, Anthony, Becklund, Bee, Briggs, Crum, Curry, Duckworth, Erickson, Gray, Heid, Hill, Leop, McCabe, McCoy, McLevie, Meek, Pehrson, Person, Plath, Riggs, Shaw, Smith, R. Staudland, Steckbaumer, Yesselman
Associate Professors: Altamura, Behm, Flood, Lujan, Park
Assistant Professors: Beiker, Santa Cruz

Offered by the Department
Master of Arts degree in education.
Bachelor of Vocational Education degree.
Single Subject Teaching Credential.
Community College Instructor Credential.
Reading Specialist Credential.

Single Subject Credential (Secondary Education)

Standards for Admission

C-Best Examination
After February 1, 1983, anyone applying to the Commission for Teacher Preparation and Licensing through the Commission for a teaching credential, permit or certificate, supplementary authorization, or the renewal of an emergency credential is required to have taken and passed the California Basic Educational Skills Test.

Admission to Department of Secondary Education
Admission to the Department of Secondary Education is accomplished in three stages:

1. Prerequisite Course (Secondary Education 400: "The Secondary School")
   This is an introductory course which serves as an orientation to careers in secondary education. During this course students will participate in fieldwork assignments, will learn and demonstrate initial teacher professional competencies, and will complete admission requirements for the Single Subject Credential program. This class is open to all students and may be taken at any time within the individual's undergraduate or graduate preparation as long as it is taken and completed prior to enrollment in the first block of professional courses.

   Accelerated Program: Applicants with regular classroom experience of one year or more and minimum 3.50 grade point averages will be considered by the Admissions Committee for accelerated or experimental programs which allow SECED 400 or a substitute course to be waived or taken concurrently with the first block of professional courses.

   Applications must be submitted by October 31 for Spring Semester and March 31 for Fall Semester.

2. Admission to Student Teaching I (Secondary Education 401, 402, 405)
   These courses in Stage II comprise the first block of professional education courses and include an initial student teaching experience. Students must provide their own transportation. Formal application for admission to these courses will be made at meetings held in the Secondary Education Department office of students is a state requirement.

   a. Completed application.
   b. Transcripts of all college work verifying an acceptable grade point average of 2.75 overall and 3.00 in the upper division major. Unofficial student copies of transcripts are acceptable. Those whose GPA's do not meet these requirements are encouraged to submit a petition to the Admissions Committee.

3. Admission to Student Teaching II (Secondary Education 406-407)
   These courses include a full-time daylong 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:
   b. Application for enrollment in SECED 406 through submission of completed student teaching forms to the Student Teaching Office in ED-100H. Enrollment in SECED 407, Seminar, must be concurrent with enrollment in SECED 406. Student must successfully complete course work to be U.S. Constitution requirement or successfully pass U.S. Constitution examination.
   c. Student must successfully complete Health Science 321 (2 units).

   NOTE 1: DELAYED START OF STUDENT TEACHING will require filing of a request for Leave of Absence with the Secondary Office (Room ED-100H, 265-6118).

   NOTE 2: As of July 1, 1979, information on the mainstreaming of students is a state requirement for the clear credential. This requirement can be met during the regular course sequence.

New Students Who Seek to Complete a Credential
Teachers with preliminary credentials who are working toward full certification may have programs designed to fill their background. Evaluation of college credit completed to date, and arrangements for programming should be made through the Credential Office of the College of Education, Room CL-100, 265-5664.

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 may be reevaluated and subject to reduction in credit, in light of new requirements and changes in educational procedures. All courses taken elsewhere 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.

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 only the following subjects:
Single Subject (Secondary) — Preliminary

Bilingual/Cross Cultural Emphasis

Persons interested in the single subject credential with a bilingual emphasis must meet the same requirements for admission as those in the regular single subject credential program. In addition, applicants must pass a fluency test in oral and written Spanish. Information concerning testing procedures is available from the special program adviser. Professional course requirements are the same for this emphasis as in the regular program, plus additional bilingual competencies. A seminar in single subject bilingual teaching strategies is recommended. As part of the regular professional sequence, a minimum of one semester of student teaching in Secondary Education 405 and 406 within a bilingual setting is required.

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."

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 52210 (subjects commonly taught at a community college).

Baccalaureate Degree Candidates

The following courses meet the requirements of Title 5, Section 5225 (Community College Instructor Credential): Education 380, 381, 382, and 565. 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

The following courses are suggested to enhance employment in the community college:

- ED 630: Advanced Educational Psychology
- ED 660: Directed Teaching: Community College
- ED 700: Directed Teaching: Community College

NOTE: Directed teaching can be accomplished only in a community college day assignment and not in summer session.

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. A valid California basic teaching credential applicable within the range of grades kindergarten to 12.
2. Admission and planning interviews with a program adviser.
3. An approved basic course in methods and materials for teaching reading.

Program

ED 511 Reading Diagnosis ........................................ 3
ED 621 Advanced Diagnosis in Reading ......................... 3
to be taken concurrently with ED 652B. Interpersonal
Interdisciplinary Communication Skills ....................... 1
ED 631 Reading Clinic (Must be taken concurrently with ED 652A.) .... 1
ED 690 Procedures of Investigation and Report ............... 3
ELED 611 Seminar in Reading in Elementary Education, or
SECED 681 Seminar in Secondary School Reading ........... 3
ED 652 Topics in Reading Education. Three required categories: 3
652A Linguistic/Cultural Difference and Reading.
652B Interpersonal/Interdisciplinary Communication Skills.
652C Children/Young Adult Literature. Oral and Creative
Responses to Reading.
ED 701 Field Experience as the Reading Specialist ............ 4
Electives ........................................................................ 7

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 7 units of electives for this credential must be selected with the approval of a reading program adviser. 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 Education.

Bachelor of Vocational Education Degree

Instructors of Occupational Education are encouraged to complete the B.V.E. and to enroll in the program leading to the Master of Arts in Education with a concentration in community college curriculum and instruction. For more information, students are advised to consult with the Higher Education Coordinator, College 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 through the State Board of Vocational Examiners in Sacramento. To qualify for the requirements of the State Education Code, Section 38223, must be met. This regulation stipulates a minimum period of vocational teaching experience amounting to 1,620 clock hours in a full-time position or 1,000 clock hours in an approved trade technical extension class. 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 an Associate of Arts degree, or
   (This should include, if possible, the 40 lower division units of general education required for general education must be completed at SDSU.) ............. 60 units
   (The B.V.E. degree’s lower division units required for general education must be completed at SDSU.) .................. 70 units maximum
2. The individual must apply for evaluation of work experience (Swan Bill). Applicants should apply to the Board of Examiners for Vocational Teachers, Bureau of Industrial Education, State Education Bldg., 721 Capitol Avenue, Sacramento, California. These units count toward the major and are classified as upper division units. (See Higher Education Programs Coordinator for assistance and application forms.) ............... 40 units maximum
3. The individual must take the professional occupational teacher education courses required for the Community College Credential (Title 5). To receive credit toward the B.V.E. degree, these courses must be taken from an institution that will grant credit for the courses toward a bachelor’s degree — ED 380, 381, 382, and 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 satisfy all other graduation requirements, including competencies, upper division writing requirement, grade point average, etc.
6. The individual must see an adviser in the area of his major to arrange his program for completion of course work. A series of elective courses that will support the professional responsibilities of the candidate will be recommended. Furthermore, 30 units must be in residency at SDSU, of which 24 must be upper division.

Total ....................................................................... 124 units

UPPER DIVISION COURSES IN SECONDARY EDUCATION

(Intended for Undergraduates)

400. The Secondary School (3) I, II
   To screen, advise, and initiate admission requirements. Includes fieldwork assignment, demonstration of oral and written competencies, and initial teacher professional competencies.
401. Humanistic and Social Aspects of Teaching (4) I, II
   Prerequisites: Secondary Education 400 and admission to secondary education. To be taken concurrently with Secondary Education 402 and 405. Teacher competencies as they relate to values, awareness, self-concept, rights and responsibilities.
402. Behavioral and Psychological Aspects of Teaching (4) I, II
   Prerequisites: Secondary Education 400 and admission to secondary education. To be taken concurrently with Secondary Education 401 and 405. Teacher competencies as they relate to learning theories, adolescent growth, self-assessment, measurement and evaluation.
403. Teaching of Reading in the Secondary School (3) I, II
   Teacher competencies as they relate to the teaching of reading in content areas, including techniques and materials, reading programs, classroom diagnosis, developmental and corrective reading methods.
405. Student Teaching I (1-6) I, II Cr/NC/SP
   Prerequisites: Secondary Education 400 and admission to secondary education. To be taken concurrently with Secondary Education 401 and 402. Secondary Education 403 is highly recommended to be taken at this time (not required for majors in art, music and physical education). Student must provide own transportation to student teaching site. On-site, part-time experience to implement teacher competencies developed in Secondary Education 401 and 402. Maximum credit six units.
406. Student Teaching II (1-12) I, II Cr/NC/SP
   Prerequisites: Secondary Education 400, 401, 402, 403 (except majors in art, music and physical education), 405, and Educational Technology and Librarianship 404. To be taken concurrently with Secondary Education 407. Student must provide own transportation to student teaching site. On-site, full-time experience to implement teacher competencies as developed from the total professional sequence. Maximum credit twelve units.
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 405. To plan and organize instruction in relation to all competencies acquired and to be implemented in an on-site, full-time student teaching assignment. May be repeated with new content. Maximum credit three units.
414. Methods and Materials of Instruction: Major (2) irregular
One lecture and two 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.
Subject fields for Secondary Education 414 are as follows:

Offered in the Fall Semester
A. Methods in English
B. Methods in Mathematics
C. Methods in Speech Communication
D. Methods in Social Science

Offered in the Spring Semester
A. Methods in English
B. Methods in Mathematics
D. Methods in Social Science

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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 SECONDARY EDUCATION

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.

564. Quantitative Methods in Educational Research (3) I, II
Basic tests of statistical significance with special reference to the interpretation of educational data.

596. Topics in Secondary Education (1-3 or 6) I, II SP*
Designed 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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units applicable to a master's degree.

GRADUATE COURSES IN SECONDARY EDUCATION
Refer to the Graduate Bulletin.

Special Education

Faculty
Emeritus: Ballantine, Trimmer
Chair: Cegelka
Professors: Cegelka, Doorlag, Fearn, Forbing, Lynch, McClard, Singer
Associate Professors: Archer, Brady, Lewis, Malian
Assistant Professors: Delitz, Pumpian

Offered by the Department

Special Education Specialist Credentials
San Diego State University offers programs leading to the following Special Education Specialist Credentials: Learning Handicapped, Severely Handicapped, Visually Handicapped, Physically Handicapped, and Gifted. These credentials authorize the holders to teach in the special education setting designated. There are many common requirements between the Specialist Credential programs and the Master of Arts degree; completion of the former may bring the student to within twelve units of the course work requirements for the M.A. degree.

Requirements for Admission

1. Admission to the appropriate program within the Department of Special Education.
   a. Complete application to department as well as to the University.
   b. Complete GRE Aptitude Test (a minimum verbal and quantitative score of 950 is required).
   c. A minimum GPA of 2.5 for the last 60 units attempted.
   d. Admissions interview with faculty.

2. A basic California Teaching Credential.

3. Completion of prerequisite course work.
   Special Education 471, 500, 501, and specific specialty program prerequisites; Special Education 500E for the Visually Handicapped program and one course in Human Growth and Development, approved by an adviser, for Severely Handicapped. (9-12 units.)

Program

1. Core Courses
   Special Education 600
   Special Education 690
   Special Education 700
   Core Courses Specialization Courses
   a. Learning Handicapped - Special Education 480A (4 units), 505A, 510A, 512A, 513A, 514A, 514B, and 6 units of electives. (23 units)
   b. Severely Handicapped - Special Education 480B (9 units), 505B, 505C, 510B, 511B, 512B, 513B, and 2 units of electives. (28 units)
   c. Physically Handicapped - Special Education 480C (8 units), 505C, 507, 510A, 512C, 513A or 513B, 514A, 514B, and 1 unit of electives. (28 units)
   d. Gifted - Special Education 480D (2 units), 510G, 511D, 62B, and 3 units of electives. (17 units)
   e. Visually Handicapped - Special Education 480E (8 units), 510D, 511E, 512D, 513A or 513B, 520, 521, 523. (29 units)

Specialist Certificate
The Department of Special Education offers course work leading to the California Resource Specialist Certificate. This certificate authorizes the holder to function as a Resource Specialist in special education settings. To be recommended for this certificate by San Diego State...
506. Law and Special Education (2)

UPPER DIVISION COURSES IN SPECIAL EDUCATION
(Intended for Undergraduates)

471. Fieldwork in Special Education (3) I, II Cr/NC
One lecture and four hours of field work.
Prerequisite: Credit or concurrent registration in Special Education 500.
Supervised observation and participation in classroom and related school activities for exceptional students. 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.
Maximum credit eight units upon approval of adviser.
Extensive daily teaching in public schools of exceptional individuals in one of five areas:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
May be taken in each of the areas of specialization.

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 SPECIAL EDUCATION
(Also Acceptable for Advanced Degrees)

500. Exceptional Individuals (3) I, II, S
Three lectures/fieldwork.
Principles, procedures and techniques in identifying and programming for exceptional students. Historical, philosophical and legal background which affect current special education practices.

501. Special Education Procedures and Interpersonal Processes (3) I, II, S
Prerequisite: Credit or concurrent registration in Special Education 500.
Introduction to procedures, legal requirements, and interpersonal processes in the identification, prescription, teaching and evaluation of instructional programs for handicapped students.

505. Characteristics and Education of Exceptional Individuals (3)
Prerequisite: Credit or concurrent registration in Special Education 471, 500, 501, and Family Studies and Consumer Sciences 570 for 505H.
Review of research, educational programs, curriculum approaches and characteristics of individuals in the area of exceptionality. Historical, philosophical, developmental, sociological, psychological, behavioral and environmental perspectives of the exceptionality.
May be taken in each of the areas of exceptionality:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Visually Handicapped
E. Emotionally Disturbed

506. Law and Special Education (2)

507. Adaptive Equipment for the Severe Physically Handicapped (3)
Prerequisite: Credit or concurrent registration in Special Education 505C. Special education and simple maintenance of wheelchairs, prone-standers, positioning equipment and other devices used in classrooms for the severely physically handicapped. Purchase, design, construction and modification of school equipment for use by the physically handicapped.

510. Assessment and Evaluation of Exceptional Individuals (3) I, II
Prerequisites: Special Education 501 and 505 in area of specialization. For 510D, Special Education 471, 500, 501; concurrent registration in Special Education 480.
Tests and procedures for assessing, evaluating and monitoring progress of exceptional individuals to meet their physical, intellectual, social, and emotional needs. Problems in the psychoeducational diagnosis and appraisal. Utilization of assessment procedures for the educational and rehabilitation program.
May be taken in each of the areas of specialization.
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
May be taken in each of the areas of specialization.

511. Curriculum and Instruction for Exceptional Individuals (3) I, II
Prerequisites: Special Education 501, 505 in area of specialization, 510 in area of specialization. For 511E, Special Education 471, 500, 501; concurrent registration in Special Education 480.
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.
May be taken in each of the areas of specialization.
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
May be taken in each of the areas of specialization.

512. Personal Adjustment of the Exceptional Individual (3) I, II
Prerequisites: Special Education 501 and 505 in area of specialization. For 512D, Special Education 471, 500, 501.
Overleaf 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.
May be taken in each of the areas of specialization:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Visually Handicapped

513. Dynamics of Behavior Change and the Exceptional Individual (3) I, II
Prerequisite: Special Education 501. Management and treatment of individuals with exceptional needs. Current theories and programs in behavioral change studies analyzed with reference to their applications for the educational environment.
May be taken in each of the areas of specialization.
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Visually Handicapped

514. Curriculum and Instruction Learning Handicapped (2)
Prerequisites: Special Education 505A, 510A.
Utilization of data for determining general and specific objectives to meet the needs of learning handicapped students. Developing and selecting materials and procedures for the achievement of these objectives. Establishing procedures for monitoring and evaluating pupil progress.
May be taken in each of these areas:
A. Elementary Learning Handicapped
B. Secondary Learning Handicapped
515. Assessment and Programming for Handicapped Infants and Preschoolers (4) II
Prerequisites: Special Education 501, 505H, and Family Studies and Consumer Sciences
570. Tests, techniques, and procedures for assessing handicapped infants and preschoolers.
Developing, implementing, monitoring, and evaluating educational programs in home-based
and center-based programs. Communicating assessment and program objectives and data to
parents and other professionals.
520. Educational Implications of Visual Disability (3)
Prerequisites: Special Education 471, 500, 501; concurrent registration in Special Education
480; consent of instructor and admission to visually handicapped program.
Causes, symptoms, treatment of visual impairment, eye health and vision screening.
Classroom assessment of functional vision. Interpretation of vision assessment, the use of low
vision aids.
521. Braille Reading and Writing (3)
Prerequisites: Special Education 471, 500, 501; concurrent registration in Special Education
480 and consent of instructor.
Development of decoding and encoding skills in reading and writing for visually
handicapped individuals by means of the Braille system. Course includes literary, mathematics
and music Braille codes and teaching techniques.
522. Orientation and Mobility (3)
Prerequisites: Special Education 471, 500, 501; concurrent registration in Special Education
480 and consent of instructor.
The aural, tactile, visual, and kinesthetic senses in mobility skills for the visually
handicapped. Acquisition of basic orientation and mobility skills in simulation.
523. Multihandicapped/Blind and Early Intervention (3)
Prerequisites: Special Education 471, 500, 501; concurrent registration in Special Education
480, consent of instructor and admission to visually handicapped program.
Curricula, teaching methods, and assessment procedures for the multihandicapped
populations. Materials for low-functioning visually handicapped students of all ages. Early
intervention, counseling, activities for stimulation.
596. Selected Topics in Special Education (1-4) I, II
Specialized study of selected topics in special education. May be offered as either a
workshop or lecture/discussion. See Class Schedule for specific content. Maximum credit six
units applicable on a master’s degree.

GRADUATE COURSES IN SPECIAL EDUCATION
Refer to the Graduate Bulletin.

College of Engineering
The undergraduate degrees in aerospace, civil, electrical, and mechanical engineering, are accredited by the
Accreditation Board for Engineering and Technology, Inc.

Faculty
Acting Dean: Craig
Associate Dean: Hussain
Assistant Dean: Chou

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 that will encourage students to develop their capabilities
toward a successful career in the profession of engineering. The graduates of this program are
able to assume personal responsibility for the development and application of engineering
knowledge. They are qualified to take the Engineer-in-Training examination as a first step to
professional registration, to enter industry at the junior engineer level, or to continue their 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
fundamentals and principles of the engineering sciences. The engineer’s work is characterized by
problem solving, application of knowledge, and a strong sense of responsibility. Woven throughout the
pattern is a continuing study of the sociohumanistic facets of our civilization, because the engineering graduates must
expect to find their best expression as leaders, conscious of the social and economic
implications of their decisions.

Although the profession of engineering presents in practice a variety of specialties, undergraduate students initially focus their attention on a pattern of course work emphasizing
fundamentals. Students then are able to utilize this knowledge of fundamentals in
developing special knowledge in their area of specific interest.
The College of Engineering subscribes to the intent of the statements approved by the
Engineering Liaison Committee of the State of California. Students transferring from California
community colleges will be given junior level standing if they have successfully completed
lower division course work in mathematics, chemistry, physics and engineering appropriate to
their engineering major, presuming, upon transfer, that they have completed at least 50 percent
of the graduation unit requirements in their major.

Transfer Credit
No credit will be given for upper division engineering coursework taken at an institution
having an engineering program which has not been accredited by the Accreditation Board for
Engineering and Technology, Inc., unless the student successfully completes the first 12 units of
engineering work attempted at this university. At that time, and upon recommendation of the
student’s major department, credit will be given for the unaccredited work.

Graduation Requirements
1. A minimum of 135 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 33 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. Satisfaction of the upper division writing requirement.
8. All regulations established by the university.
9. American Institutions to include competence in American history, institutions and ideals, U.S. Constitution, and California state and local government.
10. Physical Education requirement.
11. General Education requirements (see below).
12. Application for graduation.

GENERAL EDUCATION

Students will complete a minimum of 50 units in General Education, to include a minimum of nine upper division units taken after attaining junior class standing. At least six of the nine upper division units must be taken from Explorations; the remaining nine units may be taken from Explorations or from specifically approved upper division course substitutions for Foundations areas B and C (Social and Behavioral Sciences and Humanities). See the College of Engineering for a list of those approved courses. No more than twelve units may be used for General Education credit from any one department or academic unit.

I. Communication and Analytical Reasoning: 15 units
   A. Written Communication (6 units to include):
      1. Composition (3 units)
   B. Oral Communication (3 units)
   C. Mathematics (6 units)
      Mathematics 150
      Mathematics 151

II. Foundations: 29 units
   A. Natural Science (17 units to include):
      1. Life Science (3 units)
      2. Physical Science (14 units)
      Chemistry 200
      Physics 195
      Physics 196
      Physics 197
   B. Social and Behavioral Sciences (3 units)
   C. Humanities (9 units to include three of the four areas 1., 2., 3., 4)

III. Explorations: 6 units

   At least three of the Explorations units must be from Social and Behavioral Sciences and three must be cross-cultural.

   At least nine of the total General Education units must be at the upper division level and may include courses listed in Explorations as well as approved course substitutions taken after the student has attained junior class standing.

General Engineering Major

With the B.S. Degree

The major in engineering is a program offering the student flexibility not available in the designated degree programs of aerospace, civil, electrical, and mechanical engineering. The specific program, meeting the intent of the designated degree program requirements, must be planned by the student in concert with a faculty committee. The committee and program must be approved by the Dean of the College of Engineering.

LOWER DIVISION COURSES IN ENGINEERING

120. Engineering Problem Analysis (2) I, II

   One lecture and three hours of laboratory.
   Prerequisite: Concurrent registration in Mathematics 150.
   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) I, II

   Man's interaction with the land, water and air environment; environmental pollution; role of engineering in controlling man's environment.

210. Elements of Interactive Computer Graphics (3) I, II

   Prerequisite: Concurrent registration in Mathematics 150.

296. Experimental Topics (1-4)

   Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of six units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES IN ENGINEERING

(Reserved for Undergraduates)

310. Methods of Analysis (3) I, II

   Prerequisite: Mathematics 152 with minimum grade of C.
   Selected topics from ordinary differential equations, the Laplace transform, Fourier series, and linear algebra with engineering applications.

410. Computer-Aided Design (3) II

   Prerequisites: Engineering 120, 210, 310, and junior standing in engineering major.
   Computer-aided design and drafting. Theory of computer graphics, approaches to graphing to develop complex figures. Animation techniques. Hidden line removal, interactive design. Introduction to contemporary programs for automated design, drafting and numerical control programming.

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) I, II

   Prerequisite: Mathematics 152.
   Application of the mathematics of finance to engineering and managerial decision making.

440. Legal Principles for Engineers (3)

   Prerequisite: Senior standing in engineering.
   Basic principles of law and the American judicial system. General legal principles involved in contracts, professional responsibility and ethics, liability of engineers in design and construction work. Review of governmental regulations and legal problems affecting the engineer in his/her professional environment.
496. Advanced Engineering Topics  (1-3) I, II
   Prerequisite: Minimum grade point average of 2.0 in engineering.
   Modern developments in engineering. See Class Schedule for specific content. Maximum
credit six units for any combination of Engineering 496, 499 and 596 applicable to a bachelor’s
degree.

UPPER DIVISION COURSES IN ENGINEERING
(Also Acceptable for Advanced Degrees)

510. Methods of Analysis  (3) I, II
   Prerequisite: Engineering 310 with minimum grade of C
   Selected topics from vector calculus, partial differential equations, and complex analysis,
   with engineering applications.

511. Digital Solutions of Engineering Problems  (3) I, II
   Prerequisite: Engineering 120 or Mathematics 107, and Engineering 310.
   Digital solution of classes of engineering problems. Application of numerical methods with
   consideration of limitations imposed by computer and programming language characteristics.

GRADUATE COURSES IN ENGINEERING
Refer to the Graduate Bulletin.

Aerospace Engineering

Faculty
Emeritus: Shutts
Chair: Conly
Professors: Conly, Dharmarajan, Krishnamoorthy, McGhie, Narang, Pierucci, Wang
Associate Professor: Moses
Assistant Professor: Nosseir
Lecturer: Bowman

Offered by the Department
Master of Science degree in aerospace engineering.
Major in aerospace engineering with the B.S. degree.

Aerospace Engineering Major

With the B.S. Degree

Students with the option in Aerospace Engineering must include in their program a
sequence of fundamental courses. In addition, the students have the opportunity to satisfy their
particular areas of interest by selecting a pattern of study indicated in the sequence below. This
pattern includes typical aerospace engineering topics, such as aerospace vehicle design,
performance, structural analysis, aerodynamics, and propulsion. The students' choice of
elective courses and area of specialization must be made in consultation with their adviser and
documented by the filing of an approved master plan during the first semester of their junior
year.

Writing Requirement: Departmental screening in AE 303, or passing the University Writing
Examination, or completing one of the approved writing courses with a grade of C (2.0) or
better.

The requirements for the major in aerospace engineering are described as follows:

Fall Semester

Electives

Units

Spring Semester

Units

Chem. 200, General
Math. 150, Single Variable Calc.
General Education
AE 123, The Aerospace Engineer

5
6
1
1

Phys. 195, Principles
ME 190, Engr. Drawing
ME 260, Engr. Materials
General Education

3
4
2
3
6

Fall Semester

Math. 152, Multivariable Calc.
EM 200, Statics
General Education
American Institutions
Phys. 196, Principles
PE Activity

4
3
3
3
3
1

Phys. 197, Principles
EE 210, Electric Circuits
EM 220, Dynamics
Engr. 310, Methods of Anal.
American Institutions
Engr. 120, Engr. Prob. Anal.
PE Activity

3
3
3
3
3
2
1

Spring Semester

Units

Junior Year

Fall Semester

ME 350, Thermodynamics
AE 301, Low Speed Aerodyn.
CE 301, Intro to Solid Mech
CE 302, Solid Mechanics Lab

3
3
3
3

Spring Semester

Units

3
3
3
3

Engr. 510, Methods of Anal.
AE 302, High Speed Aerodyn.
AE 303, Exp. Aerodynamics
General Education

3
3
3
3
3
3

10—77136
### Spring Semester — According to Specialization

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>AE 460B, Aerosp. Engr. Applic.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 480, Aerostabilization &amp; Acoustics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 530, Rocket &amp; Space Propuls</td>
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### Propulsion & Flight Mechanics

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<th>Units</th>
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<tbody>
<tr>
<td>AE 460B, Aerosp. Engr. Applic.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 480, Aerostabilization &amp; Acoustics</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>AE 530, Rocket &amp; Space Propuls</td>
<td>3</td>
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</tbody>
</table>

Choose any two courses:

- EM 540. Intern. Fluid Mechanics | 3
- AE 501, Comp. Fluid Mechanics | 3
- AE 510, Matrix Meth. Aer. Struct. | 3
- AE 540, Aerostabilization & Control II | 3

### Aerodynamics

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<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>AE 430, Aircraft Propulsion</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 440, Aircraft Stabilization &amp; Control</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 460A, Aerosp. Engr. Applic.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>General Education</td>
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### Aerospace Structures

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<th>Course Title</th>
<th>Units</th>
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<tr>
<td>AE 460B, Aerosp. Engr. Applic.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 480, Aerostabilization &amp; Acoustics</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Upper Div. Gen. Educ.</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Choose any two courses:

- EM 540. Intern. Fluid Mechanics | 3
- AE 501, Comp. Fluid Mechanics | 3
- AE 510, Matrix Meth. Aer. Struct. | 3
- AE 540, Aerostabilization & Control II | 3

### Other electives

- AE 480A. Aerospace Engineering Applications (2) I
- AE 480B. Aerospace Engineering Applications (3) II
- AE 496. Advanced Aerospace Engineering Topics (1-3) I, II
- AE 499. Special Study (1-3) I, II

Other electives may be substituted with permission of the adviser and department chair.

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### LOWER DIVISION COURSE IN AEROSPACE ENGINEERING

**123. The Aerospace Engineer** (1)

Introduction to professional aerospace engineering. Emphasis on aeronautics and astronautics.

### UPPER DIVISION COURSES IN AEROSPACE ENGINEERING

#### (Intended for Undergraduates)

**301. Low Speed Aerodynamics** (3) I

Prerequisite: Credit or concurrent registration in Engineering Mechanics 340.

Subsonic flow, airfoil and wing theory, experimental characteristics of wing sections, high lift devices.

**302. High Speed Aerodynamics** (3) II

Prerequisite: 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) II

One lecture and three hours of laboratory.

Prerequisites: Credit or concurrent registration in Aerospace Engineering 301.


**310A-310B. Aerospace Structural Analysis** (3-3) I, II

Prerequisite: Civil Engineering 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) II

Prerequisites: Engineering Mechanics 220, and Engineering 310.

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.

**430. Aircraft Propulsion Systems** (3) II

Prerequisite: Aerospace Engineering 301 or Mechanical Engineering 450.

Theory and performance characteristics of aircraft propulsion systems including reciprocating engines, turbines, and jet engines. (Formerly numbered Aerospace Engineering 530.)

**440. Aircraft Stability and Control** (3)

Prerequisite: Aerospace Engineering 303.

Static stability and control, general equations of unsteady motion, stability, derivatives, stability of uncontrolled motion, response of aircraft to actuation of controls.

**460A. Aerospace Engineering Applications** (2) I

Six hours of laboratory.

- Prerequisites: Aerospace Engineering 302, 303 and 310A.
- Student projects in aerospace design.

**460B. Aerospace Engineering Applications** (3) II

One lecture and five hours of design activity.

- Prerequisite: Aerospace Engineering 460A.
- Student projects in aerospace design.

**480. Aeroelasticity and Acoustics** (2)

Prerequisites: Aerospace Engineering 302 and 310B.


**496. Advanced Aerospace Engineering Topics** (1-3) I, II

Prerequisite: Consent of instructor.

Modern developments in engineering. See Class Schedule for specific content. Maximum credit six units for any combination of Aerospace Engineering 496 and 499.

**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 Aerospace Engineering 496 and 499.

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### UPPER DIVISION COURSES IN AEROSPACE ENGINEERING

(Also Acceptable for Advanced Degrees)

**501. Computational Fluid Mechanics** (3) II

Prerequisites: Engineering 120 and Engineering Mechanics 340.

Finite difference methods of solution to fluid dynamics equations of the potential flow, boundary layer theory and the Navier-Stokes formulation. Study of the convergence and stability of the difference equations.

**510. Matrix Methods in Aerospace Structures** (3)

Prerequisite: Aerospace Engineering 310B.

Static and dynamic analysis of aerospace structures utilizing matrix methods.

**520. Intermediate Aerospace Flight Mechanics** (3) I

Prerequisite: Aerospace Engineering 320.

A continuation of Aerospace Engineering 320 to include orbit determination techniques, general and special perturbations, artificial satellites, rocket dynamics and transfer orbits, earth-moon trajectories, and interplanetary trajectories.
530. Rocket and Space Propulsion (3) II
Prerequisite: Aerospace Engineering 430
Equilibrium combustion thermodynamics. Performance of rocket propelled vehicles. Rocket propulsion fundamentals. Topics in chemical (solid and liquid) and electrical propulsion systems.

540. Aircraft Stability and Control II (3) II
Prerequisite: Aerospace Engineering 440
Dynamic stability and control of rigid aircraft; general equations of unsteady motion, stability derivatives, perturbed state thrust forces and moment, special problems in dynamic stability and response.

Engineering Mechanics

LOWER DIVISION COURSES

200. Statics (3)
Prerequisites: Physics 195 and credit or concurrent registration in Mathematics 151.
Force systems, equilibrium, structures, distributed forces, friction, virtual work, moments of inertia, vector algebra.

202. Mechanics for Electrical Engineers (3)
Prerequisites: Physics 195 and credit or concurrent registration in Mathematics 151.
Essentials of mechanics of particles and rigid bodies, for engineering applications. Emphasis on particle dynamics. Intended for Electrical Engineering majors. Not open to students with credit in Engineering Mechanics 200 or 220.

220. Dynamics (3) I, II
Prerequisite: Engineering Mechanics 200 with a minimum grade of C
Kinetics of a particle, central force motion, systems of particles: work and energy, impulse and momentum; moments and products of inertia. Euler's equations of motion; vibration and time response; engineering applications.

UPPER DIVISION COURSES IN ENGINEERING MECHANICS
(Also Acceptable for Advanced Degrees)

521. Advanced Mechanics of Deformable Media (3) II
Prerequisites: Aerospace Engineering 310B and Engineering 510
Application of advanced topics in mechanics of deformable media to the design of aerospace structural components. Theory of failure, curved beams, beams on elastic foundation, thick-walled cylinders. Fracture mechanics and optimization of structures.

540. Intermediate Fluid Mechanics (3)
Prerequisites: Credit or concurrent registration in Engineering Mechanics 340, and Engineering 510.

596. Advanced Engineering Mechanics Topics (1-3) I, II
Prerequisite: Consent of instructor.

GRADUATE COURSES IN AEROSPACE ENGINEERING AND ENGINEERING MECHANICS
Refer to the Graduate Bulletin.
Civil Engineering

Faculty
Emeritus: Capp, Quiet
Chair: Noorany
Professors: Chang, H., Chou, Johnson, Noorany, Stone, Stratton
Associate Professors: Banks, Dezfulian, Fragaszy, Ponce, Sharabi, Wetteroo

Offered by the Department
Master of Science degree in civil engineering.
Major in civil engineering with the B.S. degree.

Civil Engineering Major

With the B.S. Degree
All students in Civil Engineering pursue a common program of study in basic engineering and civil engineering fundamentals. In addition, students are provided with the opportunity to select a pattern of study to satisfy their areas of interest. This pattern of study is indicated in the sequence below as "professional electives" and may be selected from available courses in foundation, structural, environmental, transportation, or water resources engineering; computer programming; advanced surveying; engineering economics; and other areas. The students' choice of elective courses must be made in consultation with their adviser and documented by the filing of an approved master plan during the first semester of their junior year.

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

The requirements for the major in civil 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, General</td>
<td>Math. 195, Principles</td>
<td>5</td>
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<tr>
<td>PE Activity</td>
<td>Engr. 120, Engr. Prob. Anal.</td>
<td>1</td>
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<tr>
<td>General Education</td>
<td>General Education</td>
<td>3</td>
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<tr>
<td><strong>16</strong></td>
<td><strong>18</strong></td>
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<tr>
<th>Sophomore Year</th>
<th>Spring Semester</th>
<th>Units</th>
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<tbody>
<tr>
<td>Phys. 196, Principles</td>
<td>Phys. 197, Principles</td>
<td>3</td>
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<tr>
<td>Math. 152, Multivariable Calc.</td>
<td>EM 220, Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>EM 200, Statics</td>
<td>EE 210, Electric Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ME 260, Engr. Materials</td>
<td>CE 218, Surveying</td>
<td>3</td>
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<tr>
<td>General Education</td>
<td>General Education</td>
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<tr>
<th>Junior Year</th>
<th>Spring Semester</th>
<th>Units</th>
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<tbody>
<tr>
<td>CE 301, Intro. to Solid Mech.</td>
<td>EM 340, Fluid Mechanics</td>
<td>3</td>
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<tr>
<td>CE 302, Solid Mech. Lab</td>
<td>EM 341, Fluid Mech. Lab</td>
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</tr>
<tr>
<td>Engr. 310, Meth. of Anal</td>
<td>CE 321, Structural Anal I</td>
<td>3</td>
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<tr>
<td>ME 352, Therm. &amp; Heat Trans.</td>
<td>CE 355, Environ. Studies</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>Geol. 253, Geology for Engrs.</td>
<td>3</td>
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<tr>
<td>American Institutions</td>
<td>American Institutions</td>
<td>3</td>
</tr>
<tr>
<td><strong>16</strong></td>
<td><strong>18</strong></td>
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</table>

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<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
<th>Units</th>
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<tbody>
<tr>
<td>CE 444, Applied Hydraulics</td>
<td>CE 421, Reinforc Concrete Des</td>
<td>3</td>
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<tr>
<td>CE 462, Soil Mechanics</td>
<td>Professional Electives</td>
<td>3</td>
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<tr>
<td>CE 463, Soil Mech. Lab</td>
<td>General Education</td>
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<tr>
<td>CE 481, Transportation Engr</td>
<td>Professional Electives</td>
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<tr>
<td># Professional Electives</td>
<td>General Education</td>
<td>5</td>
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<tr>
<td><strong>18</strong></td>
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# Approved as part of the student's master plan.

LOWER DIVISION COURSE IN CIVIL ENGINEERING

218. Surveying for Civil Engineers (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Engineering 140 and Mathematics 151.

UPPER DIVISION COURSES IN CIVIL ENGINEERING
(intended for Undergraduates)

301. Introduction to Solid Mechanics (3) I, II
Prerequisites: Engineering Mechanics 220 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. (Formerly numbered Engineering Mechanics 301.)

302. Solid Mechanics Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Civil Engineering 301.
Laboratory studies in solid mechanics. Experimental stress analysis. Experimental confirmation of theory. (Formerly numbered Engineering Mechanics 302.)

321. Structural Analysis I (4) I, II
Prerequisite: Civil Engineering 301 with minimum grade of C.
Principles of mechanics applied to analysis of beams, frames, trusses, and three-dimensional frameworks. Graphical methods, influence lines, deflections; introduction to statically indeterminate structures and moment distribution.

385. Civil Engineering Environmental Studies (2) II
Prerequisites: Chemistry 200 and credit or concurrent registration in Engineering Mechanics 340.
The application of civil engineering methodology to the solution of environmental problems. (Formerly numbered Civil Engineering 455.)

421. Reinforced Concrete Design (3) I, II
Prerequisite: Civil Engineering 321 with minimum grade of C.
Properties and characteristics of reinforced concrete. Design of structural components. Introduction to plastic theory and limit design.

423. Timber Design (2) I
Prerequisite: Civil Engineering 321 with minimum grade of C.
Physical and mechanical properties of wood. Sawn lumber, glulam, plywood. Design of various types of wood structures. Connection design. (Formerly numbered Civil Engineering 523.)

444. Applied Hydraulics (3) I, II
Prerequisite: Engineering Mechanics 340.
Open channel and pressure conduit flow, pumps and turbines, hydroelectric power, and water law.
445. Applied Hydrology (3) I, II
Prerequisite: Civil Engineering 444 with a minimum grade of C.
Precipitation, streamflow, frequency analysis, hydrologic routing, urban and small watershed hydrology, hydrologic design.

462. Soil Mechanics (3) I, II
Prerequisites: Geological Sciences 253, Civil Engineering 301 with a minimum grade of C, credit or concurrent registration in Engineering Mechanics 540, and concurrent registration in Civil Engineering 463.
Mechanics of soils as they apply to engineering problems, soil classification, compaction, swelling, consolidation, strength and permeability. Applications to geotechnical engineering.

463. Soil Mechanics Laboratory (1) I, II
Three hours of laboratory
Prerequisite: Concurrent registration in Civil Engineering 462. Laboratory procedures of soil testing for engineering problems.

465. Foundation Engineering (3) II
Prerequisites: Civil Engineering 462 and 463 with minimum grades of C.
Soil mechanics theories applied to the design of shallow and deep foundations, lateral pressure of soils, design of retaining walls. (Formerly numbered Civil Engineering 562.)

479. Construction Materials (3) II
Two lectures and three hours of laboratory.
Prerequisites: Civil Engineering 462 and 481.
Selection, design and control of mixes of portland cement and asphalt concrete. Properties of these and other materials used in construction. (Formerly numbered Civil Engineering 579.)

481. Transportation Engineering (3) I, II
Prerequisite: Civil Engineering 218 with minimum grade of C.
Function and design of different modes of transportation for moving people and goods; and corresponding terminal facilities.

482. Highway Engineering (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Civil Engineering 481 with minimum grade of C.
Highway planning, economics, and administration; geometric design; traffic engineering; subgrade structure; bituminous and portland-cement concrete pavements.

492. Construction Project Planning (2) I, II
Prerequisites: Civil Engineering 321 and 481, or credit or concurrent registration in Engineering 430.
Analysis of complex engineering and industrial systems using critical path methods; planning and control parameters; network analysis including optimization of deterministic and stochastic models; resource allocation; scheduling; student projects.

496. Advanced Civil Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.
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.

499. Special Study (1-3) I, II Cr/NC
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.
Individual study. Maximum credit six units for any combination of Civil Engineering 496, 499, and 596.

UPPER DIVISION COURSES IN CIVIL ENGINEERING
(Also Acceptable for Advanced Degrees)

521. Structural Analysis II (3) I
Prerequisite: Civil Engineering 321 with minimum grade of C.

525. Design of Steel Structures (3) II
Prerequisite: Civil Engineering 321 with a minimum grade of C.
Mechanical behavior of structural steel. Design of steel beams, girders, columns and members subjected to combined stresses. Design of various types of connections of steel structures, plate girders, continuous beams and rigid frames.

530. Open Channel Hydraulics (3) I, II
Prerequisite: Civil Engineering 444 with minimum grade of C.
Open channel flow theory, analysis and problems, including studies of critical flow, uniform flow, gradually varied and rapidly varied flow—all as applied to the design of channels, spillways, energy dissipators, and gravity pipelines. Not open to students with credit in Civil Engineering 630.

540. Coastal and Ocean Engineering (3) I
Prerequisites: Civil Engineering 321, 444, and 462 with minimum grade of C.
Types, design features and methods of construction of coastal facilities and offshore structures including harbors, underwater fills, offshore platforms and oil storage reservoirs.

555. Water and Wastewater Engineering (3) I
Prerequisite: Civil Engineering 355 with minimum grade of C.

596. Advanced Civil Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.
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.

GRADUATE COURSES IN CIVIL ENGINEERING
Refer to the Graduate Bulletin.
## Electrical Engineering

### Faculty
Emeritus: Chan, Learned, Mann, Skaaz, Walling  
Chair: Lin  
Professors: Abut, Harris, F. Harris, J. Iosupovcic, Lee, Lin, Lodge, Marino, Massey  
Associate Professors: Brown, Chang, C-T, Panos, Stuart  
Assistant Professor: Thyagarajan  
Lecturers: Nunez, Wilson

**Offered by the Department of Electrical and Computer Engineering**  
Master of Science degree in electrical engineering.  
Major in electrical engineering with the B.S. degree.

### Electrical Engineering Major

**With the B.S. Degree**

The program below describes the requirements for the degree. Each course specifically listed in the program is required. In addition, the total number of units specified in each of the elective categories represents a minimum requirement. These are: General Education, 24 units; American Institutions, 6 units; Professional Electives, 27 units. The semester in which each course or elective is listed in the program is typical, but not required. Any variation that satisfies course prerequisites is acceptable.

The General Education and American Institutions electives must satisfy University requirements described elsewhere in this catalog. Professional Electives include all upper division EE courses and approved upper division courses in other departments. The 27 Professional Elective units must include at least nine units of EE design (EE 373, 390, 392, 393, 394, 395, 396, 397, 490, 491); at least three units of basic engineering (CE 301, EM 340, and ME 350/352), and at least one unit of EE laboratory. The student’s choice of electives is subject to the approval of his/her faculty adviser and the department chair. The student must file an approved Master Plan during the first semester of his/her junior year.

**Writing Requirement.** Passing the University Writing Examination or completing one of the approved writing courses in English or Information Systems with a grade of C (2.0) or better.

### Freshman Year

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<th>Fall Semester</th>
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<td>Chem. 200, General Chemistry</td>
<td>Phys. 155, Principles</td>
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### Sophomore Year

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<th>Fall Semester</th>
<th>Spring Semester</th>
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<tr>
<td>Math. 152, Multivariable Calc.</td>
<td>Phys. 197, 197L, Principles</td>
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<tr>
<td>Phys. 196, 196L, Principles</td>
<td>EE 270, Digital Systems</td>
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<tr>
<td>American Institutions</td>
<td>ME 260, Engr. Materials</td>
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<tr>
<td>General Education</td>
<td>American Institutions</td>
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### LOWER DIVISION COURSES IN ELECTRICAL ENGINEERING

#### 210. Electric Circuits (3 I, II)
**Prerequisites:** Credit or concurrent registration in Physics 196 and Mathematics 151.  
Circuit analysis by reduction methods, source transformations, loop and nodal analyses; alternating current circuits, impedance, power and phasor diagrams.

#### 270. Digital Systems (3 II)
**Prerequisites:** Mathematics 152.  
Modelling, analysis and design of digital systems, primarily at the Logic Design level.  
Combinational and sequential networks. Not open to students with credit in Electrical Engineering 370.

### UPPER DIVISION COURSES IN ELECTRICAL ENGINEERING

(Intended for Undergraduates)

#### 303. Electronics, Instrumentation, and Electrical Energy Conversion (3 I, II)
**Prerequisite:** Electrical Engineering 210.  

#### 303L. Electrical Engineering Laboratory (1 I, II)
**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)
**Prerequisite:** 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)
**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 310 and Engineering Mechanics 202
Electrostatic and magnetic 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
Prerequisite: Electrical Engineering 330
Combinational switching networks. Introduction to sequential circuits. Not open to students with credit in Electrical Engineering 270.

371. Computer Organization (3) I
Prerequisites: Engineering 120 and Electrical Engineering 270
Computer organization and assembly language programming. Programming and operation of one or more small computers, including input/output programming.

373. Computer Design (3) I
Prerequisites: Electrical Engineering 270 and credit or concurrent registration in Electrical Engineering 371
Systematic techniques for designing digital computers and other complex digital systems. Machine arithmetic, Register Transfer Level design, hardwired and microprogrammed control units. Not open to students with credit in Electrical Engineering 573.

380. Electrical Energy Conversion (3) I, II
Prerequisite: Electrical Engineering 310
Magnetic circuits, transformers and polyphase AC networks. Fundamentals of electromechanical energy conversion; induction motors, synchronous machines and DC machines.

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, single and polyphase AC circuits, transformers, and machines.

403. Biomedical Instrumentation (3) I
Prerequisite: Electrical Engineering 303 or 330
Instrumentation systems to monitor, control and record physiological functions.

410. Advanced Network Analysis (3) I, II
Prerequisites: Electrical Engineering 310 and Engineering 310 or Mathematics 340A
Transient analysis of circuits containing resistance, inductance, and capacitance with various input wave forms by means of the Laplace-transform method.

420. Control Systems Components (3) II
Prerequisites: Electrical Engineering 310, 330 and 380.
Position transducers, phase-sensitive demodulators, static magnetic and rotating amplifiers, and servomotors. Derivation of component transfer functions.

420L. Control Systems Components Laboratory (1) II
Three hours of laboratory.
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 310 or Mathematics 340A.
Theoretical analysis and design of vacuum-tube and transistor voltage and power amplifiers utilizing graphical methods and equivalent circuits; feedback theory and tuned amplifiers.

430L. Electronic Circuits Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Electrical Engineering 430.
Experimental determination of transfer functions for control system components.

450. Communication Networks (3) I
Prerequisites: Electrical Engineering 310, 340 and Engineering 310 or Mathematics 340A
Theory and design of digital 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.
540. Microwave Communications (3) II
Prerequisite: Electrical Engineering 340. Engineering 510 recommended.
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.
Prerequisite: 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; wide-band and narrow-band amplifiers; oscillators; AM, FM, and phase 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; superheterodyne receivers 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 compound modulation.

558. Digital Communication Systems (3) II
Prerequisite: Engineering 310.
Foundations and interrelationships of subsystems in modern digital communication systems. Regulatory considerations, channel descriptions, modems, error rates, digital coding of speech, line coding, intersymbol interference, networking, error control and cryptography.

570. Advanced Digital Circuits (3) II
Prerequisite: Electrical Engineering 470.
Digital applications of linear devices, the digital/analog interface, and ultra high speed logic devices.

571. Synchronous Sequential Circuits (3) I
Prerequisite: Electrical Engineering 373.
Systematic design of high speed synchronous sequential circuits, using standard logic elements and microprogrammable bit slice modules.

573. Computer Organization (3) I, II
Prerequisites: Engineering 120 or Mathematics 107, and Electrical Engineering 370.
Data and information structure, machine and assembly language programming, arithmetic and control units microprogramming, memory devices, input-output devices, channels and operating systems concepts. Not open to students with credit in Electrical Engineering 373.

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. Not open to students with credit in Electrical Engineering 475.

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.
**Mechanical Engineering**

**Faculty**
Emeritus: Bauer, Billerman, M. Rao, Stone
Chair: Bedore
Professors: Bedore, Craig, Fitz, Hussain, Mansfield, Morgan, Murphy, Ohnysty, Pinto, Rao, S.
Lecturers: Broniarek, Hoy, Pierce, Thompson, Zimmerman

Offered by the Department
Master of Science degree in mechanical engineering
Major in mechanical engineering with the B.S. degree.

**Mechanical 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, students are provided with the opportunity to select a pattern of study to satisfy their areas of interest. This pattern of study is indicated in the sequence below as "professional electives" and may be selected from materials, thermodynamics, vibrations, and other areas. The students' choice of elective courses must be made in consultation with their adviser and documented by the filing of an approved master plan during the first semester of their junior year.

**Writing Requirement.** Passing the departmental screening examination, a part of Mechanical Engineering 310, or passing the University Writing Examination or English 304W with a grade of C (2.0) or better.

The requirements for the major in mechanical engineering are described as follows:

<table>
<thead>
<tr>
<th>freshmen Year</th>
<th>Spring Semester</th>
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<tr>
<td>Fall Semester</td>
<td>Freshman Year</td>
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<tr>
<td>Chem. 200, General Chemistry</td>
<td>5</td>
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<tr>
<td>Math. 150, Single Variable Calc</td>
<td>5</td>
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<tr>
<td>Engr. 120, Engr. Prob. Anal</td>
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<td>General Education</td>
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<td>PE Activity</td>
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**Sophomore Year**

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<th>Fall Semester</th>
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<tbody>
<tr>
<td>Math. 152, Multivariable Calc</td>
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<tr>
<td>Math. 200, Statics</td>
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<tr>
<td>ME 260, Engr. Materials</td>
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<tr>
<td>Phys. 196, Principles</td>
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<tr>
<td>American Institutions</td>
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<th>Junior Year</th>
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<tr>
<td>Fall Semester</td>
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<tr>
<td>CE 301, Intro. to Solid Mech</td>
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<tr>
<td>ME 310, Engr. Design Intro.</td>
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<tr>
<td>ME 340, Materials and Processes</td>
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<tr>
<td>ME 350, Thermodynamics</td>
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<tr>
<td>ME 390, Engr. Sys. Lab. Intro</td>
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<td>General Education</td>
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<tr>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>EE 303, Electronics, Instrum. and Elect. Energy Conv</td>
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<tr>
<td>EM 340, Fluid Mechanics</td>
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<tr>
<td>ME 395, Engr. Sys. Lab. Appl.</td>
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<tr>
<td>ME 450, Engr. Thermodynamics</td>
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<th>Senior Year</th>
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<tr>
<td>Fall Semester</td>
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<tr>
<td>ME 470, Heat Transfer</td>
</tr>
<tr>
<td>ME 490A, Engr. Des. Project</td>
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<tr>
<td>ME 512, Sim. of Engr. Sys.</td>
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<tr>
<td># Professional Electives</td>
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<td>General Education</td>
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<tr>
<td>Spring Semester</td>
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<tr>
<td>ME 490B, Engr. Des. Project</td>
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<tr>
<td># Professional Electives</td>
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<tr>
<td>General Education</td>
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<td># Approved as part of student's master plan by the department chair</td>
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- **LOWER DIVISION COURSES IN MECHANICAL ENGINEERING**

190. Engineering Drawing (2) I, II
Six hours of laboratory.
Development of drawing skills and techniques for engineers. Elementary orthographic and pictorial drawing sections, dimensioning, instrument and free-hand drawing. Drawing as an aid to visualization and design.

One lecture and six hours of laboratory.
Prerequisite: One year of high school drafting. Graphical communication for engineers. Presentation and interpretation of engineering drawings using instruments and free-hand sketches. Manufacturing processes and their influence on design decisions. (Formerly numbered Mechanical Engineering 191.)

260. Engineering Materials (3) I, II
Prerequisite: Chemistry 200. Atomic and molecular structure of materials utilized in engineering. Analysis of the relationships between structure of materials and their mechanical, thermal, electrical, corrosion and radiation properties, together with examples of specific application to engineering problems. (Formerly numbered Engineering Mechanics 260.)

- **UPPER DIVISION COURSES IN MECHANICAL ENGINEERING**

(Intended for Undergraduates)

310. Engineering Design: Introduction (3) I, II
Two lectures and three hours of guided design activities.
Prerequisites: Mechanical Engineering majors—English 100 with a grade of C or better.
Engineering 120, Mechanical Engineering 195, and Engineering Mechanics 220; non-Mechanical Engineering majors—English 100 with a grade of C or better.
Professional approach to engineering design problems. Problem definition, information gathering, feasibility studies, analysis, final design and communication. Several design studies are completed.

314. Engineering Design: Mechanical Components (3) I, II
Prerequisites: Mechanical Engineering 310 and Civil Engineering 310.
Application of mechanics, physical properties of materials, and solid mechanics to the design of machine elements. Student design projects.

340. Metallic Materials and Processes (3) I, II
Prerequisite: Mechanical Engineering 260.
Prerequisites: Mechanics of Materials 152 and Engineering Mechanics 202 or 220.

350. Thermodynamics (3) I, II
Prerequisite: Mathematics 152 and Engineering Mechanics 202 or 220.
Development of the basic laws of thermodynamics and their application to engineering systems.
352. Thermodynamics and Heat Transfer (3) I, II
Prerequisites: Mathematics 152 and Engineering Mechanics 202 or 220.
First and second laws of thermodynamics; heat conduction, convection and radiation. Not acceptable for mechanical engineering majors.

390. Engineering Systems Laboratory: Introduction (2)
One lecture and three hours of laboratory.
Prerequisites: English 100 with a grade of C or better, Electrical Engineering 210, Civil Engineering 301 co-requisite, Engineering 310 co-requisite or Mathematics 340A.
Engineering experimentation. Instrumentation theory, data analysis, technical communication and experiment design. Principles of experimentation taught in lecture and applied in experiments selected from subdisciplines in Mechanical Engineering.

395. Engineering Systems Laboratory: Applications (2)
One lecture and three hours of laboratory.
Prerequisite: Mechanical Engineering 390.
Advanced experiment design, data acquisition theory and data analysis. Experience in designing, conducting and reporting on experiments to acquire knowledge about engineering systems.

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 (3) I, II
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
Heat transfer by conduction, convection, radiation, and combinations thereof.

480. Internal Combustion Engines (3) 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. Engineering Design: Senior Projects (2-2)
Six hours of guided design activities.
Prerequisites for 490A: Mechanical Engineering 314, 350, 395, credit or concurrent registration in Mechanical Engineering 470 and Mechanical Engineering 512.
Prerequisites for 490B: Mechanical Engineering 450, 460A.
Applications of engineering principles and design techniques to the designing, building, and testing of an engineering system. A single project is completed in this two-course sequence and is judged completed upon presentation of an oral and a written report.

496. Advanced Mechanical Engineering Topics (1-3) I, II
Prerequisite: Consent of instructor.
Modern developments in mechanical engineering. See Class Schedule for specific content.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units for any combination of Mechanical Engineering 496, 499 and 596.

496, 499 and 596.

UPPER DIVISION COURSES IN MECHANICAL ENGINEERING
(Also Acceptable for Advanced Degrees)

510. Advanced Machine Design (3) I, II
Prerequisites: Mechanical Engineering 314 and 340.
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.

512. Simulation of Engineering Systems (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Mechanical Engineering 314, 350 and 395.
Analysis and design of engineering systems using modern analog and digital computers. Simulation of dynamic systems. Application to problems in mechanics, heat transfer, thermodynamics, and control systems.

514. Experimental Stress Analysis (3)
Prerequisite: Mechanical Engineering 314.
Advanced study of resistance of materials, failure theories and experimental stress analysis. Methods will include photoelasticity, brittle lacquers, strain gauges, grid methods, and analogs for determining static and dynamic stress distributions. Laboratory demonstrations.

516. Engineering Design: Mechanisms (3)
Prerequisite: Mechanical Engineering 512.
Design of linkages, cams, and gears wherein displacement, velocity and acceleration are paramount considerations.

520. Introduction to Mechanical Vibrations (3)
Prerequisites: Mechanical Engineering 512 and Civil Engineering 301.

521. Vibration, Shock and Noise Measurements (3)
Prerequisites: Mechanical Engineering 512 and Civil Engineering 301.
Experimental problems utilizing vibration excitation equipment, recording systems, transducers, sound analysis systems and analog computers.

530. Automatic Control Systems (3)
Prerequisites: Engineering 510 and credit or concurrent registration in Mechanical Engineering 512.
Analysis of the dynamic characteristics of control components and systems. Stability and response of closed loop systems. Design of control systems.

540. Nonmetallic Materials (3)
Two lectures and three hours of laboratory.
Prerequisites: Mechanical Engineering 340.
Fundamentals of plastics, reinforced plastics, and ceramics. Analysis of effect of physical properties upon selection of a material for use in design.

580. Elements of Energy Conversion (3)
Prerequisite: Mechanical Engineering 350.
Principles of physics and chemistry applied to the analysis of a broad spectrum of energy conversion devices from an engineering point of view.

582. Thermal Environmental Engineering (3)
Prerequisite: Mechanical Engineering 470.

584A-584B. Principles of Chemical Engineering (3-3)
(Same course as Chemistry 503A-503B)
Prerequisite: Consent of instructor in Mechanical Engineering 350 or Chemistry 310A or 410A.
Industrial stoichiometry; flow and heat transfer as applied to unit operations such as evaporation, distillation, extraction, filtration, gas-phase mass transfer, drying, and others. Problems, reports, and field trips.
English

In the College of Arts and Letters

Faculty

Emeritus: Adams, J., Burnett, Chater, Gulick, Haskell, Ingham, Kennedy, Marchand, Phillips, Shouse, Theobald
Chair: McLeod
Associate Professors: Borkat, Brown, Butler, Gervais, Hinkle, Jaffe, Kohler, Nichols, Redding, R., Redding, R., Taylor, Tunberg, Wall
Assistant Professors: Aninger, Boe, Covino, Griswold, Kehler, Little, O'Reilly, Sullivan, Werner, Wheeler

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 at the catalog under Comparative Literature.)

Advising

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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.
A minor is not required with this major.

Preparation for the major. English 100, 260A, 260B (unless replaced by 560A-560B), and six units selected from English 200, 220, 250A, 250B, 252, 280, 281, 296, Comparative Literature 200, 210, 270A, 270B, 272, (15 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. English 500W, 508W, 581W, or 582W, with a grade of C (2.0) or better.

Major. A minimum of 27 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, three units in American Literature (English 526, 527, 528, as well as courses listed in the American Literature area of study), and three units in writing (English 500W, 508W, 580, 581W, 582W, 589).

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:**

- **British Literature before 1800:** English 530, 531, 534, 536, 537, 538A, 538B, 540A, 541A, 541B, and Comparative Literature 510.
- **American Literature:** English 521, 522, 523, 524, and 525.
- **Modern Literature:** English 524, 525, 544A, 544B, 545, 546, and Comparative Literature 445, 514, and 526.

**Literary Types, Theory, and Criticism:** English 501, 507, 508W, 527, 570, 571A, 571B, 572, and Comparative Literature 560, 561, 562, and 563.

**Creative Writing:** English 570, 571A, 571B, 572, 579, 580, 581W, 582W, and 589.

**NOTE:** In addition to the courses listed above, appropriate sections of English 496, 499, 526, 527, 549. Comparative Literature 430, 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 they 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 100) an equivalent number of units of upper division courses selected with the approval of the departmental adviser.

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**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.

The requirements for the Secondary Credential in English are as follows:

I. A major in English, comparative literature, or linguistics for the A.B. degree.

II. **Writing Requirement.** English 500W, 508W, 581W, or 582W, with a grade of C (2.0) or better.

III. Satisfactory completion of 39 units selected from courses in the following categories: (Many of these courses may also be used to satisfy requirements for the major.)

**A. Courses in Literature** (total 15 units)

1. **Lower division survey:** 6 units.
   - (American, British, or World)
   - a. Particularly appropriate: English 250A, 250B, 260A, Comparative Literature 270A.
   - b. Appropriate: English 260B, Comparative Literature 270B. (English 560A-560B may be substituted for 260A-260B.)

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.
   - c. The following courses are also applicable when the topic deals with the Twentieth Century: English 496, 526, 528, 549, Comparative Literature 490, 550, 577.

4. **A Course in Genre, Myth, or Literature and Other Disciplines:** 3 units.
   - a. Particularly appropriate: English 306W (3 units only), 501, 527, 570, 571A, 571B, 579, Comparative Literature 470, 495, 561, 595.
   - 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, 549, Comparative Literature 490, 550.

**B. Courses in Writing** (total 12 units)

- Particularly appropriate: English 280, 306W (3 units only), 500W, 580, 581W.
- c. Writing courses taken in other departments may apply towards this requirement if approved by the departmental adviser (English).

**C. Courses in Linguistics** (total 9 units)

- Particularly appropriate: Linguistics 410 (History of English), 420 (Modern English) or 520 (Structure of English), 524 (American Dialectology).
- b. Appropriate: Linguistics 101 (Introducutory Linguistics), 550 (Theory and Practice of English as a Second Language), 551 (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.).

**Course Sequences**

All year courses in English may be taken in either semester, and either semester may be taken singly for credit.

**Student initiated Courses**

Students may petition for a course which falls within the competency of the English Department but which is not among the regular course offerings for the present or following semester. Petition forms may be obtained from the department secretary.

**Undergraduate Seminars**

Each semester, if adequate staffing permits, the department may offer several of its courses as special, limited-enrollment seminars. These seminars are designed to give English majors (or anyone who has the consent of the instructor) the opportunity as juniors and seniors to engage in advanced work in small discussion groups.

**English Minor**

The minor in English consists of a minimum of 15 units. 12 units of which must be in upper division courses. The department offers minors specifically tailored to complement students' majors. All minors will include English 220 (unless a substitution is approved by the departmental adviser) and 12 upper division units selected from one of the following areas, dependent upon the student's major.

**Social Science disciplines**, one course from each group:

1. A course in Shakespeare: English 302 or 533.
2. A course in expository writing: English 304W, 305W, or 500W.
3. A course in folklore or popular literature: English 301, 306W (3 units only), 491, 492, 501, 505, Comparative Literature 470, or approved sections of other special topics courses.
4. A course in contemporary literature: English 525, 544B, or approved sections of special topics courses.

**Fine Arts disciplines**, one course from each group:

1. A course in Shakespeare: English 302 or 533.
3. A course in literature and other arts: English 493. Comparative Literature 495, 595, or approved sections of special topics courses.
4. A course in creative writing or appropriate special topics: English 560, 581, 582W, or approved sections of special topics courses.

**Business disciplines**, one course from each group:

1. A course in Shakespeare, literature and psychology, or popular literature: English 301, 302, 491, 492, 493, 494, 533.
2. A course in American literature: English 521, 522, 523, 524, 525, approved sections of 526 or 528.
Humanities disciplines, one course from each group:
1. A course in Shakespeare: English 302 or 530.
4. A second course in literary history or a course in literature or other disciplines: English 493, Comparative Literature 495, 495, or approved sections of special topics courses.

Science disciplines, one course from each group:
1. A course in technical writing: English 304W.
2. A course in Shakespeare or Bible as Literature: English 302, 505, 533.
3. A course in literature and psychology or popular literature or science fiction: English 301, 306W (3 units only), 491, 492, 493, 494, 501, approved sections of other special topics courses.

For students whose needs are not accommodated by any of the above patterns:
Students whose majors are not represented by the patterns above, students who wish to design a minor more directly tailored to their specific major, or students who otherwise feel they have special needs are encouraged to consult with their advisers in both major and minor departments to design individualized minors in English. All such minors must have the written approval of both departmental advisers.

The English minor is not available to students majoring in comparative literature. 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 Technical and Scientific Writing
The purpose of this certificate program is to prepare students for careers in technical and scientific writing. This program is designed for people who are working on degrees in nontechnical, technical, and scientific fields. It also provides a self-improvement opportunity for people seeking employment, promotion, or upward mobility on the job who are not enrolled in degree programs. Students will complete a total of 21 units that must be approved by the Director of the program in the Department of English and Comparative Literature.

Required Courses: (9 units)
- English 304W Technical Writing
- English 579 Topics in Techniques of Writing
- English 500W Advanced Composition

Recommended Courses: Students should consult with the Director of the program before selecting any courses so that an individualized program can be developed. Students with technical or scientific backgrounds should concentrate their course work in writing. Those with nontechnical or nonscientific backgrounds should concentrate on either a technical or scientific specialty. English 496, Internship in Technical Writing, is recommended for all students. A maximum of six units of transfer credit may be applied to the program. (15 units)

LOWER DIVISION COURSES

100. College Composition (3)
Prerequisite: Completion of Writing Competency requirement. (See Graduation Requirements, section of this catalog) PROOF OF COMPLETION OF PREREQUISITE REQUIRED. Student to bring to first class meeting evidence of one of the following: Test score of 42+ on SAT/TSWE or 17+ on ACT or 6 essay and 151+ total on EPT or satisfactory completion of Academic Skills 150 (grade slip or copy of student record) to first class meeting.

Principles of effective composition, rhetorical techniques for achieving clarity, interest, and effective organization and development of ideas, based on the reading and analysis of selected texts. Not open to students with credit in Afro-American Studies 120 or higher numbered composition or creative writing course or Linguistics 100 or Mexican-American Studies 111B.

UPPER DIVISION COURSES

200. Intermediate Composition (3), (4)
Prerequisite: African-American Studies 120 or English 100 or Linguistics 100 or Mexican-American Studies 111B or equivalent course at another college or university. PROOF OF COMPLETION OF PREREQUISITE REQUIRED. Student to bring evidence (grade slip or copy of student record) to first class meeting.

Further practice in expository writing, with emphasis on mastery of style and organization, and problems of research. Not open to students with credit in Linguistics 200.

210. Introduction to Literature (3), (4)
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 techniques and 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.

250A-250B. American Literature (3-3)
American literature from the colonial period to the present. Semester I: from the beginning to the Civil War. Semester II: Civil War to the present. Recommended for English majors.

252. Topics in American Literature (3)
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. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units. (Formerly numbered English 250.)

260A-260B. English Literature (3-3), (4)
English literature from the Anglo-Saxon period to the present, with emphasis on the major works in the literary tradition. Semester I: from the beginning to the neoclassical period. Semester II: Begins with the Romantic writers.

280. Introduction to Creative Writing (3)
Prerequisite: English 100 or African-American Studies 120 or Linguistics 100 or Mexican-American Studies 111B or equivalent course at another college or university. PROOF OF COMPLETION OF PREREQUISITE REQUIRED. Student to bring evidence (grade slip or copy of student record) to first class meeting.

Introduction to theory and practice of creative writing in the major genres, with emphasis on basic concepts and techniques.

281. Creative Writing: Selected Genres (3)
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.

295. Experimental Topis (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 295, 495, 596 courses applicable to a bachelor's degree.

Comparative Literature
(See this section of catalog under Comparative Literature)

301. The Psychological Novel (3)
A psychological novel from its inception to the 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.

302. Introducing Shakespeare (3)
Representative tragedies, comedies, and histories. Primarily for the general student not specializing in English or comparative literature. This course does not count toward the English or comparative literature majors. Majors are required to take English 533.
304W. Technical Writing (3) 
Prerequisite: English 200.
Expository and report writing on technical subjects dealt with in such professions as industry, science, and government. Primarily for students in engineering, nursing, the sciences, and such preprofessional areas as law and medicine. Long and short forms including reports, proposals, manuals, and journal articles. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

305W. Reading and Writing in Literature (3) 
Prerequisite: English 200.
Lab: Advanced composition: improvement of student skills through writing assignments based upon reading and work in the lecture part. Primarily designed to meet Upper Division Writing and Humanities requirements for Liberal Studies Options 2 and 3, but also open to students with other majors. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

490. Workshop in Critical Writing (3) 
History and analysis of various aspects of alternative publishing as an avenue of creative expression for literary artists. Practice in applying creative writing and literary criticism to a specific topic. Includes small group and panel discussions, and a final essay outlining the student's own critical writing. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

491. Introduction to the Teaching of Composition (3) 
Prerequisite: Consent of instructor based on writing sample and/or test. Techniques for teaching and evaluation of written composition. Provides a theoretical base for these techniques.

492. Foundations of English (3) 
Survey of the development of the English language, the American literature, and the history of the English language in America. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

493. Literature and Film (3) 
Relationships between film and genres of literature, focusing on a critical comparison of the techniques of the medium and those of film. Topics include Literature and Film, Novel into Film, Drama and Film, Reading Film. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

494. Modern American Fiction (3) 
The works of twentieth century American authors such as Hemingway, Steinbeck, Faulkner, Fitzgerald, Bellow, Vonnegut, Heller, others. Primarily for the general student not specializing in English or comparative literature. May count toward the English major only as an elective.

495. Contemporary Topics in Literature (3) 
Topics include Detective Fiction, Science Fiction and Fantasy, Rogue Literature, Primarily for the general student not specializing in English or comparative literature. May count only as an elective course toward the English major. May be repeated with new title and content. Maximum credit six units.

496. Selected Topics in English (1-4) I, II 
Prerequisites: Consent of instructor and approval of department chair. May be repeated with new title and content. See Class Schedule for specific content. Limit of nine units of any combination of 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

500W. Advanced Composition (3) I, II 
The theory and practice of expository writing, including the contributions of semantics, rhetoric, and logic. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

501. Literature for Children (3) 

505. The Bible as Literature (3) I, II 
Prerequisite as Comparative Literature 505.

507. The History of Literary Criticism (3) 
Principles and practices of literary criticism from Greek times to the twentieth century.

508W. The Writing of Criticism (3) 
Theory and practice of literary criticism: Emphasis on the work of important critics and on development of student's own critical writing. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency Requirement, and completed the General Education requirement in Written Communication.

509. Montana Literature (3) 
Prerequisite: Consent of instructor based on writing sample and/or test. Techniques for teaching and evaluation of written composition. Provides a theoretical base for these techniques.

521. Early American Literature (3) 
Representative works by American writers from the period of America's founding until approximately 1800, likely to include works by Benjamin Franklin, Cotton Mather, Anne Bradstreet, Johnathan Edwards, others.

522. American Literature, 1800 until 1860 (3) 
Representative works by American writers from 1800 until 1860, likely to include works by Hawthorne, Melville, Poe, Emerson, Thoreau, Whitman, others.

523. American Literature, 1860 until 1920 (3) 
Representative works by American writers from 1860 until 1920, likely to include works by Twain, Henry James, Stephen Crane, Emily Dickinson, Carl Sandburg, Kate Chopin, others.

524. American Literature, 1920 until 1950 (3) 
Representative works by American writers from 1920 until 1950, likely to include works by Hemingway, Faulkner, Fitzgerald, T.S. Eliot, Ezra Pound, Eugene O'Neill, Steinbeck, others.

525. American Literature, 1950 until Present (3) 
American writers from 1950 until the present, likely to include works by Joseph Heller, Saul Bellow, Norman Mailer, Edward Albee, Kurt Vonnegut, Allen Ginsberg, Sylvia Plath, others.

526. Topics in American Literature (3) 
Topics in American literature to include The History of American Literature. The Outcasts in American Literature. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.
527. Genre Studies in American Literature (3)

528. Individual American Authors (3)
Works of a major American author or, if useful comparisons and juxtapositions warrant it, the works of two or three authors. Melville, Twain, James, Faulkner, Steinbeck, Nabokov, or Pound and Eliot. Emerson and Thoreau, Vonnegut and Barth, others. See Class Schedule for specific content. May be repeated with new title and content. Maximum credit six units.

530. Chaucer (3) I, II
Chaucer's works, with emphasis on The Canterbury Tales and Troilus and Criseyde.

531. Renaissance Literature (3)
English poetry and prose from 1485 to 1620.

532. Shakespeare (3) I, II
An introduction to the writings of Shakespeare.

533. Study of Shakespeare (3)
Prerequisite: English 533.
Advanced study of Shakespeare's achievement as a poet and playwright.

536. Seventeenth Century Literature (3)
English poetry and prose from 1603 to 1660.

537. Milton (3)
Milton's writings, with emphasis on Paradise Lost.

538A-538B. Restoration and Eighteenth Century Literature (3-3) I, II
The 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)

541A-541B. English Drama (3-3)
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)

544A-544B. Modern British Fiction (3-3)
Semester I: English fiction from 1890 to World War II. Semester II: English fiction from 1939 to the present.

545. Modern British Poetry (3)
British poetry since 1900.

546. Modern British Drama (3)
British drama since 1890.

549. Topics in English Literature (3) I, II

550A-550B. 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 neoclassical 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.

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)
A study of the critical and theoretical literature of drama, from the creative writer's viewpoint, together with reading and discussion of appropriate examples.

573. Topics in Techniques of Writing (3)
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.

579. Senior Workshop in Creative Writing (3)
Prerequisite: English 280.
A writing workshop in fiction. May be repeated with new 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.

581W. The Writing of Fiction (3) I, II
Prerequisite: English 280.
A writing workshop in fiction. Satisfies University upper division writing requirement for students who have completed 60 units: fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication. May be repeated with new content. Maximum credit six units.

582W. The Writing of Nonfiction (3)
Prerequisite: English 280.
A writing workshop in nonfictional prose. Satisfies University upper division writing requirement for students who have completed 60 units: fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication. May be repeated with new content. Maximum credit six units.

586. The Writing of Nonfiction (3)
(See this section of catalog under Comparative Literature.)

587. The Writing of Poetry (3)
See Class Schedule for specific content. Maximum credit six units.

Comparative Literature
(See this section of catalog under Comparative Literature.)

GRADUATE COURSES
Refer to the Graduate Bulletin.

European Studies
In the College of Arts and Letters

European Studies courses, the European Studies major with the A.B. in liberal arts and sciences, and the European Studies minor are offered and administered through the Humanities Committee, composed of faculty members from diverse departments. Professor Leon Rosenstein is director of the European Studies Program and adviser to European Studies majors. Refer to the "Humanities" listing.
Family Studies and Consumer Sciences

In the College of Professional Studies and Fine Arts

The undergraduate majors in child development, foods and nutrition, and home economics are accredited by the Council for Professional Development of the American Home Economics Association.

Faculty

Emeritus: Boggs, Cannon, Comin, Doris, Martin, M., Milne, Somerville, Stout, Thomas, Warner

Director: Cooke

Professors: Cooke, Deutsch, Fulcomer, Gunning, Hewes, Josephson

Associate Professors: Balskell, Hawkins, Koblinsky, Martin, K.J., Null, Price, Ross, Spindler

Assistant Professors: Dickerson, Hoover-Plow, Miltka, Schupp

Lecturers: Avery, Gabriel, Harrington, Hill, Javenpa, Robasciotti, Stork, Whitney

Offered by the School of Family Studies and Consumer Sciences

Master of Science degree in home economics.

Major in child development with the B.S. degree in applied arts and sciences.

Major in foods and nutrition with the B.S. degree in applied arts and sciences.

Major in home economics with the A.B. degree in applied arts and sciences.

Teaching major in home economics for the single subject teaching credential.

Minor in child development.

Minor in home economics.

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.

The child development major is a professional field which merges theory with practical application. Many fields of study including psychology, biology, home economics, sociology, and anthropology contribute to this interdisciplinary major.

Graduates with a major in child development may work professionally in nursery schools and day care centers, in juvenile homes or in family support and health agencies. Some, after passing the National Teachers Examination, take courses leading to teaching credentials. Others use the human relationships emphasis as the basis for occupations in business and finance. Many go into graduate programs in law, social work, sociology, home economics, marriage and family counseling, or college teaching.

Preparation for the major. Anthropology 102, Biology 100, 145, Family Studies and Consumer Sciences 107, 135, 151 or 240, 270, 271, Psychology 101, 260, Sociology 101, 201 or Psychology 270 (36 units).

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 37 upper division units to include Family Studies and Consumer Sciences 335, 375, 375L (one unit), 422, and 478; Psychology 350; Sociology 446 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 specialize. A master plan for each student must be filed with the Evaluations Office.

Foods and Nutrition 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 major 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; Accountancy 210A; Biology 100, 100L; Chemistry 100 or 200 and 201, 130 or (230), 160 except with 200 series; Economics 101, 201 or (Mathematics 250); Microbiology 210 or 310; Physics 107; Psychology 101, Sociology 101. (51-55 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 40 upper division units to include Family Studies and Consumer Sciences 301, 302, 303, 404, 405, 406, 422; Biology 365L; the remaining units selected with the approval of adviser from Accountancy 315; Family Studies and Consumer Sciences 460, 462, 507, 508, 510; Biology 465L; Chemistry 361A, 361B; Health Science 470, and Management 350, 351 or 352.

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.

The home economics major provides a background appropriate for a wide variety of professional careers. Graduates from the teaching credential program are employed in elementary, secondary, vocational, and adult education fields and in cooperative extension. Clothing, textile, and merchandising majors find positions in retail, marketing, textile research, and as consumer consultants. Graduates from the consumer services and housing sequence have competencies to enter the consumer affairs and family finance fields or use their management skills in working with the elderly, the handicapped, or the low-income. Graduates interested in housing professions find employment in business, educational and governmental organizations.

Preparation for the major. Family Studies and Consumer Sciences 107, 135, 151, 219, 240, 245, 270; Economics 100, 101, 102 or 304; Information Systems 180; Psychology 101; Sociology 101 (Family Studies and Consumer Sciences 115, competency examination or 115L, 217, 260; Biology 100, 100L; Chemistry 100, 130 required for clothing, textiles and merchandising; Accountancy 210A required for students interested in merchandising. Natural Science 110A, 110B; Biology 130; Economics 201 required for consumer services and housing. (48-58 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 39 upper division units selected from one of the core professional sequences. A master plan for each student must be filed with the Evaluations Office.

Core Professional Sequences.


Consumer Services and Housing: Family Studies and Consumer Sciences 343, 383, 422, 440, 451, 541, 546, 553. General option: 15 units selected from Family Studies and Consumer Sciences 335, 460, 482, 545, 548, 487, 545; Management 350, 370; Physics 301; Public Administration 320, Sociology 424. (The prerequisites for Art 453 and Geography 354 have been waived.) Minor option: Related minor with consent of adviser.
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 115, 115L, 135, 151, 204, 205A, 205B, 219, 240, 245, 270; Art 157; Biology 100, 100L; Chemistry 100, 130, Economics 100, 101, 102, or 304; Information Systems 180, Psychology 101; Sociology 101. (56 units.)

Writing Requirement: Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major: A minimum of 36 upper division units in Family Studies and Consumer Sciences to include 314, 335, 375L, 476+, 477, 478, 570*, 578, 579; Psychology 432*.

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 units to include Family Studies and Consumer Sciences 217, Fundamentals of Clothing and Human Behavior (3) I, II, and twelve units selected from Family Studies and Consumer Sciences 204*, 205A*, 205B, and 12 units selected from Family Studies and Consumer Sciences 343*, 355, 440, 541, 545* (and/or 596 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 596 if appropriate).

Child Development: Family Studies and Consumer Sciences 135, 270*, 271, and 12 units selected from Family Studies and Consumer Sciences 335, 375L, 436*, 440*, 478, 536*, 570 (and/or 586 if appropriate).

Clothing, Textiles and Fashion Merchandising: Family Studies and Consumer Sciences 217, 260, 319*, 361, 462, 520 (and/or 596 if appropriate).

Housing: Family Studies and Consumer Sciences 245*, 319*, 343*, 345, 446, 545, 546 (and/or 596 if appropriate).

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 requirements listed above.

LOWER DIVISION COURSES

107. Nutrition Today (3) I, II
Obtaining nutritional needs from a varied food supply. Not open to foods and nutrition majors or students with credit in Family Studies and Consumer Sciences 204.

115. Principles of Apparel Construction (2) I, II
Comparative analysis of construction quality, basic theories, techniques, and procedures for apparel construction. Laboratory optional upon passing competency examination.

115L. Apparel Construction Laboratory (1) I, II
Three hours of laboratory. Prerequisite: Credit or concurrent registration in Family Studies and Consumer Sciences 115.

135. Marriage and Family (3) I, II
Love, maturity dating, compatibility, conflict as they relate to preparation for successful marriage and family living.

151. Dynamics of Family Management (3) I, II
Value systems and application of principles of decision making to individual, professional, and family management in changing socioeconomic environments.

202. Nutrition for Athletes (3) I
Prerequisite recommended: Family Studies and Consumer Sciences 107.
Review of basic diet which will provide nutritional adequacy. Analysis of current theories and practices related to nutrition and athletic performance. (Formerly numbered Family Studies and Consumer Sciences 105.)

204. Fundamentals of Nutrition (3) I, II
Prerequisites: Biology 100, 100L, Chemistry 100 and 130, or 200 and 201.
Nutrition as applied to the stages of the normal life cycle.

205A. Foods I (3) I, II
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) I, II
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. Fundamentals of Clothing and Human Behavior (3) I, II
Cultural, social, psychological, physical, and aesthetic factors which affect clothing behavior. (Formerly numbered Family Studies and Consumer Sciences 317.)

219. Consumer Issues in Clothing and Textiles (3) I, II
Consumer decision-making processes and behavior patterns in the consumption of clothing and textiles. Social, political, economic, and technological factors affecting consumption patterns.

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.
Prerequisites: Architecture 101.
Architectural, functional and aesthetic factors of housing and interiors as related to family needs.

260. Fashion Merchandising Analysis (3) I, II
Prerequisites: Family Studies and Consumer Sciences 217.
Introduction to the fashion industry: manufacturing, wholesaling, and retailing of apparel products and household textiles. (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 observation of children.

271. Human Development: Early Childhood (3) I, II
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 with applications for guidance. Observing, recording individual and group behavior of children.
275. Materials for Nursery School (2) I, II
Four hours of activity.
Prerequisite: Family Studies and Consumer Sciences 270.

276. Child Care Parent Participation (2) Cr/NC
One lecture and two hours of activity.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

301. Science of Foods (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 205B, Microbiology 210, Physics 107.

302. Advanced Nutrition (5)
Three lectures and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 204, Biology 362, and one course in biochemistry.

303. Quantity Food Production (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 205B.

306. International Food Preparation (3)
Prerequisite: Family Studies and Consumer Sciences 107 or 204.

307. Restaurant Production Management (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 306.

308. Purchasing for Restaurants (2)
Prerequisite: Family Studies and Consumer Sciences 307.

309. Eating Disorders and Weight Control (2) I
Prerequisite: Upper division standing in foods and nutrition or other majors with consent of instructor.

314. Principles of Apparel Design (3) I
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 115, 115L or competency examination.

318. Fiber, Yarn, and Fabric Construction and Finishes (3) I
Prerequisites: Family Studies and Consumer Sciences 219, Chemistry 100, 130, 130L.

335. Family Interaction (3) I, II
Prerequisite: Family Studies and Consumer Sciences 135.

343. Home Energy Issues (3) II
Two lectures and three hours of laboratory.
Prerequisite: Chemistry 130.

345. Housing and Interiors: Historical Influences (3) I
Prerequisite recommended: History 105.

350. Family Resource Management (3) I, II
Efficient management of the home, family cooperation, establishment of goals, and productive use of money, time, and energy for a variety of family lifestyles. Not open to home economics majors, or to students with credit in Family Studies and Consumer Sciences 451.

351. Time and Human Resource Management (3) II
Analysis of time and human resources with application to the environment.

361. Fashion Merchandising Field Experience (3) I, II
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 260 and consent of program adviser.

362. Fashion Merchandise Budget and Planning (3) I
Prerequisite: Family Studies and Consumer Sciences 361.

375. The Nursery School Program (3)
Prerequisites: Family Studies and Consumer Sciences 271; concurrent registration in Family Studies and Consumer Sciences 375L for one unit only.

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 study center and other preschool situations. May be repeated with consent of instructor. Maximum credit seven units. (One unit of Family Studies and Consumer Sciences 575L can substitute for one unit of 375L.)
383. Consumer Information Systems (3) I, II
Prerequisites: Information Systems 180 and 12 upper division units in Family Studies and Consumer Sciences.
Electronic data processing systems and capabilities related to family studies. Computer applications in household management, including family resources, problem solving, and decision making. Professional uses of computer-based information systems which interface with households, agencies, and institutions.

404. Food Systems Management (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 303.
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 301.
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 302.
Dietary management of pathological and debilitating diseases.

407. Supervised Field Experience in Nutrition Counseling and Education (3) I, II Cr/NC
Two lectures and three hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 302, consent of instructor, and a B average or better in the major field.
Training in general counseling techniques for nutritional assessment. Supervised field experience with various community based nutrition programs.

408. Restaurant Planning and Design (3)
Prerequisite: Family Studies and Consumer Sciences 308.
Analysis and design of restaurant properties. Emphasis on organization, spatial standards, front and back of house, layout and equipment and furnishings.

414. Advanced Apparel Design (3) II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 314.
Creation of original designs utilizing fabric draping and master pattern blocks. (Formerly numbered Family Studies and Consumer Sciences 521.)

415. Creative Approach to Functional Clothing (3) II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 414.
Clothing as it affects the physical and psychological well being of the individual. Functional aspects of clothing. Problem-solving approach to meet clothing needs of disabled persons and persons in special occupations. (Formerly numbered Family Studies and Consumer Sciences 315.)

422. Contemporary Issues in Family Studies and Consumer Sciences (3) I, II
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.
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.

437. Violence in the Family (3)
Prerequisite: Family Studies and Consumer Sciences 335.
Abusive interaction in families, physical and emotional. Present conditions, trends, preventive measures and treatment techniques, and organizations analyzed. Theoretical and applied aspects will be studied.

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 Strategies (3) I, II
Prerequisite: Family Studies and Consumer Sciences 240.
Financial problems and practices of families with regard to various socioeconomic levels. Family financial counseling techniques. Relationship of the family to economic and political systems.

446. Housing and Interiors: Contemporary Design (3) II
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 245.
Influence of contemporary designers on structure, interiors and furnishings used in planning the total housing environment.

451. Family Management Theory and Analysis (4) I
Three lectures and two hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 151 and 240.
Home management related to cultural and socioeconomic needs of families. Systems management theory as it relates to family life cycle, changing roles, and varied family forms. Practical application and field experience.

462. Fashion Merchandising Seminar (3) II
Prerequisite: Family Studies and Consumer Sciences 260.
Innovative practices in the apparel industry; individual investigation and report on a research project.

476. Development of Creative Behavior in Young Children (3) I, II
Prerequisite: Family Studies and Consumer Sciences 375.
Examination of creative behavior: philosophical and empirical approaches to experiences designed for use with young children.

477. Administration of Child Development Programs (3)
Prerequisites: Family Studies and Consumer Sciences 375 and 375L.
Historical and philosophical background of programs for young children, current research, laws and regulations, planning, operating, evaluating child care centers and nursery schools.

478. Working with Parents (3) I, II
Prerequisite: Family Studies and Consumer Sciences 270 or Psychology 330.
An investigation of philosophy, issues, and current trends in working with parents.

480. Instructional Techniques (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Six units in family studies and consumer sciences. Recommended: Educational Technology and Librarianship 404 and Speech Communication 204.
Organizing materials and developing techniques used for demonstrations and presentations in business, promotional and educational settings. Preparation of scripts, photographic styling, television productions, and professional demonstrations.

481. Materials and Techniques for Teaching Home Economics (3) II
Two lectures and three hours of laboratory.
Prerequisite: 15 units in Family Studies and Consumer Sciences.
Selection, use, and evaluation of instructional materials, teaching strategies and laboratory procedures for home economics education and occupational student organizations. Application and development of individualized instructional products, demonstration materials, and other instructional aids.

482. Educational Practices and Instructional Resources (3) I, II
Prerequisite: Fifteen units in Family Studies and Consumer Sciences.
Principles of learning as they relate to teaching home economics to adults. Organization of material: selection, use and evaluation of teaching techniques.
483. Program Development in Home Economics (4) I
Three lectures and two hours of activity
Prerequisite: Twelve upper division units in family studies and consumer sciences.
Development and design, instructional procedures and evaluation strategies for consumer-home economics programs.

495. Internship in Restaurant Management (3)
Prerequisite: Family Studies and Consumer Sciences 308 and consent of restaurant management minor adviser.
Students to be assigned to restaurant firms to work under joint supervision of the business firm and course instructor.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

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)

506. Processing Food and Nutrition Data (3)
One lecture and six hours of laboratory
Prerequisites: Family Studies and Consumer Sciences 302 and 303.
Application of computer logic to food service management, diet planning and analysis.

508. Advanced Food Systems Management (3)
Prerequisite: Family Studies and Consumer Sciences 404.
Analysis of current topics in food systems management. Application of management principles in individual special projects.

510. Nutrition and Community Health (3)
Two lectures and three hours of laboratory
Prerequisite: Family Studies and Consumer Sciences 302.
Exploration of nutrition problems in the community with consideration of current and potential means of resolving them.

519. Textile Analysis and Testing (3) I, II
One lecture and six hours of laboratory
Prerequisite: Family Studies and Consumer Sciences 319.
Analysis based on physical tests for differences due to variation in fiber, yarn, and fabric structure and finishes. Suitability of various characteristics for specified end uses.

520. Clothing and Human Behavior (3)
Prerequisites: Psychology 101, Sociology 101.
Concepts and theories of human behavior as they apply to clothing usage. Significance of impressions of individuals that result from their attire in the dynamics of social interaction of contemporary Western societies.

522. Clothing and Textiles: Historical Influences (3) II
Historical overview of clothing and textiles with emphasis on important socioeconomic and cultural influences.

536. Family Study (3)
Prerequisites: Family Studies and Consumer Sciences 335 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.

539. Family Relationships in Literature (3)
Approaches 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.

541. Consumer Interest (3)
Prerequisite: Family Studies and Consumer Sciences 240 or 440.
Analysis of consumer legislation, consumer information and consumer protection programs.

545. 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.

546. Environmental Factors of Housing (3)
Prerequisite: Family Studies and Consumer Sciences 245.
Problems of developing effective housing for families in various cultural situations. Investigation of psychological, economic and legislative factors of housing.

553. Supervised Field Work in Home Management (3) II
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.

570. Human Development: Infant/Toddler Laboratory (1) I, II
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 three years of age.

580. Advanced Administration of Child Development Programs (3) I, II
Prerequisite: Family Studies and Consumer Sciences 477.
Problems of organization in conducting programs for young children; interrelationships of staff, parent, child, and community. Preparation of written reports.

584. Occupational Home Economics Programs (3) I, II
Prerequisites: Family Studies and Consumer Sciences.
Vocational education legislation; development and administration of occupational and career programs in all areas of home economics.

586. Advanced Studies in Home Economics (3) I, II
Prerequisite: Twelve upper division units in Family Studies and Consumer Sciences.
Advanced study of selected topics. See Class Schedule for specific content. Maximum credit nine units. No more than six units may be applied toward either the bachelor’s or master’s degree. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.
French
In the College of Arts and Letters

Faculty
Emeritus: Glibert, Messier
Chair: Palmer
Professors: Branan, Glasgow, Jackson, Max, Nelson
Associate Professor: Palmer
Assistant Professor: Cox

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.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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, 200A, 200B, 200C, 200D. (22 units.)
Recommended: History 105, 106.

Foreign Language Requirement.
The foreign language requirement is automatically fulfilled through coursework for preparation for the major.

Writing Requirement.
Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major.
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, 200A, 200B, 200C, 200D. (22 units.)

Writing Requirement.
Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major.
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 satisfying 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 three units of 200-level courses. 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. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit.

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 (5) I, II
Pronunciation, speaking and writing, readings on French culture and civilization, essentials of grammar. Not open to students who have completed three years of high school French.

102. Elementary (5) I, II
Prerequisite: French 101 or two years of high school French.
Continuation of French 101. Not open to students who have completed four years of high school French.

200A. French Grammar (3) I, II
Prerequisite: French 102 or three years of high school French.
Majors and minors should enroll concurrently in either French 200B, 200C, or 200D. Not open to students with credit in French 202.
Comprehensive survey of French grammar at the intermediate level. Analysis and use of typical French structures.

200B. Reading French (3) I, II
Prerequisite: French 102 or three years of high school French.
Majors and minors should enroll concurrently in either French 200A, 200B, or 200C. Not open to students with credit for more than 10 units of 200-level French.
Emphasis on reading: short stories, plays, cultural material, etc.

200C. Writing French (3) I, II
Prerequisite: French 102 or three years of high school French.
Majors and minors should enroll concurrently in either French 200A, 200B, or 200D. Not open to students with credit for more than 10 units of 200-level French.
Emphasis on written composition: study of a variety of prose models and practice in writing.

200D. The Grammar of Spoken French (3) I, II
Prerequisite: French 102 or three years of high school French.
Majors and minors should enroll concurrently in either French 200A, 200B, or 200C. Not open to students with credit in French 212.
Analysis of grammar, and use of modern French through study of cultural materials, for proficiency in oral communication.

UPPER DIVISION COURSES
(Intended for Undergraduates)
All upper division courses in French are taught in French unless otherwise stated.
French 301 and French 302 are not open to students who hold a French baccalauréat.

301. Advanced Grammar and Composition (3) I, II
Prerequisite: Twelve units of 200-level French.
Advanced grammar and stylistics, intensive writing practice.
302. Advanced Grammar and Composition (3) I, II
Prerequisite: French 301.
Advanced grammar and styistics; intensive writing practice

305A-305B. Survey of French Literature (3-3) I, II
Prerequisite: Twelve units of 200-level French
Important movements, authors, and works in French literature from the Middle Ages to the present.

401. French Phonetics and Diction (3)
Prerequisite: Twelve units of 200-level French
Study of the sound system of French as a means of improving pronunciation and diction.
Phonetic transcription, classroom exercises and laboratory work.

411. Explication de Textes (3)
Prerequisite: Twelve units of 200-level French
An introduction to the analytical approach to the detailed study of literature. Demonstrations by instructor and students.

421. French Civilization (3)
Prerequisite: Twelve units of 200-level French
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 Humanities 310.

422. French Civilization (3)
Prerequisite: Twelve units of 200-level French
French culture from the Enlightenment to the present. Continuation of French 421. Not open to students with credit in Humanities 311.

431. Applied French Linguistics (3)
Prerequisite: Twelve units of 200-level French
Phonemics, morphemics, syntax and semantics of present day French.

496. Topics in French Studies (1-4)
Topics in French language, literature and linguistics. May be repeated with new content. Maximum credit nine units. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. 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)

501. Translation (3) I
Prerequisite: French 302
Stylistic comparison of French and English through translation of a variety of prose styles from English to French and from French to English.

521. Seventeenth Century French Literature (3)
Prerequisites: French 301 and 302
Major seventeenth century dramatists with emphasis on Corneille, Moliere and Racine.

531. Eighteenth Century French Literature (3)
Prerequisites: French 301 and 302
Major eighteenth century dramatists with emphasis on Voltaire, Diderot and Rousseau.

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.

551. Twentieth Century French Novel (3)
Prerequisites: French 301 and 302
Major novelists of twentieth century France.

596. Topics in French Studies (1-4)
Prerequisites: French 301 and 302.
Topics in French language, literature and linguistics. May be repeated with new content. Maximum credit nine units. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Taught in French. See Class Schedule for specific content.

GRADUATE COURSES
Refer to the Graduate Bulletin.
**Geography**

In the College of Arts and Letters

**Faculty**

Emeritus: Colombo, Richardson, Storm, Taylor

Chair: Griffin

Professors: Eidemiller, Ford, Greenwood, Griffin, Johnson, Keen, Kiewiet de Jonge, O'Brien, Pryde, Quastler, Stutz, Wright, Yahr

Associate Professors: Bick, Friedrich, McArthur

Lecturer: Aguado

**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.

**Advising**

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

**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 courses 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."

**Writing Requirement.** Passing the University Writing Examination or English 304W, 305W, 500W, 500W, 581W, or 582W, with a grade of C (2.0) or better.

**Major.** A minimum of 26 to 38 upper division units to include Geography 305 (two units), Geography 498A (1 unit), and either Geography 498B (2 units) or at least two additional units in geography other than the major requirements. Students wishing to take Geography 498B must have an overall GPA of 3.0 and/or the consent of the department.

**Graduation with Distinction.** A student desiring to graduate with Distinction in Geography major must meet the University requirements listed in the section of this catalog on "Graduation Requirements" and, in addition, must have completed Geography 498B by the time of graduation and be recommended by the geography faculty.

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.

(b) Physical Geography

Students selecting this area are not required to complete a minor in another department. Elective upper division coursework in related disciplines is strongly recommended.

**Geography Minor**

The minor in geography consists of a minimum of 18 units of geography, to include Geography 101, 102 and one of the following areas:

**Physical:** nine units selected from Geography 378, 401 or 501-509, and three units selected from techniques courses Geography 380-382, 581-589.

**Cultural:** six units from Geography 312A or 312B, 350, 351, 356, 357, and six units selected from regional courses Geography 320-325, 327.

**Urban/Transportation:** nine units selected from Geography 353-358, 555-559, 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, 376, 570-576, and three units selected from technique courses Geography 360-382, 581-589.

**Techniques:** nine units selected from Geography 380-382, 581-589, and three units selected from any other upper division course.

**Certificate in Cartography**

The purpose of the program is to prepare students to carry out different types of mapping activities in public and private organizations.

Students must apply for admission to the program before the completion of 15 certificate units and must complete the required units with a 2.5 grade point average.

The certificate requires 21 units to include six units selected from Civil Engineering 218, Mathematics 107 and 137, and fifteen units selected from Geography 381, 382, 495, 581, 582, 587. Courses with relevant content may be substituted for the courses listed above with the approval of the certificate adviser.
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, references and 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.

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
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.

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

(Intended for Undergraduates)

305. Concepts and Trends in American Geography (2)
Prerequisites: Geography 101 and 102.
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 recommended: 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 recommended: 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 recommended: 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 recommended: 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 recommended: 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
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. Monsoon Asia (3)
Prerequisite recommended: Geography 101 or 102.
Geographic basis for the political heritage, economics, and peoples of China, Japan, Indonesia, India, and other countries of Southern, Southeastern, and Eastern Asia.

335. The Middle East and North Africa (3) I, II
Prerequisite recommended: Geography 101 or 102.
The geographic base for the political heritage, economics, religious institutions, and peoples of North Africa and the Middle East.

337. Soviet Union (3)
Prerequisite recommended: Geography 101 or 102.
Natural resources, agricultural production, industrial growth, and transportation.

339. Oceania (3)
Prerequisite recommended: Geography 101 or 102.
The physical geography, peoples, economies, and trade of Oceania, Australia, and New Zealand.

350. Political Geography (3) I, II
Prerequisite recommended: Geography 101 or 102.
Geography as it relates to the strength of nations and international relations.

351. Economic Geography: Primary Production (3)
Prerequisite recommended: Geography 101 or 102.
The geography of agricultural production and the extractive industries in relation to world commerce. Occasional field trips may be arranged.

353. Location of Economic Activity (3) I, II
Prerequisite recommended: Geography 101 or 102.
Spatial arrangement and interaction of resources, production, exchange and consumption, principles and theory in industrial location; selecting favorable locations for capital investments, determining growth potential of service and market areas, meeting environmental impact requirements.

354. Geography of Cities (3) I, II
Prerequisite recommended: Geography 101 or 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 use. Topics include landscape image and design, patterns of folk and ethnic culture and spatial diffusion processes.

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.

358. Transportation Geography (3) I, II
Prerequisite recommended: Geography 101 or 102.
The spatial distribution of transportation networks and commodity movement and their relationship to the distribution of economic activity.

359. Geography of Air Transportation (3) I, II
Prerequisite recommended: Geography 101 or 102.
Evolution and current status, with emphasis on the U.S. and future of commerical air transportation as influenced by government regulations, economic conditions, corporate strategies, and technological change.

360. Geography of Tourism (3)
Distribution and patterns of domestic and international tourism. Background, physical, cultural, and social characteristics, modes of travel, destinations, environmental and cultural impact, problems and future. Occasional field trips.

365. Human Perception: Space and Place (3) I, II
Human perception and spatial behavior in a broad range of physical and cultural settings designed to provide an understanding of key relationships between people and place.

370. Conservation of Environmental Quality (3) I, II
Prerequisite recommended: Geography 101 or 102.
Quality of man's habitat in a changing human and natural environment; water, air and soil pollution, urban crowding, disappearance of open space, and decreasing opportunities for outdoor recreation. Occasional field trips may be arranged.

371. Conservation of Natural Resources (3) I, II
Prerequisite recommended: Geography 101 or 102.
Nature and extent of mineral, soil, water, forest, and wildlife resources and their conservation, with particular emphasis on the United States against a general background of world resources. Conservation philosophies and practices and their geographic bases. Maximum credit six units.

378. Environmental Physiography (3) I, II
Prerequisite: Geography 101.
Introduction to environmental physiographic dynamics. Assessment of man's role in these dynamics and their effect on urban and rural land use, including such topics as induced erosion, landslides, and flooding.

380. Map Investigation (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Geography 101 or 102.
Use of the map as an analytical tool in geography. History of developments in cartography and development of the map as a medium of expression. Map skills and the design and use of maps. Laboratory instruction and practice in cartographic techniques with emphasis on presenting quantitative data.

381. Maps and Graphic Methods (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Geography 101 or 102.
The art and science of creating graphs and maps as media for describing and analyzing geographic phenomena. Laboratory instruction and practice in cartographic techniques with emphasis on presenting quantitative data.

382. Use and Interpretation of Aerial Photographs (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geography 101 and consent of instructor.
Stereoscopic interpretation and cartographic representation of landforms, vegetation, and land use. Emphasis on practical exercises.

401. Physiography (3)
Prerequisite: Geography 101.
Morphology and genetic interpretation of the relief features of the earth's surface.

495. Geographic Internship (3) I, II
Prerequisite: Consent of instructor.
Students will be assigned to various government agencies and industries and will work under the joint supervision of agency heads and the course instructor. Maximum credit six units. Three units may be applied to major in geography.

496. Selected Studies in Geography (3)
Prerequisite: Six units in geography. Critical analysis of problems within a specific field of the discipline. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 496A, 496B, 496C, 496D courses applicable to a bachelor's degree. Maximum combined credit six units.

501. Advanced Physiography (3)
Prerequisite: Geography 401.
Climatic and structural physiography.

504. Coastal and Submarine Physiography (3)
Prerequisite: Geography 378 or 401.
Analysis of marine waves, of their modification in shallow waters, of coastal currents and tides, and the application of coastal and submarine relief in relation to environmental processes and their modification by man. Occasional field trips may be arranged.

505. Geography of Soils (3) I
Prerequisite: Geography 101.
The nature, properties and distribution of soils and their relationships to the influence of climate, landforms, and human activity. Occasional field trips may be arranged.

506. Geography of Soils Laboratory (1)
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Geography 505.
Theories of soil genesis, pedology, and structure related to empirical phenomena through laboratory experimentation and observation. Best suited to concurrent enrollment in Geography 505. Occasional field trips may be arranged.

507. Geography of Natural Vegetation (3) I, II
Prerequisite: Geography 101.
The natural vegetation associations of the world, their distribution, classification and development, including relationship to human activities. Maximum credit three units.

A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course
508. Physical Climatology (3) I
Prerequisite: Geography 103.
Effects of latitude, altitude, mountains, ocean currents, wind systems, and various surfaces on the distribution of solar radiation, temperature, precipitation, and other climatic elements. Statistical reduction and interpretation of climatic data.

509. Regional Climatology (3) II
Prerequisite: Geography 103.
The causes of climatic types as they occur throughout the world. Principles of several climatic classifications.

521. Urbanization and Modernization in Latin America (3)
Prerequisite: Geography 102, 323 or 324
Analysis of specific aspects of urbanization and modernization processes in Latin America. Emphasis on changing spatial relationships resulting from rapid urban growth and culture change. Occasional field trips.

522. Historical Geography of Latin America (3) (Offered at IVC only)
Prerequisite: Geography 102, 323 or 324.
Changes in the Latin American cultural landscape over time. The peopling, exploration, settlement and changing geographical patterns of all or a part of the region. Origin and diffusion studies will be stressed.

540. Advanced Regional Geography (3)
Prerequisite: At least one upper division course in the subject region.
Intensive study of a major country or subregion. May be repeated with different course content for a maximum of six units. See Class Schedule for specific content.

555. Historic Preservation and Urban Design (3)
Prerequisite: Geography 102.
Processes of growth and change in cities. Techniques for preserving, renovating, reutilizing, and recycling valued buildings and neighborhoods. International comparisons of preservation policies and practices and analyses of urban patterns resulting from them. American values and the concept of place.

556. Location and Spatial Structure of Cities (3)
Prerequisite: Geography 354 or three units of upper division course work in a related field.
Principles and characteristics of urban growth and settlement; the internal structure and functioning of urban centers; spatial models of urban land use; growth management, transportation problems, and sociopolitical urban problems. Occasional field trips may be arranged.

557. Methods in Urban and Transportation Analysis (3)
Prerequisites: Geography 585 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.

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 spatial 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.

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.

571. Energy Resources and the Environment (3) I, II
Prerequisite: Geography 371. Recommended: Physics 107 or 301.
Location and distribution of conventional and renewable energy resources, their environmental effects, and policy questions regarding future development and use of energy resources.

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
Prerequisite: Geography 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 101 or 102.
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: A three-unit course on mapping. Advanced laboratory instruction and practice in cartographic techniques.

582. Automated Cartography (3)
Two lectures and three hours of laboratory.
Prerequisite: Three units from Geography 380, 381, 382, 585, 587, or 589, or from graphics or computer programming.
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 250 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 and 102. Multiband spectral reconnaissance of the environment. Emphasis on multispectral photography, infrared, microwave scanning systems and multifrequency radar systems, and their use in the study of cultural and biophysical phenomena.

588. Advanced Remote Sensing of the Environment (3)
Two lectures and three hours of laboratory.
Prerequisite: Geography 587. Current research in geographic remote sensing and related fields. Applications of remote sensing in the study of cultural and biophysical environments. Practice in planning, design, execution and interpretation of remote sensing studies. Emphasis on computer programs and applications.

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, including Geography 101 and 102, and consent of instructor.
Data acquisition techniques. Field use of topographic maps, geographic systems, automated land use, land cover and land capability mapping. Directed field work.

GRADUATE COURSES - Refer to the Graduate Bulletin.
Geological Sciences

Faculty
Emeritus: Brooks, McEuen, Roberts, Thomas, Theet
Chair: Abbott
Professors: Abbott, Berry, Bertine, Gaist, Jiracek, Kern, Krummennencher, Miller, Peterson, Wawalender
Associate Professors: Dorman, Huntley, Marshall, Ptacek,
Assistant Professors: Frost, Rockwell
Lecturer: Terry

Offered by the Department
Master of Science degree in geological sciences.
Major in geological sciences with the B.S. degree in applied arts and sciences.
Minor in geological sciences.
Minor in oceanography.

Geological Sciences 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.” Refer to the department for listing of General Education requirements. Geological sciences majors must take all upper division courses listed for the major under Basic Requirements for All Students and the major continued option selected for letter grades only. These upper division courses may not be taken for credit/no credit.

Preparation for the major, the minor, 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) 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 or Zoology 100; and Chemistry 200 and 201. (28 units.) Recommended: a foreign language and a course in mechanical drawing if not completed in high school.

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36-38 upper division units in approved courses to include Geological Sciences 305, 308, 498A-498B, 508. (14 units.) Geological Sciences 508 is an optional course in the geophysics and marine geology degree options.

Options
In addition to the basic requirements, the student must complete the requirements in one of the following options:

(a) Geology

(b) Engineering Geology
Additional preparation for the major. Geological Sciences 230, Engineering Mechanics 200, Engineering 140; Mathematics 150, 151, 152; Physics 195, 196, 197. (30 units.) Recommended: Civil Engineering 218; Physics 195L, 196L, 197L.
### Oceanography Minor

The minor in oceanography consists of a minimum of 15 upper division units to include Oceanography 541: Geological Sciences 546, 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 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>General Geology</td>
<td>Pursuit of understanding the earth as a whole and its past, present and future evolutionary processes</td>
<td>3, 2</td>
</tr>
<tr>
<td>101</td>
<td>General Geology Laboratory</td>
<td>Three hours of laboratory</td>
<td>3, 2</td>
</tr>
<tr>
<td>221</td>
<td>Mineralogy</td>
<td>Three lectures and three hours of laboratory</td>
<td>3, 2</td>
</tr>
<tr>
<td>230</td>
<td>Introduction to Geophysics</td>
<td>Three lectures and three hours of laboratory</td>
<td>3, 2</td>
</tr>
<tr>
<td>253</td>
<td>Geology for Engineers</td>
<td>One lecture and three hours of laboratory,</td>
<td>2, 1</td>
</tr>
<tr>
<td>296, 496</td>
<td>Experimental Topics</td>
<td>Selected topics. May be repeated with new content. See Class Schedule for specific content.</td>
<td>1-4</td>
</tr>
</tbody>
</table>

### UPPER DIVISION COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>Geology of National Parks and Monuments</td>
<td>Prerequisite: Geological Sciences 105. Only a group of national parks and monuments, selected for their geological significance, scenic beauty and visitor popularity. (Not acceptable for a major in geology but acceptable for a minor in geology.)</td>
<td>3</td>
</tr>
<tr>
<td>303</td>
<td>Environmental Geology</td>
<td>Study of geologic processes and man, including landslides, flooding, earthquakes, and ground water resources.</td>
<td>3</td>
</tr>
<tr>
<td>305</td>
<td>Structural Geology</td>
<td>Two lectures and three hours of laboratory per week with occasional field trips.</td>
<td>3</td>
</tr>
<tr>
<td>308</td>
<td>Field Geology</td>
<td>One lecture and three hours of laboratory and twelve Saturday field sessions in the local area.</td>
<td>3</td>
</tr>
<tr>
<td>314</td>
<td>Geomorphology</td>
<td>Techniques and methods of geologic observation, interpretation, and field mapping.</td>
<td>3</td>
</tr>
<tr>
<td>333</td>
<td>The History of Life</td>
<td>A course in biological science.</td>
<td>3</td>
</tr>
<tr>
<td>496</td>
<td>Selected Topics In Geology</td>
<td>Selected topics in geology and related earth sciences. May be repeated with new content.</td>
<td>1-4</td>
</tr>
<tr>
<td>499B</td>
<td>Special Study</td>
<td>Acceptable grade average in at least 12 upper division units within the major and consent of staff.</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Geological Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>Geology of North America</td>
<td>A regional analysis of North American geology, its structural, stratigraphic, and tectonic patterns and hypotheses concerning their origin and evolution.</td>
<td>3</td>
</tr>
</tbody>
</table>
505. Photogeology (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 305 and 314.
Geologic interpretation of aerial photographs, elementary stereoscopy and stereometry 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.
Principles and methods, exemplified by a study of the morphology, classification, habit, and geologic significance of fossil invertebrates.
Vertebrate Paleontology, see Zoology 560.

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, S
One lecture and three hours of laboratory and seven weekend field sessions.
Prerequisite: Geological Sciences 306.
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, 196, 197.
Recommended: Physics 195L, 196L, 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, 196, 197.
Recommended: 195L, 196L, 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)
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: Geological Sciences 224 and 305.
Geologic occurrence of petroleum and the application of geologic principles in exploration and production.

524. Optical Mineralogy (3) I, II
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.

525. Petrography (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 524.
A study of rocks with the polarizing microscope; identification of mineral constituents; interpretation of textures; classification of rocks; problems of genesis.

530. Geochemistry (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 224, Chemistry 201, Mathematics 121 and 122, or 150.
The relationship of basic chemical principles to geologic phenomena and environments, including applications to geologic exploration problems.

540. Marine Geology (3) I
Prerequisites: Geological Sciences 105, and either Geological Sciences 224, 314, 502, or 506.
Plate tectonic origin and history of the ocean basins. Formation and distribution of sediments in response to biological, chemical, and geologic processes.

545. Descriptive Physical Oceanography (3) I
Prerequisites: Mathematics 121 and 122 or 150, Physics 180A or 195.
Physical environment of oceans including heat, water, and salt budgets, physical properties of sea water, sea ice, air-sea relationships, effects of light and sound, distribution of temperature, salinity, density, surface current, deep circulation, water mass formation, instruments and methods of study.

546. Advanced Physical Oceanography (3) II
Prerequisites: Mathematics 121 and 122 or 150, Physics 180A or 195.
Physical principles behind the dynamics of oceans. Covers physical principles behind surface waves, internal waves, seiches, tsunamis, storm surges, wind wave generation and forecasting, tidal currents, air-sea interaction, heat and light transmission.

548. Coastal and Estuarine Physical Oceanography (3) II
Prerequisites: Mathematics 121 and 122 or 150, Physics 180A or 195.
Physical processes of marine coastal areas and estuaries. Includes longshore currents, rip currents, real waves in shallow water, wave refraction and diffraction, mechanics of sediment transport, forces and dynamics of estuarine circulations and tides.

550. Engineering Geology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 305.
Geologic processes and works of humans. Topics include rock and soil mechanics, ground water flow, slope stability, seismicity, lands subsidence, and evaluation of geologic materials with respect to dam sites, tunnel alignments, and building foundations.

551. Hydrogeology (3) I
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 305 and Mathematics 150.
Theory of ground water flow, Exploration for and development of the ground water resource. Aquifer tests, water quality, and water resource management. Occurrence of water in alluvial, sedimentary, volcanic, plutonic, and metamorphic terrains.

596. Advanced Topics in Geology (1-4)
Prerequisites: Consent of instructor.
Advanced special topics in the geological sciences. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
German

In the College of Arts and Letters

Faculty
Emeritus: Walker, Wolf
Chair: Wulbern
Professors: Boney, Dukas, Paulin, Schaber, Tanaka, Westervelt, Wulbern
Associate Professor: Dunkle

Offered by the Department of
Germanic and Slavic Languages and Literatures
Master of Arts degree in German.
Minor in German.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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, 201, 202, 211, and 212. (21 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

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 German 301, 302, 310; 15 units selected from German 403, 505, 510, 540, 545, 549, 555, 561, 596, and Humanities 320 and 321.

German 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.

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 German is required for the degree.

Preparation for the major.
German 101, 102, 201, 202, 211, and 212. (21 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 30 upper division units to include 301, 302, 310, 403, 505, 510, Humanities 320 and 321, and six units selected from German 540, 545, 549, 555, 561, and 596.

Proficiency Examination: Before taking a student teaching assignment in German, 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 should consult the chair of the department.

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. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit.

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. First Course in German (4½) I, II
Four lectures and one hour of laboratory
Prerequisite: Completion of two years of high school German.

102. Second Course in German (4½) I, II
Four lectures and one hour of laboratory
Prerequisite: Completion of German 101 or two years of high school German.

201. Third Course in German (4) I, II
Prerequisite: Completion of German 102 or three years of high school German.

202. Fourth Course in German (4) I, II
Prerequisite: Completion of German 201 or four years of high school German.

211. Conversation (2) I, II
Prerequisite: Completion of German 202 or three years of high school German.

212. Conversation (2) I, II
Prerequisite: Completion of German 211 or four years of high school German.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program

301. Grammar and Composition (3)
Prerequisites: German 201 or 211

Grammar and Stylistics. Intensive writing practice, reports based on outside reading.

Germanic and Slavic Languages and Literatures
Chair: Wulbern
Emeritus: Walker, Wolf

Faculty
Associate Professor: Dunkle
Professors: Boney, Dukas, Paulin, Schaber, Tanaka, Westervelt, Wulbern

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

LOWER DIVISION COURSES

German I 347
348 / German

302. Grammar and Composition (3)
Prerequisites: German 202 and 212.
Grammar and stylists: intensive writing practice; reports based on outside reading.

310. Introduction to German Literature (3)
Prerequisite: German 202.
Introduction to literary study in German, with selected readings representative of different periods and genres.

403. Advanced Oral and Written German (3)
Prerequisites: German 301 and 302.
Advanced forms of oral and written German.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

499. Special Study (1-3)
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.

540. German Literature from Its Beginning to the Baroque Period (3)
Prerequisite: German 310.
Literature from the eighth century to about 1700.

545. German Literature of the Eighteenth Century (3)
Prerequisite: German 310.
Reading and discussion of representative works of significant authors and movements of the eighteenth century. (Formerly numbered German 545A-545B.)

549. Goethe's Faust (3)
Prerequisite: German 310.
Goethe's Faust, Parts 1 and 2: its philosophical content and its position in German and European literature; lectures, reading, reports.

555. German Literature of the Nineteenth Century (3)
Prerequisite: German 310.
Reading and discussion of representative works of significant authors and movements of the nineteenth century. (Formerly numbered German 555A-555B.)

561. German Literature of the Twentieth Century (3)
Prerequisite: German 310.
Reading and discussion of representative works of significant authors and movements of the twentieth century. (Formerly numbered German 561A-561B.)

596. Topics in German Studies (3)
Prerequisites: German 310 (for literary topics) or 505 (for linguistic topics). Topics in German language, literature, or linguistics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Greek
Refer to section on Classics

Health Science
In the College of Human Services

Faculty
Emeritus: Barnes, Fellers, Harper, Kitzinger
Chair: McTaggart
Associate Professors: Baskin, Kessler, Noto, Sleet
Assistant Professor: Sam

Offered by the Department
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 101, 102; Family Studies and Consumer Sciences 107, Psychology 101; Sociology 101; Speech Communication 163; Zoology 106; Chemistry 100; Microbiology 110, 110L (30 units.)

Writing Requirement, Passing the University Writing Examination or English 304W or 305WW

Major. A minimum of 40 upper division units to include Health Science 400, 401, 402, 406, 470, 490, 497 (six units), 561; Biology 362; Educational Technology and Librarianship 532; Social Work 350; and three units of electives in health science.

Health Science Major
For the Single Subject Teaching Credential in Social Science
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 B.S. degree in applied arts and sciences.

Preparation for the major: Health Science 101, 102; Family Studies and Consumer Sciences 107; Psychology 101; Sociology 101; Zoology 106; and six units selected from one of the following groups: (1) Anthropology 101, 102; (2) Economics 101, 102; (3) Geography 101, 102; (4) History 105, 106, 110A-110B, 115A-115B; (5) Political Science 101, 102, 103 (25 units.)
Writing Requirement. Passing the University Writing Examination or English 304W or 305W with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Health Science 331, 351, 400, 470, 475, 520, 574, 575; Biology 362; Psychology 330; Sociology 440; and three units selected from health science or a closely related field.

Credential Requirements. In addition, students must complete 18 upper division units selected from anthropology, economics, geography, history, political science or sociology. Six of the units must be taken in each of two additional departments and three units from an additional field. The total program for the social science teaching credential must include three or more units in at least four different disciplines.

Health Science Minor

The minor in health science consists of a minimum of 15 units in health science selected from one of two areas:

Community Health Education: Health Science 101, 400, 401, 470, 561.

School Health: Health Science 101, 320 or 321, 331, 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
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.

170. Physiology of Reproduction (2)
A series of lectures and discussions dealing with normal and abnormal physiology and anatomy of reproduction; facts and facts in sex hygiene, and related topics.

220. The Biology of Health (3)
Prerequisite: Biology 100. Basic biology in health and disease; the nature and scope of health education.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

UPPER DIVISION COURSES

(Intended for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

301. Concepts of Health Science (3)
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 101.

320. Health Education for Elementary Teachers (3) I, II, S
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, S
The teacher’s function in the secondary school health program.

331. Crisis Management (3) I, II
Physical and psychological crisis situations, various procedures and techniques in immediate management and follow-up referrals.

350. Environmental Health Education (3)
Environmental hazards of living and working in this modern technological world, including air, noise, land, food, and water pollution.

351. Occupational and Environmental Hazards (3)
Recognition and prevention of morbidity and mortality in occupational and environmental settings.

355. Consumer Health (3)
Hazards of consumer products from the viewpoint of design and use.

362. International Health (3)
Population dynamics, vital statistics, global disease patterns, and analysis of variations among nations and cultures with respect to health problems and health care services. (Formerly numbered Health Science 562.)

400. Health Education as a Profession (3) I, II
Prerequisite: Health Science 101. Principles of health education and its role in the health system. For students with professional interests in health education.

401. Change Process in the Community (3) I, II
Prerequisites: Psychology 101, Sociology 101 and declared health science or social work majors or minors.

405. Communication Methods in Health Education (3) I, II
Prerequisites: Health Science 400, Speech Communication 103.
Development and production of health presentations for group and individual levels; including written, oral, and graphic methods.

406. Health Education Methodology (3)
Prerequisite: Health Science 402.
Strategies, techniques, and materials for planning and conducting health education.
Applications of learning theory in the development and use of educational methodologies in health education.

470. Communicable and Noncommunicable Diseases (3) I, II
Causes, prevention, and control of communicable, degenerative, and chronic health disorders.

471. Death Education (3)
Cultural, psychological, physical, and personal aspects of death with emphasis on educational approaches.

475. Human Sexuality (3) I, II
Examination of the development of sexual values, attitudes, and behavior from infancy to old age.

490. Measurement and Evaluation in Health Science (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Health Science 101.
Measurement in health science: data-gathering techniques; organization; presentation and interpretation of data; computer utilization; basic principles of evaluation of student achievement.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

497. Supervised Field Experience (1-6) I, II Cr/NC
Prerequisites: Community Health Education students: Senior standing and Health Science majors or minors.
Supervised practical experience in local health agencies and/or schools. Maximum credit six units.

499. Special Study (1-3) I, II, S
Prerequisite: Consent of special study adviser.
Individual study. Maximum credit six units.
UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

520. Administration of the School Health Program (3)
Administrative responsibilities of the school health program. Principles, policies, and
practices involved in health instruction, health services, environment, legal implications, and
community relationships.

522. Health Administration (3)
Prerequisite: Health Science 400.
Basic concepts and practices in the administrative elements of a modern health program in
various environments.

560. Introduction to Public Health (3)
Prerequisite: Health Science 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)
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.

573. Health in Later Maturity (3)
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
Tobacco, alcohol, and other drugs; their use, misuse and abuse.

576. Sex Education (3)
Prerequisite: Health Science 475.
Philosophy, current procedures, and materials needed for development of healthy attitudes
and scientific knowledge appropriate for the understanding of human sexuality.

596. Workshop in Health Science (1-3)
Selected problems in health science are used as a basis for workshop experiences.
Maximum credit six units; maximum credit three units applicable to a master's degree. Limit of
nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.

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Hebrew
In the College of Arts and Letters

Faculty
Assistant Professor: Getter

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 taken out of sequence.

101. Elementary (4) I
Four 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 (4) II
Prerequisite: Hebrew 101.
Continuation of Hebrew 101. Not open to students who have completed four years of high
school Hebrew.

201. Intermediate (4) I
Four lectures and one hour of laboratory.
Prerequisite: Hebrew 102.
Continuation of Hebrew 102. Applications of grammar and reading skills. Additional practice
in conversation.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific
content: Limit of nine units of any combination of 296, 496, 596 courses applicable to a
bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

496. Topics in Hebraic Studies (1-4)
Topics in Hebraic language, literature, culture, and linguistics. May be repeated with new
content. See Class Schedule for specific content: Limit of nine units of any combination of 296,
496, 596 courses applicable to a bachelor's degree. 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: Nasatir, Ragen, Ridout, Rohlfschlag, Webb

Chair: Flammond, P


Associate Professors: DuFaut, Filner, Flammond, P, McLean

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.

Magor in history with the A.B. degree in liberal arts and sciences. Teaching major in history for the single subject teaching credential.

Minor in history.

Advising

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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: Twelve units selected from two of the following sequences: History 100-101, 105-106; 110A-110B; 115A-115B or 120, 121.

Foreign Language Requirement: Competency (equivalent to that which is normally attained through three consecutive courses 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." 

Writing Requirement: History 430W with a grade of C (2.0) or better.

Major: A minimum of 36 upper division units in history to include History 430W with the remaining units distributed in the following pattern:

United States: Twelve units to include History 410A-410B and six units (preferably in sequence) selected from History 537A-537B, 544A-544B, 545A-545B, 546A-546B, 547A-547B, 548A-548B.


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

100. World History (3)

The growth of civilizations and the interrelationships of peoples of Europe, Asia, Africa, and America to 1650. Formerly numbered History 100B.

101. World History (3)

Modern history from a global perspective, 1650 to the present. Formerly numbered History 100B.

105. Western Civilization (3)

Development of European culture, thought and institutions from ancient times through the seventeenth century. Not open to students with credit in History 305A. Formerly numbered History 105A.

106. Western Civilization (3)

Development of modern societies and states to the present day. Not open to students with credit in History 305B. Formerly numbered History 105B.

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 European, 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.

120. Introduction to Asian Civilizations (3)

Development of distinctive cultures, thought and institutions in Asia. Formerly numbered History 120A.

121. Asian Civilizations in Modern Times (3)

The rise of Asian nations and nationalism with emphasis on the nineteenth and twentieth centuries. Formerly numbered History 120B.

296. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.
UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

500A-500B. Ancient History (3-3)
Semester I: Greece to the Roman Conquest. Semester II: Rome to the fifth 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.

504. Medieval Spain (3)
Survey of the Spanish regions to the early sixteenth century. Social and economic developments. (Formerly numbered History 515A.)

506. The Renaissance (3)
The intellectual, artistic, and social transformation of Europe from the fourteenth through the early sixteenth century. (Formerly numbered History 506.)

Field (a). Ancient, Medieval and Early Modern Europe

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

496. Issues in History (1-4)
Refer to Field (g) Topical Subjects.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

507. The Reformation (3)
Continental Europe in the sixteenth century: split of Christendom; the religious wars; national rivalries, the expansion of Europe and the beginnings of the scientific revolution. (Formerly numbered History 509A.)

513A. Scandinavia (3)
The major political, social and economic developments in Scandinavia from the Viking Age to the end of the Napoleonic Wars.

Field (b). Modern Europe

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

407A-407B. 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. (Formerly numbered History 307A-307B.)

408A-408B. England (3-3)
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. (Formerly numbered History 520A-520B.)

496. Issues in History (1-4)
Refer to Field (g) Topical Subjects.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

509. Europe in the Seventeenth Century (3)
Continental Europe: from 1600 to the death of Louis XIV. Shift of power from southern and central Europe to northern Atlantic countries; the growth of the state, and the expansion of commerce. (Formerly numbered History 509B.)

510A-510B. Europe's Age of Enlightenment (3-3)
Semester I: Monarchies and monarchs at peace and war; economic and social transformations; the Baroque and the growth of the Enlightenment from 1660 to 1760. Semester II: Despots, dreamers and enlightened reformers in the last generations of Europe's "Old Regime," 1760-1789.

511A. The Age of European Revolution (3)
Major economic, social, intellectual, and political changes in Europe from 1789 to 1848. Effects of French Revolution, Industrial Revolution, and Romanticism on European history.

511B. The Age of Nationalism in Europe (3)
Economic, social, and intellectual developments in Europe from 1848 to 1890 that contributed to the age of nation building.

512A. The Great War: A Turning Point in European History (3)
Forces and events that shaped Europe in period prior to and during World War I, 1890-1919.

512B. The Age of Dictators and Contemporary Europe (3)
Europe in the age of dictatorship, world war, defeat, and recovery.

513B. Scandinavia (3)
The major political, social and economic developments in Scandinavia from 1814 to the present.

514A. The French Revolution and Napoleonic Era (3) I
Prerequisites: History 105 and 106. France on the eve of the Revolution, the Great Revolution, 1789-1799, the Napoleonic Era.

514B. Modern France (3)
Prerequisite: History 105 and 106. The development of France since 1815.

515. Modern Spain (3)
Social, economic and political developments from the sixteenth century to the present. Overseas expansion. (Formerly numbered History 515B.)
### History

#### 517A-517B. Modern Germany (3-3)
- Political, social, and economic history of Germany. Semester I: From the Reformation to the outbreak of World War I. Semester II: 1914 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 nineteenth century. Semester II: Emphasis on the twentieth century.

#### 519. Modern Italy (3)
- The development of Italy from 1815 to the present.

#### 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 nineteenth century to the present, including the rise of Parliamentary democracy, imperialism and the Victorian age, and political thought from the Utilitarians to the Fabians.

#### 524. History of Ireland (3) I, II
- Social and cultural history of Ireland from earliest historical times to the present, including formation of a national character, literature from the Saga Cycles to the modern literary renaissance, and various movements to achieve independence from Cromwell through World War I.

#### 526. Ideas and Attitudes of Modern Europe (3)
- Selected problems in European intellectual history beginning with the seventeenth century, with attention to social and political thought. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units. (Formerly numbered History 526A-526B.)

#### 527A-527B. Diplomatic History of Modern Europe (3-3)
- Diplomatic relations of the various European powers with European and non-European powers. Semester I: From the Concert of Europe (1815) to the Era of Realpolitik in the late nineteenth century. Semester II: The diplomatic background and results of two wars.

#### 528A-528B. Social History of Modern Europe (3-3)
- Historical survey of European society emphasizing changes in the family, health, diet, the standard of living, urbanism, crime, migration and literacy. Semester I: From 1850 to the beginning of industrial Revolution. Semester II: From the Industrial Revolution to the present.

### Field (c). United States

#### UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

#### 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.

#### 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.

#### 532. The Early Republic (3)
- Political, economic, and social development of United States from Washington through John Quincy Adams. This course meets the requirements in United States Constitution.

#### 533A. The Jacksonian Era (3)
- Territorial expansion, democratic politics, revivalism, and the slavery controversy.

#### 533B. Civil War and Reconstruction (3)
- 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. The Age of Reform (3)
- The United States from the 1890s to the Crash of 1929.

#### 535B. The Age of Roosevelt (3)
- The United States in Depression, War, and Cold War.

#### 536. The United States in the Nuclear Age (3)
- The United States since World War II.

#### 537A-537B. The Westward Movement (3-3)
- The American frontier. Expansion, exploration, settlement and building of the new states, with emphasis on frontier problems of defense, communication, finance, etc.; the development of cultural institutions. The causes, effects and results of the frontier experiences of the American people. This year course meets the graduation requirement in 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. Semester II: The impact on frontier institutions and Indian policy. Anglo-American penetration and acquisition of the Southwest. Themes such as boundary problems, mining, transportation, water, ranching and ethnic relations.

#### 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 toward the land.

#### 541A-541B. California (3-3)
- Political institutions, social, cultural, economic and intellectual development; international background. Semester I: To 1850, Spanish and Mexican heritage. Semester II: 1850 to the present. History 541B will fulfill the requirement in California state and local government present. History 541B will fulfill the requirements in United States history with emphasis on historiography, bibliography, and relationship between philosophy of history and teaching. Semester I: To 1877. Semester II: Since 1877. Intended primarily for students in teacher training programs. History 410A-410B meets all graduation requirements in American history and institutions, U.S. constitution, and California government. Not open to students with credit in History 310A-310B.

#### 442A-442B. People Out of Our Past (3-3)

#### 496. Issues in History (1-4)
- Refer to Field (g). Topical Subjects.

#### Field (g). United States

#### UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

#### 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.

#### 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.

#### 532. The Early Republic (3)
- Political, economic, and social development of United States from Washington through John Quincy Adams. This course meets the requirements in United States Constitution.

#### 533A. The Jacksonian Era (3)
- Territorial expansion, democratic politics, revivalism, and the slavery controversy.

#### 533B. Civil War and Reconstruction (3)
- 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. The Age of Reform (3)
- The United States from the 1890s to the Crash of 1929.

#### 535B. The Age of Roosevelt (3)
- The United States in Depression, War, and Cold War.

#### 536. The United States in the Nuclear Age (3)
- The United States since World War II.

#### 537A-537B. The Westward Movement (3-3)
- The American frontier. Expansion, exploration, settlement and building of the new states, with emphasis on frontier problems of defense, communication, finance, etc.; the development of cultural institutions. The causes, effects and results of the frontier experiences of the American people. This year course meets the graduation requirement in 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. Semester II: The impact on frontier institutions and Indian policy. Anglo-American penetration and acquisition of the Southwest. Themes such as boundary problems, mining, transportation, water, ranching and ethnic relations.

#### 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 toward the land.

#### 541A-541B. California (3-3)
- Political institutions, social, cultural, economic and intellectual development; international background. Semester I: To 1850, Spanish and Mexican heritage. Semester II: 1850 to the present. History 541B will fulfill the requirement in California state and local government present. History 541B will fulfill the requirements in United States history with emphasis on historiography, bibliography, and relationship between philosophy of history and teaching. Semester I: To 1877. Semester II: Since 1877. Intended primarily for students in teacher training programs. History 410A-410B meets all graduation requirements in American history and institutions, U.S. constitution, and California government. Not open to students with credit in History 310A-310B.

#### 442A-442B. People Out of Our Past (3-3)

#### 496. Issues in History (1-4)
- Refer to Field (g). Topical Subjects.
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 1820 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.

Field (d). Latin America
UPPER DIVISION COURSES
(Also Intended for Undergraduates)
415A-415B. 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. (Formerly numbered History 315A-315B.)

496. Issues In History (1-4)
Refer to Field (g). Topical Subjects.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)
551A-551B. Mexico (3-3)
Prerequisite: History 115A-115B or 415A-415B. Semester I: Colonial and modern Mexico. Semester II: Emphasis on the twentieth century.

552. Brazil (3)
Survey of history of Brazil from Portuguese backgrounds to present Brazil as a tropical society. Recommended for students minor ing in Portuguese. (Formerly numbered History 552A-552B.)

553. Caribbean Island Nations (3)
History of island nations of Caribbean with emphasis on Cuba, Haiti, and Dominican Republic in the nineteenth and twentieth centuries. (Formerly numbered History 553A-553B.)

554. The Andean Republics 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.

555. Modernization and Urbanization in Latin America (3)
Historical treatment of the phenomenon of urbanization and modernization in Latin America with attention to pre-Columbian and Iberian traditions and influence of education, church, military, and foreign investment.

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.

558. Latin America in World Affairs (3)
History of Latin America's political and economic relations with Europe, the Soviet Union, the United States, and the Third World. (Formerly numbered History 558A-558B.)
Field (f). Africa and Middle East

UPPER DIVISION COURSES
(Intended for Undergraduates)

473A-473B. Middle Eastern History from the Rise of Islam to the Present (3-3)
Semester I: Islamic civilization in the imperial ages, 600-1600. Semester II: Colonialism and nationalism in the modern Middle East. (Formerly numbered History 573A-573B.)

475A-475B. 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. (Formerly numbered History 575A-575B.)

496. Issues in History (1-4)
Examination of selected problems and current issues in history. May be repeated with change of content. Maximum credit six units with change of content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Refer to Class Schedule for specific content.

A. Ancient, Medieval, and Early Modern Europe
B. Modern Europe
C. United States
D. Latin America
E. South, Southeast and East Asia
F. Africa and Middle East
G. Topical Subjects

499. Special Study (1-3), I, II
Prerequisite: Consent of department chair and instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

574. The Arab-Israeli Question, Past and Present (3)
Arab-Israeli conflict over Palestine in perspective of Zionism, Arab nationalism, and Great Power relations from nineteenth century to present.

Field (g). Topical Subjects

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

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.

435. History Through Film (3)
Critical analysis of selected historical problems, eras and events, using film as the principal historical document. Maximum credit six units. (Formerly numbered History 335.)

481A-481B. 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. (Formerly numbered History 581A-581B.)

482A-482B. War and Civilization (3-3)
The political and social implications of warfare. The development of military technologies, and changing concepts of military organization. Semester I: Through the eighteenth century. Semester II: Napoleonic Wars to the present. (Formerly numbered History 582A-582B.)

483A-483B. The Quest for Peace (3-3)
Prerequisite: Six units in history. Historical analysis of man's efforts to control violence from the Greeks to the present. (Formerly numbered History 583A-583B.)

484. The Rise of Modern Science (3)
Historical development of scientific ideas from ancient Greece to Scientific Revolution of the seventeenth century, concentrating on interaction between science and other aspects of society such as politics, economics, religion, and technology. (Formerly numbered History 584A.)

485. Science and the Modern World (3)
From Newton to Einstein, from Darwin to DNA: modern development of interaction between science and other aspects of society such as politics, economics, philosophy, religion, and technology. (Formerly numbered History 584B.)
Humanities
Administered by the Dean of the College of Arts and Letters

Faculty
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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: History 105, 106, Classics 140; six units from Art 258 or 259, Comparative Literature 210, Economics 101 or 102, English 220, Geography 102, Political Science 101 or 103. (15 units.)

Foreign Language Requirement: Twelve units in French, German, Italian, Latin, Russian or Spanish.

Writing Requirement. Passing the University Writing Examination or History 430W, English 500W. or English 508W with a grade of C (2.0) or better.

Major: A minimum of 36 upper division units to include Humanities 401A, 401B, 402A, 402B, six units in one of the foreign languages listed above; six units selected from Art 557, 558, 571, 573, 574, 575, Music 351A, 351B, 351C, six units selected from Economics 335, Geography 336, Political Science 301A, 301B, 302. and six units from Anthropology 440, History 503A, 503B, 504, 509, 510, 518, 519, 511, 511B, 512A, 512B, Comparative Literature 510, 511, 512, 513, 514, Philosophy 303, 306, 304, 305, 306, Majors in European Studies must have their program for each semester approved in advance by the adviser.

European Studies Minor
The minor in European Studies consists of a minimum of 15 units to include Humanities 401A-401B, 402A-402B, six units in one of the foreign languages listed above; six units selected from Art 557, 558, 571, 573, 574, 575, Music 351A, 351B, 351C, six units selected from Economics 335, Geography 336, Political Science 301A, 301B, 302, and six units from Anthropology 440, History 503A, 503B, 504, 509, 510, 518, 519, 511, 511B, 512A, 512B, Comparative Literature 510, 511, 512, 513, 514, Philosophy 303, 306, 304, 305, 306. Majors in European Studies must have their program for each semester approved in advance by the adviser.

Humanities Minor
The minor in humanities consists of a minimum of 21 units, of which must be upper division. No more than six units may be taken in any one department. In order to ensure a determine which courses can be used to satisfy requirements for the minor shall be approved and filed with the Advising Office.


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 Humanities (3)
Preliminary investigation into the literary, artistic, and intellectual achievements of individuals and civilizations throughout the world.

102A-102B. Introduction to European Heritage (3-3)
Integrated survey from an interdisciplinary perspective of the major achievements of European culture, especially those in art, literature, music, and philosophy and emphasizing their relevance for contemporary civilization. Semester I: 476 to 1600. Semester II: 1600 to 1940. (Formerly numbered Humanities 102.)

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 development, 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.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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. (Formerly numbered European Studies 310.)

311. French Civilization (3) II
French culture from the Enlightenment to the present. Continuation of Humanities 310. Not open to students with credit in French 422. (Formerly numbered European Studies 311.)

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. (Formerly numbered European Studies 320.)

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. (Formerly numbered European Studies 321.)
330. **Russian Civilization (3)**
The major currents and characteristics of Russian culture, as expressed through the centuries in literature, art, philosophy and music from the beginning to early 19th century. (Formerly numbered European Studies 330.)

331. **Russian Civilization (3)**
Modern Russia's cultural development from early 19th century (The Golden Age) to the present. (Formerly numbered European Studies 331.)

340. **Italian Civilization (3)**
The major aspects of Italian civilization with emphasis on literature, art, philosophy, music and history from the earliest times to the Renaissance. (Formerly numbered European Studies 340.)

341. **Italian Civilization (3)**
Continuation of Humanities 340 from the Renaissance to the present. (Formerly numbered European Studies 341.)

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 European Studies 350.)

370. **The Humanities and the Modern World (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.

400. **Civilization Through Travel-Study (1-3)**
Civilization through supervised foreign travel/study tour. May be repeated with new content. Maximum credit six units. (Formerly numbered European Studies 400.)

401A-401B. **The Cultural Heritage of Europe I, II (3-3)**
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 European Studies 401A-401B.)

402A-402B. **The Cultural Heritage of Europe III, IV (3-3)**
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 European Studies 402A-402B.)

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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

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. (Formerly numbered European Studies 498.)

499. **Special Study (1-3)**
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

580. **Seminar: Topics (3)**
Special topics appropriate to the interdisciplinary study of civilization. Reading, observation and evaluation of scholarly literature of topic under consideration. May be repeated with new numbered European Studies 580.)
Certificate

Manual Arts Clinical Training (Vocational Rehabilitation Therapy)

Students may complete the academic and clinical requirements leading to the Manual Arts Therapist certificate issued by the Veterans Administration of the United States Government. This certification requires the completion of a bachelor's degree with an Industrial Arts major and 280 hours of clinical training in a veterans hospital. Consult an adviser in the Department of Industrial Studies for more detailed information.

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.

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. Not open to students with credit in Industrial Arts 540 or Journalism 350.

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 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 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 jewelry, lapidary, leather, enameling and mosaics. Stress on creativity in design and in 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, tolerance 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 151.
Experience in the use of selected woodworking machines which offer opportunities for the development of construction activities in wood. Emphasis on creative design and sound safety practices.

361. Intermediate Electronics (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 internal combustion engine 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 115.
   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 research 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, pattern making, design analysis, and upholstery. Students will
   participate, clinical insight and experience in procedures and practices in the field. Two
   hundred forty hours of clinical training required.

459. Teaching Methods in Industrial Education (3) I, II
   Study of methodology needed to teach industrial subjects. It is recommended that this
   course be taken prior to student teaching.

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 (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.
   Planning of activities and perfecting of skills in printing and publication, efficient operation of
   machines and equipment.
Interdisciplinary Programs

For information on additional interdisciplinary programs, refer to this section of the catalog under the headings of American Studies, Asian Studies, Family Studies and Consumer Sciences (Child Development), Humanities (European Studies), Latin American Studies, and Social Science.

Advising

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

African Studies Minor

Dr. Ross E. Dunn, History Department, 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 475A and 475B, Humanities 158, and six units from the following courses in any two departments: Anthropology 449A, 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. Warren Johnson, Department of Geography, is adviser for this minor.

The minor in Environment and Society consists of a minimum of 15 units to include nine units selected from Biology 320 or 420, Economics 452, 453 or 556, 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, 574, 575, 576, History 340, 540, Political Science 334, 335, Sociology 350. Recommended: Chemistry 301, Geological Sciences 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 the courses in the minor.

Gerontology Minor

Dr. Shirley A. Lockery, University Center on Aging, is adviser for this minor.

The minor in gerontology consists of a minimum of 18 units to include Health Science 573, Psychology 335, Sociology 527, and nine units selected from Anthropology 509, Biology 473, Family Studies and Consumer Sciences 496 "Aging in the Family," Nursing 343 and 343L, Recreation 580, Social Work 120, Sociology 526, 596 "New Views on Aging," and "Images of Aging in Film," Women's Studies 421, or Communicative Disorders 596 "Communication Problems of the Aged.

Additional prerequisites may be required for the courses in 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.

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, 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 the Hebrew 101, 102 and 296, and 12 units selected from Comparative Literature 505 (English 505), 525, 526, 571 (Legend and Mysticism), 577 (Kafka), History 496 (Jewish History), Philosophy 336, 335, 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 the 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:

Liberal Studies Major

With the A.B. Degree In Applied Arts and Sciences and In Liberal Arts and Sciences

The liberal studies major provides three 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 3 is an alternative to Option 2 for students interested in bilingual/bicultural education.

OPTION 1. Liberal Studies in Three Departments with the A.B. Degree in Liberal Arts and Sciences.

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 Undergraduate Studies prior to completion of 60 semester units. If extenuating circumstances have not already made it impossible for a student to declare a Liberal Studies Option 1 major prior to completion of 90 units, such student should expect to be required to take additional coursework for completion of the major. Information regarding participating departments and procedures for application is available from the Dean of Undergraduate Studies (265-5841). Special programs in Drama, Music and Dance are offered through Liberal Studies.

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.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

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.

Interdisciplinary Programs

Advising for this major is available at the University Advising Center (CL-107), and in a descriptive booklet available at the bookstore.

Preparation for the major. (Completion of preparation for the major fulfills all general education requirements for liberal studies majors.) Fifty-seven units distributed as follows in items 1 through 16 with no more than 12 units selected from any one department.

1. Composition (3 units) — Afro-American Studies 120 or English 100 or Linguistics 100 or Mexican-American Studies 111B
2. Composition (3 units) — English 200 or 305W
3. Speech (3 units) — English-American Studies 140 or Mexican-American Studies 111A or Speech Communication 103.
4. Linguistics (3 units) — Linguistics 101 (or 410, 420, 524 if all general education is complete).
5. Our Literary Heritage (3 units) — Comparative Literature 270A or 270B or English 220.
6. Mathematics (6 units) — Mathematics 210A-210B (or on approval of the mathematics advisor, 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 (Botany 100L, lab), Microbiology 110L, 1101 (Microbiology 110L, lab). Natural Science 110B, Zoology 100 (Zoology 100L, lab).
   b. Physical science (3 units or 4 including lab). Strongly recommended: Natural Science 210A or 210B. Also approved: Astronomy 101, 103 (Astronomy 101L, lab), Chemistry 100, Geography 101 (Geography 101L, lab), Geosciences 100 (Geosciences 101L, lab), Natural Science 100A, 102, 110A, Physics 300, 303, 303L, lab, Geosciences 100, 101, 102, 103, 105, 107, 109, 110, 111A, 111B.
   c. (2.3 units) Any course approved in 6 or 7 above or Anthropology 101, 107, Mathematics 140, Natural Science 100B, 103, Philosophy 120, Physics 107.
8. The Global Perspective (3 units) — Anthropology 102 or Geography 102.
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).
10. The Individual Perspective (3 units) — Philosophy 101, 102, 103, 104 (or Women's Studies 101). Any course approved in 8, 9 or 10, or Afro-American Studies 101, 102, 103, 104, 105 or Mexican-American Studies 110B, 115, 120A-120B, 140, 141A-141B, Political Science 103, Sociology 110, Women's Studies 101, 102, 140.
11. Values and Ethics (3 units) — Philosophy 101 or 102 or Religious Studies 101, 102.
12. Western Civilization (3 units selected from the following) — Art 258, 259, Classics 140, Drama 120, History 105, 106, Humanities 102A-102B.
13. Art (3 units) — Art 100 or 101 or other skills course for students with sufficient background in art.
14. Music (3 units) — Music 102 (or higher level music course for students with sufficient background to be approved by the Music Department).
15. Humanities Elective (3-4 units selected from the following) Any course approved for items 8, 9 or 10, or Afro-American Studies 101, 102, 103, 104, 105 or Mexican-American Studies 110, 113, 14, 15, 16, above, or American Indian Studies 110, 113, 115, Drama 105 or 255, foreign or Native American language, Humanities 101, 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 101 (see category 11 above or lower division Health Science 302 (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 below).
3. Physical Activities graduation requirement may be met by taking Physical Education 241 and one physical education activity course or equivalent monitored activity.

Writing Requirement. English 306W (highly recommended) or English 500W with a grade of C (2.0) or better.
THEMES

American Perspective

A minimum of 18 units distributed as follows: At least three units from Section I, three units from Section II, three units from Section III, three units from Sections IV or V.


II. Contemporary Society: Anthropology 444°, 445°, Economics 332°, 370°, 380°, 469°; Family Studies and Consumer Sciences 439°, Geography 321°, 370°, 371°, Journalism 408°, Linguistics 470°, 524°, Philosophy 339°, 512°; Political Science 304°, 320°, 325°, 335°, 522°, 523°, 530°, 531°; Sociology 325°, 424°, 539°, 539°, 545°, 557°.

Note: Ethnicity, Race, and Gender are important dimensions of Contemporary American Society; elective course(s) from that theme are strongly recommended.

IV. Arts in America: Art 560°, Music 344°, 349°, 350°, Philosophy 564°.

V. Scientific Issues: American Studies 360°, Biology 351° or 420°, Geography 378° or Geological Sciences 303°; Natural Science 305°, 333°, 412A-412B.

Note: American Studies 580 is frequently acceptable for American Perspective. Students should consult the Class Schedule for appropriate listings.

Ethnicity, Race, and Gender

A minimum of 18 units distributed as follows: At least three units from Section I, and three units each from at least two of the other sections.


IV. American Indians: American Indian Studies 303°, 320°, 400°, 430°, 440°, 470°; Anthropology 441°, 446°, 472°; Art 576°, History 530A-530B.


Global Perspective

A minimum of 18 units distributed as follows: At least three units from each of four sections (* or * course mandatory).

I. Comparative Perspective: Africana Studies 470°, Anthropology 350°, 420°, 422°, 424°, 428°, 450°; Economics 330°, 489°; Geography 312A-312B, 356°; Linguistics 561°; Music 365°, Political Science 306°, 361°; Religious Studies 350°, 360°; Sociology 500°, 536°; Women's Studies 310°, 480°.

II. The Interdependent World: Anthropology 426°, Economics 365°, Geography 350°, 351°; History 481A-481B; Political Science 379°, Sociology 508°; Speech Communication 475°.

III. Latin America: Anthropology 442°, 443°, 477°, Art 561°, 562°; Comparative Literature 445°; Geography 329°, 324°, 512°; History 415A-415B, 557°; Political Science 566°.

IV. Asia: Art 366°; Asian Studies 458°-458B; Comparative Literature 430°; Geography 312°, 420°; Political Science 362°; Religious Studies 401°, 403°.

V. Africa and the Middle East: Anthropology 449°; Art 566°, 567°, 569°; Comparative Literature 440°, 535°, Geography 339°, History 475A-475B, 574°; Political Science 363°, 364°; Religious Studies 349°.

Mathematics, Science, and the Environment

A minimum of 18 units distributed as follows: At least three units from each of three sections.


II. History and Philosophy of Science: Astronomy 301°, 305°; Biology 405°; History 484°, 485°; Mathematics 303°; Microbiology 360°; Natural Science 305°, 311°, 314°, 315°, 316°, 317°, 412A-412B, 430°; Philosophy 537°; Religious Studies 363°, Sociology 406°, Zoology 430°.

III. Origins and Processes of Life: Biology 350°, 362°, 380°; Communicative Disorders 321°; Geological Sciences 333°; Linguistics 552°; Natural Science 431°; Zoology 314°, 330°.

IV. The Environment and Conservation: American Studies 366°, Anthropology 428°; Biology 351°, 420°; Botany 312°; Chemistry 302°; Economics 453°; Geography 370°, 371°, 505°, 507°, 509°, 574°, 576°; Geography 378° or Geological Sciences 303°; Health Science 350°; History 340°; Natural Science 333°, 431°; Oceanography 320°; Political Science 334°; Physics 301°.

Socialization and Development

A minimum of 18 units distributed as follows: At least three units from each of four sections.

I. Physiological Development: Biology 350°, 362°; Health Science 320°; Communicative Disorders 305°, 550°; Zoology 430°.

II. Psychological Development: Afro-American Studies 330°; Linguistics 552°, Psychology 330°, 350°, 351°; Women's Studies 325°.

III. Socialization: Anthropology 532°; Family Studies and Consumer Sciences 439°; Geography 321°, 370°, 371°; Journalism 408°; Linguistics 470°, 524°, Philosophy 339°, 512°; Political Science 304°, 320°, 325°, 335°, 522°, 523°, 530°, 531°; Sociology 325°, 424°, 539°, 539°, 545°, 557°.

Note: American Studies 580 is frequently acceptable for American Perspective. Students should consult the Class Schedule for appropriate listings.

Related Courses: Ethnicity, Race and Gender Theme — Afro-American Studies 330°; American Indian Studies 461°.

Western Tradition

A minimum of 18 units distributed as follows: At least three units from Sections I, II, and III.


II. Transition: Art 373°, 574°, 575°; Comparative Literature 511°, 512°, English 302° or 533°, 534°, 540A°, 541B°, 560A°; History 407A, 464°, 506°, 507°, 509°, Humanities 401B, 402A.


Art and Language

(Note: courses may be used for 15 elective units; limited to six 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, American Indian, 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 major. A 561, 569, 570, 576, Communicative Disorders 321, Economics 453, Geography 508, 509, Political Science 301B, Spanish 301, 515A-515B.

OPTION 3. Liberal Studies with Bilingual/Bicultural Spanish Emphasis 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 3 meets all the requirements for the multiple subjects/diversified major as specified in the Ryan Bill, and is recommended for prospective elementary teachers.

Advising for this major is available at the University Advising Center (CL-107), and a descriptive booklet at the bookstore.

The Liberal Studies Option 3 major is designed to help prepare students to enter the Bilingual Emphasis program of the College of Education. A student majoring in this emphasis will have a good preparation for passing the bilingual competency tests. Merely completing this Mexican-American emphasis program is not sufficient to meet the requirements for the multiple subjects/diversified major. Students should take courses in Spanish when offered, e.g., History taught in Spanish.

Language Requirement: For entrance into Liberal Studies Option 3 students must demonstrate language knowledge and proficiency equivalent to 12 units of college Spanish (four years high school).

Maximum units in one department: 24 units, upper division and lower division combined, Mexican-American Studies, Chicano Studies, Bilingual Studies and Multicultural Studies are considered as one department.

Preparation for the major (57 units distributed as follows).

Group A: English and Speech (12 units distributed as follows).
1. English Composition - English 100 or Mexican-American Studies 111B.
2. Language - English 200 or Linguistics 101.
4. Literature - Comparative Literature 270A or 270B or English 220.

Group B: Mathematics and Science (13 units distributed as follows).

6. Science - 3 units of biological science, plus 3 units of physical science; one lab must be included from either a. or b. below.
   a. Biological science (3 units or 4 including lab).
   b. Physical science (3 units or 4 including lab).

   Strongly recommended: Biology 100 (Biology 100L, lab) also approved: Botany 100, Natural Science 110B, Zoology 100.

7. Social Science elective - 12 units selected from any course approved for Items 7, 8, 9, Economics 100, 101, 102, Health Science 101, Mexican-American Studies 110B, 115, 140, Sociology 110, Women's Studies 101, 201.

Group C: Humanities and Fine Arts (20 units distributed as follows).

8. United States, Organization - 3 units selected from History 110A-110B or History 115A-115B or Mexican-American Studies 120A-120B or Mexican-American Studies 141A-141B or Political Science 101, 102.

9. Individual Development - Psychology 101 (or Afro-American Studies 250, or Women's Studies 325 if general education is completed).

10. Social Science elective - 3 units selected from any course approved for Items 7, 8, 9, Economics 100, 101, 102, Health Science 101, Mexican-American Studies 110B, 115, 140, Sociology 110, Women's Studies 101, 201.

Note: The following courses have additional prerequisites not included in preparation for the major or the major. A 561, 569, 570, 576, Communicative Disorders 321, Economics 453, Geography 508, 509, Political Science 301B, Spanish 301, 515A-515B.

OPTION 3. Liberal Studies with Bilingual/Bicultural Spanish Emphasis 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 3 meets all the requirements for the multiple subjects/diversified major as specified in the Ryan Bill, and is recommended for prospective elementary teachers.

Advising for this major is available at the University Advising Center (CL-107), and a descriptive booklet at the bookstore.

The Liberal Studies Option 3 major is designed to help prepare students to enter the Bilingual Emphasis program of the College of Education. A student majoring in this emphasis will have a good preparation for passing the bilingual competency tests. Merely completing this major, however, is not a guarantee of passing the entrance exams. In general, students should select those courses which will improve oral and written Spanish language ability, English language proficiency, and cultural awareness and sensitivity. Students should take courses in Spanish when offered, e.g., History taught in Spanish.

Language Requirement: For entrance into Liberal Studies Option 3 students must demonstrate language knowledge and proficiency equivalent to 12 units of college Spanish (four years high school).

Maximum units in one department: 24 units, upper division and lower division combined, Mexican-American Studies, Chicano Studies, Bilingual Studies and Multicultural Studies are considered as one department.

Preparation for the major (57 units distributed as follows).

Group A: English and Speech (12 units distributed as follows).
1. English Composition - English 100 or Mexican-American Studies 111B.
2. Language - English 200 or Linguistics 101.
4. Literature - Comparative Literature 270A or 270B or English 220.

Group B: Mathematics and Science (13 units distributed as follows).
Middle East Studies Minor

Dr. Ross E. Dunn, History Department, 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, Religious Studies 340*, six units from History 473A, 473B and 574, and three units from Anthropology 474*, Art 365*, Comparative Literature 535, and Political Science 363.

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. Vytas 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 (17 units). Lower division prerequisites for the upper division courses to be taken in the major (3-9 units).

Foreign Language Requirement. The foreign language requirement is automatically fulfilled through course work for preparation for the major.

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

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, Humanities 330, 331, History 518A-518B, nine units from at least two departments in the social sciences selected from Economics 330, Geography 336, 337, Political Science 535, 536, six units in Russian selected from 301, 302, 305A-305B, 555A-555B, 561A-561B, 563, 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, six 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 three units of 200-level courses. 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. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit.

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, 301 taken out of sequence.

101. Elementary (5) I, II

Pronunciation, speaking and writing, readings on Italian culture and civilization. Essentials of grammar. Not open to students who have completed three years of high school Italian.

102. Elementary (5) I, II

Prerequisite: Italian 101 or two years of high school Italian. Continuation of Italian 101. Not open to students who have completed four years of high school Italian.

200A. Intermediate Grammar and Composition (3) I, II

Prerequisites: Italian 102 or three years of high school Italian. Comprehensive survey of Italian grammar at the intermediate level. Study of a variety of prose models and practice in writing.

200B. Reading and Speaking Italian (3) I, II

Prerequisites: Italian 102 or three years of high school Italian. Emphasis on the spoken language with readings of cultural material serving as a basis for discussion.

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)

Prerequisites: Six units of 200-level Italian. Grammar review. Reading of modern Italian prose, with written reports and oral discussions in Italian.

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, six 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 three units of 200-level courses. 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. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit.

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, 301 taken out of sequence.

101. Elementary (5) I, II

Pronunciation, speaking and writing, readings on Italian culture and civilization. Essentials of grammar. Not open to students who have completed three years of high school Italian.

102. Elementary (5) I, II

Prerequisite: Italian 101 or two years of high school Italian. Continuation of Italian 101. Not open to students who have completed four years of high school Italian.

200A. Intermediate Grammar and Composition (3) I, II

Prerequisites: Italian 102 or three years of high school Italian. Comprehensive survey of Italian grammar at the intermediate level. Study of a variety of prose models and practice in writing.

200B. Reading and Speaking Italian (3) I, II

Prerequisites: Italian 102 or three years of high school Italian. Emphasis on the spoken language with readings of cultural material serving as a basis for discussion.

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)

Prerequisites: Six units of 200-level Italian. Grammar review. Reading of modern Italian prose, with written reports and oral discussions in Italian.
**305A-305B, Italian Literature (3-3)**
Prerequisite: Six units of 200-level Italian. Important movements, authors and works in Italian literature from Middle Ages to present.

**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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. 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.

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**Japanese**

**In the College of Arts and Letters**

**Faculty**

Lecturer: Cook

**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**

*Intended for Undergraduates*

**101. Elementary (4) I**
Four lectures and one hour of laboratory. 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: Japanese 101. Preparation for Japanese 303.

**296. Experimental Topics (1-4)**
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

**UPPER DIVISION COURSES**

*Intended for Undergraduates*

**303. Readings in Japanese (4) I**

**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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. 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 and Fine Arts

Faculty
Emeritus: Julian, Whitney, Winer
Chair: Brown
Professors: Brown, Buckalew, Holowach, Odendahl, Sorensen
Associate Professors: Broom, Hartung, Towers
Assistant Professors: Dozier, Spreak, Strickland
Lecturers: Center, Seeley

Offered by the Department
Master of Science degree in mass communications (in cooperation with other departments).
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."
Journalism majors must complete 30 units in journalism, 24 of which must be upper division units. Majors may exceed 30 units only upon petition to the Department of Journalism, but the maximum number of journalism units that will be credited toward the degree for graduation is 33. A maximum of six lower division units in journalism may be applied to the total of 30 units. A minor is required, however, to preserve an appropriate balance between journalism/mass communication courses and courses in liberal arts and sciences, journalism majors may not minor in telecommunications and film.

Students are required to achieve a passing score on the Department of Journalism grammar, spelling, and punctuation examination before enrolling in journalism skills, activity and laboratory courses.

Emphasis in Advertising
Preparation for the major. Journalism 220. (3 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Departmental screening in Journalism 310 with a grade of C (2.0) or better, or passing the University Writing Examination, or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in journalism to include Journalism 310, 350, 450, 451, and 502, nine units of upper division electives.

Emphasis in Public Relations
Preparation for the major. Journalism 220. (3 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Departmental screening in Journalism 310 with a grade of C (2.0) or better, or passing the University Writing Examination, or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in journalism to include Journalism 310, 480, 481, 500, and 585; nine units of upper division electives.

Emphasis in Radio-TV News
Preparation for the major. Journalism 220. (3 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Departmental screening in Journalism 310 with a grade of C (2.0) or better, or passing the University Writing Examination, or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in journalism to include Journalism 310, 470, 474, 475, and 502; nine units of upper division 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.

Writing Requirement. Departmental screening in Journalism 310 with a grade of C (2.0) or better, or passing the University Writing Examination, or completing one of the approved writing courses with a grade of C (2.0) or better.

Credential Requirements. A minimum of 45 units selected from courses in the following content areas:

Composition: Twelve units selected from English 100, 200, 280, 500W, 582W; Journalism 220, 320, 420, 441, 470, 529.

Language: Nine units selected from Journalism 326, 443, 460; Linguistics 101, 520, 524; Speech Communication 530, 533.

Oral Communication: Six units selected from Journalism 474, 475; Speech Communication 103, 104, 105, 111A, 111B, 359, 391.

13-71136
JOURNALISM MINOR

The minor in journalism consists of 15-18 units in one of the following areas:

Advertising: Journalism 220, 310, 460, 463, 465 and 466. (18 units)

News-Editorial: Journalism 220, 310, 320, 326, and one of the following: 441, 502 or 529. (15 units)

Photography: Journalism 220, 310, 350, 450, 451 and 502. (18 units)

Public Relations: Journalism 220, 310, 480, 481, and 585. (15 units)

Radio-TV News: Journalism 220, 310, 470, 474 or 475, and 502. (15 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.

LOWER DIVISION COURSES

200. Introduction to Mass Communication (3)
Mass media and their interrelationships. The media and the consumer. Value and function of the mass media, particularly news media, in contemporary society. Problems and responsibilities. (Formerly numbered Journalism 100)

220. Writing for the Media (3)
One lecture and four hours of activity.
Prerequisites: Sophomore standing, ability to type, and satisfactory score on departmental grammar, spelling and punctuation examination.

221. Information Gathering and Reporting (3)
One lecture and four hours of activity.
Prerequisites: Journalism 220, upper division standing, ability to type, and satisfactory score on departmental grammar, spelling and punctuation examination.

UPPER DIVISION COURSES

(21 units)

310. Information Gathering and Reporting (3)
Prerequisites: Journalism 220; upper division standing; ability to type, and satisfactory score on departmental grammar, spelling and punctuation examination. Methods of interviewing and information gathering. Journalistic attitudes, ethics and skills. Questioning and listening. Press conferences. Nature of inference, supposition, skepticism and the adversarial system. Quantification in reporting. Research resources. Field experience.

312. News-Editorial (3)
One lecture and four hours of activity.
Prerequisite: Journalism 310.

316. News Editing (3)
One lecture and four hours of activity.
Prerequisite: Journalism 316.

350. News and Feature Photography (3)
One lecture and four hours of activity.
Prerequisites: Journalism 220, upper division standing.
Principles and practice of photojournalism, including fundamentals of camera operation, composition, developing and printing of black and white photographs for publication. News values in photography. Not open for credit to students with credit in Industrial Arts 140. (Formerly numbered Journalism 150.)

350. News and Feature Photography (3)
One lecture and four hours of activity.
Prerequisites: Journalism 220 or Telecommunications and Film 110, and credit or concurrent registration in Journalism 310. Special applications of news writing and editing for the broadcast media, including the use of wire copy film, and audio and video tape recorders in producing news casts. Emphasis on news writing. (Not open to students with credit in Telecommunications and Film 310.)

408. Mass Communication and Society (3)
Prerequisite: Upper division standing.
Social factors underlying nature, functions of mass media. Theories, models, research in mass media as culture carriers, opinion shapers, other societal interrelationships. (Formerly numbered Journalism 508.)

425. Editorial and Critical Writing (3)
Prerequisite: Journalism 320.

441. Magazine Article Writing (3)
Prerequisites: Journalism 220, upper division standing.
Planning, gathering material, writing and marketing articles for specialized and general publications. Production of expository articles and marketing of at least one.

443. Magazine Editing and Production (3)
Two lectures and three hours of activity.
Prerequisite: Journalism 310.

450. Advanced News and Feature Photography I (3)
One lecture and four hours of activity.
Prerequisites: Journalism 310 and 350.
Role of photography in mass communication. Emphasis on photographic essay and innovation in photojournalism. Field and laboratory practice in telling stories with photographs. Information gathering for captions, accuracy, completeness.

451. Photojournalism II (3)
One lecture and four hours of activity.
Prerequisites: Journalism 310 and 350.
Advanced techniques of photography and darkroom. Documentary journalism. Experimentation with photo derivation and color photography. Field and laboratory practice in covering news events with still cameras.

460. Principles of Advertising (3)
Prerequisite: Upper division standing.
Principles of advertising, including copywriting, layout, typography, production, social responsibility, consumer and market surveys, and advertising readership studies.

463. Advertising Copy, Layout and Design (3)
One lecture and four hours of activity.
Prerequisites: Journalism 310 and 460.
Preparation of copy, layout, planning and production. Graphics, typography, and visual literacy.

465. Advertising Research and Analysis (3)
Prerequisites: Journalism 220, 310 and 460.
Evaluation and use of data collecting and measurement for advertising media. Cases, practices and problems. Quantitative and qualitative characteristics of advertising.

466. Advertising Campaigns (3)
Prerequisites: Journalism 463 and 465, or Telecommunications and Film 540.
Cases, practices and problems with advertising campaigns, including political campaigns. Decision making in copy themes, art work, media imagery. Advertising campaign targets. Evaluating results.

470. Radio-Television News Writing (3)
One lecture and four hours of activity.
Prerequisites: Journalism 220 or Telecommunications and Film 110, and credit or concurrent registration in Journalism 310. Special applications of news writing and editing for the broadcast media, including the use of wire copy film, and audio and video tape recorders in producing news casts. Emphasis on news writing. (Not open to students with credit in Telecommunications and Film 310.)

NOTE: PROOF OF COMPLETION of prerequisites required for all upper division courses.
474. Broadcast News Reporting and Editing (3)
Two lectures and three hours of activity.
Prerequisites: Journalism 310 and 470 or Telecommunications and Film 310, and satisfactory score on departmental grammar, spelling and punctuation examination.
Principles of reporting, photographing, recording in the production of newscasts for broadcast media. Special applications of principles of visual and aural literacy. Social responsibility. Field and laboratory practice.

475. Radio and Television News Production (3)
Two lectures and six hours of activity.
Prerequisites: Journalism 310 and 470 or Telecommunications and Film 310, and satisfactory score on departmental grammar, spelling and punctuation examination.
Radio and television news production with experience in news scripting, editing, writing, and field practice. Laboratory and field practice.

480. Principles of Public Relations (3)
Prerequisites: Upper division standing.
Principles, theories, methods and objectives in public relations. Survey of public relations problems and practices.

481. Public Relations Techniques and Media Usage (3)
One lecture and four hours of activity.
Prerequisites: Journalism 310 and 480.
Practical applications of public relations techniques with emphasis on writing and media usage. News releases, publications, and printed materials, audio-visual techniques, speeches and special events. Field and laboratory practice.

490. Internship in Journalism (1-3) Cr/Nc
Prerequisites: Upper division standing and consent of instructor. Advertising: Journalism 320, 441 or 443; News-Editorial: Journalism 320, 441 or 443; Photojournalism: Journalism 450 or 451; Broadcast News: Journalism 470.
Supervised work with area media under the combined direction of practitioners and professors. Maximum credit three units.

496. Experimental Topics (1-3)
Prerequisites: Upper division standing, permission of instructor.
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Not more than three units in journalism to apply to the degree in journalism.

499. Special Study (1-3)
Prerequisite: Consent of instructor.
Individual study or project, normally in a research area selected by the student. Maximum credit three units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

500. Current Problems in Mass Communication (3)
Prerequisites: Journalism 220, or Telecommunications and Film 100, or Economics 100, or Political Science 101, or Sociology 101, and upper division standing.
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)
Prerequisites: Journalism 220, or Political Science 102, or Telecommunications and Film 100, and upper division standing.

503. History of Mass Communication (3)
Prerequisites: Journalism 220 or History 1108, and upper division standing.
American journalism from colonial times to the present, with special attention to twentieth century trends and developments, including the emergent concept of social responsibility.
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, Journalism, Mexican-American Studies, Political Science, Public Administration and Urban Studies, Sociology, Spanish and Portuguese Languages and Literatures, and Women's Studies; and the College of Business Administration.

Professor Thomas M. Davies, Jr., is the undergraduate adviser.

Offered by Latin American Studies

Master of Arts degree in Latin American studies.

Minor in Latin American studies.

Advising

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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, 211, 212, or Spanish 101, 102, 201, 202, 211, and 212 with a minimum grade point average of 2.0 for all work attempted (10-21 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.

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units selected from the courses listed below with not less than 12 units in one field and nine in each of two other fields. At least 33 units will be courses having Latin American content. Latin American Studies 344, Anthropology 442, Art 496 when relevant), 561, 562; Economics 365, 464, 496 (when relevant), Geography 323, 324, 496 (when relevant), History 415A-415B, 496 (when relevant), 538A-538B, 551A-551B, 552, 557, 558, 566, 567, 568, Sociology 350, 404, 506, 519, Spanish 306A-306B, 515A-515B, 570, 571, 572.

Latin American Studies Minor

The minor in Latin American studies consists of a minimum of 15 units of Latin American content courses. At least 12 of these units must consist of upper division courses. In addition, students must complete Spanish 201 or the equivalent or Portuguese 211 or the equivalent. No more than six units may be drawn from any one department's or program's offerings.

The student will file with the Evaluations Office a master plan approved by the adviser for the Latin American studies curriculum. Units may be selected from among the following:


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. In designing their Latin American studies programs for a minor, students may not include courses drawn from their major department.

* Courses to be included with approval of the undergraduate adviser in Latin American studies.
+ Additional prerequisites may be required for courses in the minor.

LOWER DIVISION COURSE

101. Latin American Heritage (3)

Introduction to Latin American cultures and peoples from an interdisciplinary perspective.
UPPER DIVISION COURSES
(Indeed for Undergraduates)

344. Cooperative Studies at the Universidad Autonoma de Baja California (3-9) (Offered at IVC only)
Prerequisites: Spanish 301; declared major in Latin American Studies.
Latin American Studies majors will attend classes with a Latin American focus at the Universidad Autonoma de Baja California; SDSU/IVC faculty will cooperate in supervision and evaluation of students. May be repeated with new content. Maximum credit nine units.

498. Seminar on Latin America (3)
Exploration of the interdisciplinary approach to Latin America including evaluation of relevant resources and methods. Taught by a team of instructors representing two or more disciplines.

499. Special Study (1-3)
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

580. Special Topics (1-4)
Prerequisites: Six upper division units in Latin American content courses.
Interdisciplinary study of selected Latin American topics. Credit will vary depending on the scope and nature of the topic. Whenever appropriate, the course will be taught by a team of instructors representing two or more disciplines. May be repeated with different content. See Class Schedule for specific content. Maximum credit eight units.

Linguistics
In the College of Arts and Letters

Faculty
Emeritus: Elgin Tidwell
Chair: Underhill
Professor: Frey
Associate Professor: Bar-Lev, Donahue, Seright, Underhill, Webb
Assistant Professor: Kaplan
Lecturers: Erbaugh, Shand

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.
Minor in linguistics.
Certificate in applied linguistics.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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 departmental adviser in linguistics. Recommended fields include anthropology, communicative disorders, ethnic studies, a foreign language, history, journalism, literature, philosophy, psychology, public administration and urban studies, sociology, and speech communication.

Preparation for the major. Linguistics 101. (3 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 college semesters of a foreign language with a B (3.0) average, or the equivalent. Refer to section of catalog on "Graduation Requirements."

Writing Requirement. Passing the University Writing Examination or Linguistics 396W, English 320W or 500W with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units is required; at least 15 of these must be in Linguistics (and those 15 must include Linguistics 521 and 522); a maximum of nine units selected from Afro-American Studies 360, 362, 363; American Studies 501; Anthropology 304, 410; Communicative Disorders 305; French 431, 431; German 505, 510; Journalism 431, 509; Philosophy 521, 522, 531; Russian 580, 581; Sociology 422, 424, 440, 548, 557, Spanish 548, 549; Speech Communication 391, 490 (when appropriate), 530, 535. Substitutions may be made at the discretion of the undergraduate adviser.

Linguistics Major
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 at least 12 of which must be from linguistics.

The student must select a specialization from one of the following subject areas: The following courses are appropriate for all subject areas: Linguistics 101, 420, 520, 521, 522, 524, 551, 552, Linguistics 496 and 498 may be appropriate for any area depending on content.

Descriptive and Theoretical Linguistics: Linguistics 523, 525, 550, 560, Anthropology 510; Philosophy 531.


Historical Linguistics: Linguistics 410, 560 (both required).


Linguistics and Foreign Languages (recommended for foreign language majors)

Linguistics 410, 450, 550, 553, 560; Anthropology 410.

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 adviser. In addition, there is a 15-hour tutoring practicum requirement. In order to enroll, you must contact the certificate adviser in the Department of Linguistics.

Refer to the Graduate Bulletin for information on the advanced certificate.

LOWER DIVISION COURSES

101. Introductory Linguistics (3) I, II

Introduction to the principles and practice of modern linguistics as applied to the study of English.

250. Directed Language Study (3) I, II

Prerequisite: Consent of instructor.

Directed independent study of a foreign language not offered within the course structure at San Diego State University with the aim of acquiring a basic competency in reading, writing, and grammar. No instruction in speaking or understanding the spoken language is included in this course.

296. Experimental Topics (1-4)

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

English Composition for International Students

100. English Composition for International Students (3)

Prerequisite: Completion of Writing Competency requirement. (See Graduation Requirements, section of this catalog.) Proof of completion of prerequisite required.

Introduction to college-level written English; attention to English language/grammar needs of non-native speakers of English; grammatical and rhetorical techniques for effective writing; basic in part on study of models of current American writing. Not open to students with credit in Afro-American Studies 120 or English 100 or higher-numbered composition or creative writing course or Mexican-American Studies 111B.

200. Advanced English for International Students (3)

Prerequisite: Linguistics 100 or equivalent. Proof of completion of prerequisite required.

Continuation of Linguistics 100, developing standard written English from wider language experience. Practice and training in the formal and informal language, idioms and practical English phonetics. Exercises based on a variety of dialects, content, and styles. Not open to students with credit in English 200.

UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

305W. Advanced Composition for International Students (3) I, II

Advanced expository writing, with practice in the various associated skills (organization, research, presentation, rhetoric). The goal is to enable non-native English speakers to function competently with written English on advanced university levels. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication.

396W. Writing Proficiency (1)

Prerequisite: Consent of instructor. Limited to linguistics majors.

Upper division writing course taken in conjunction with any 500-numbered linguistics course. Emphasizes composition skills in research methods, essay organization, paragraphing, sentence structure, and diction; all related to the particular 500-level linguistics course chosen. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication.

410. History of English (3) I, II

The history of English and its present-day use. (Formerly numbered Linguistics 510.)

420. Modern English (3) I, II

Principles of linguistics. Structure of Modern English, with attention to sounds and sentence patterns. Psychology of language; language acquisition; sociology of language; study of dialects; language change. Not open to students with credit in Linguistics 520.

450. Introduction to Teaching English as a Second Language (3) I, II

Introduction to English as a second language, bilingual, and foreign language teaching. Basic concepts of linguistics as they apply to teaching second languages. Survey of ESL methodologies and techniques. Not open to students with credit in Linguistics 550.

470. Linguistics and Contemporary Issues (3)

Systematic analysis of language use in modern life, including generative transformational methodology as the analytic technique.

496. Experimental Topics in Linguistics (1-4) I, II

Specialized study of a selected topic in linguistics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. 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 Undergraduates)

520. Structure of English (3) I, II

The structure of modern English, including the various approaches to linguistic analysis.

521. Phonology (3) I, II

Prerequisite: Linguistics 420 or 520.

Introduction to the theoretical principles of transformational-generative phonology.

522. Syntax (3) I, II

Prerequisite: Linguistics 420 or 520.

Introduction to the theoretical principles of transformational-generative syntax.
523. Phonemics and Morphemics (3)
The study of procedures for arriving 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
Prerequisite: Linguistics 450 or 420 or 520.
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: A course in introductory linguistics.
Investigation of the correlation of social structure and linguistic behavior.

552. Psycholinguistics (3) I, II
Prerequisite: A course in introductory linguistics.
Psychological aspects of linguistic behavior.

553. Functional Bilingual Linguistics (3) I, II
Prerequisites: Knowledge of Spanish, Linguistics 520, and consent of instructor.
Recommended prerequisites: Communicative Disorders 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.

560. Historical Linguistics (3)
Prerequisites: Linguistics 410 and 520 or 521.
Methods and principles used in historical study of language; processes of language change in phonology, morphology, syntax, and semantics; linguistic reconstruction; origin of language; language families; development of writing; examples from various language families.

596. Selected Topics in Linguistics (3)
Advanced study of selected topics. See Class Schedule for specific content. May be repeated with new content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Mathematics

In the College of Sciences

Faculty
Emeritus: Branstetter, Bryant, Burton, Clark, Eagle, Harris, Riggs, Willerding
Chair: Van de Watering
Professors: Becker, Bell, Branca, Bray, Davis, Deaton, Drobnies, Eisemann, Flanigan, Fountain, Garrison, Gindler, Harvey, Ho, Holmes, Howard, Lesley, McLeod, Moser, Park, Riggs, Romanos, Ross, Saltz, Shaw, Short, Smith, Van de Watering, Vitrone, Wanen
Associate Professors: Ananthanarayanan, Baase, Beck, Bryant, Burdick, Donald, Eckberg, Elwin, Hager, Hintzman, Lopez, Macky, Marcus, Maroz, Marovac, Nower, Salamon, Silver, Vinge, Whitman
Assistant Professors: Carroll, Erdogan, Thompson
Lecturers: Brown, Dolansky, Ford, Liu, Meckstroth, Root, Steward
Visiting Professors: Carlson, Nelson, Shaughnessy

Offered by the Department of Mathematical Sciences
Master of Arts degree in mathematics
Master of Science degree in applied mathematics
Master of Science degree in computer science.
Master of Science degree in statistics.
Master of Arts for teaching service with a concentration in mathematics.
Major in computer science with the B.S. degree in applied arts and sciences.
Major in mathematics with the A.B. degree in liberal arts and sciences.
Major in mathematics with the B.S. degree in applied arts and sciences.

Minor in mathematics.

Minor in computer science.

Computer 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 for this major.

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Mathematics 371, 541A, 570, 572, 580 and 21 units of electives selected with the approval of a computer science major adviser. The student must complete an outline for the major and file a copy signed by a major adviser with the Evaluations Office.

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 courses 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."

Writing Requirement, Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.
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 533A and one two-semester sequence chosen from the following: Mathematics 521A-521B, 521A and 573, 530 and 531, 534A-534B, 534A and 560, 541A-541B, 541A and 511B, 550 and 553, 570 and 572. 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.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Mathematics 520A, 533A, at least nine units selected from Mathematics 336, 340A, 340B, 520B, 527A, 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, 137, 150, 151, 152, 250 (23 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Mathematics 520A, 521A, 530, 534A, 534B, 541A, 350A or 551A, and 12 units selected from Mathematics 336, 340B, 520B, 531, 532, 541B, 550, 560B or 551B, 561, 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 and courses for which these are prerequisites; or Botany 200 and Zoology 200 and courses for which these are prerequisites; or Economics 101, 102, 307, 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.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units in mathematics to include Mathematics 520A, 534A, 534B, 570, 572; at least nine units from Mathematics 336, 340A, 340B, 520B, 521A, 530, 531, 532, 533, 534B, 561; at least six units from Mathematics 371, 541A, 541B, 573, 574, 575, 576, 578, 579; 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, 150, 151, 152, 250 (19 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

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. Fundamentals of Mathematics 102 cannot be used to satisfy general education requirements, and credit earned will not be counted toward the bachelor's degree.

Topics from algebra, with applications to practical problems. Elementary notions from geometry, probability and statistics.

Credit in this course satisfies the Mathematics Competency Requirement.
103. Intermediate Algebra (3) Cr/NC
Prerequisites: One year of elementary algebra and completion of Mathematics Competency requirement.
Review of elementary algebra, exponents, radicals, logarithms, quadratic equations, arithmetic and geometric progressions. This course is specifically designed to prepare students for Mathematics 119, 120, 121, 140 or 250 and is not open to students with credit in Mathematics 119 or higher-numbered courses. May not be used to satisfy general education requirements and will not count towards the bachelor’s degree.

104. Trigonometry (2) I, II
Prerequisites: Credit in plane geometry in either high school or college combined with either credit in Mathematics 103 at this University or qualification on the mathematics placement examination. Mathematics 104 may be taken concurrently with Mathematics 140.
Basic concepts of analytic trigonometry.

107. Introduction to Computer Programming (3) I, II
Prerequisite: Mathematics 103 or this University or qualification on the mathematics placement examination.
Introduction to machine and data organization; the rudiments of job control; design and analysis of algorithms; flowcharts. Extensive programming of problems on the computer.

118. Topics in Mathematics (3)
Prerequisites: Two years of high school mathematics and completion of Mathematics Competency requirement.
Topics selected from algebra, analysis, geometry, logic, probability, or statistics, designed to give student insight into structure of mathematical theories and their applications. Not open to students with credit in Mathematics 140 or higher numbered courses.

119. Elementary Statistics for Business (3) I, II
Prerequisite: Mathematics 103 at this University or qualification on the mathematics placement examination.
Descriptive statistics: histogram, frequency polygon measures of central tendency and variability. Elementary probability and sampling distributions, including binomial, Normal, Bayes theorem. Point and interval estimation of means, proportion. Not open to students with credit in Mathematics 250. Students with credit or concurrent registration in another statistics course other than Mathematics 250 will be awarded a total of four units for the two (or more) courses.

120. Mathematics for Business Analysis (3) I, II
Prerequisite: Mathematics 103 at this University or qualification on the mathematics placement examination.
Basic mathematics for business students, including topics from finite mathematics and calculus.

121. Calculus for the Life Sciences I (3) I, II
Prerequisite: Mathematics 103 at this University or qualification on the mathematics placement examination.
Basic concepts of differential calculus with life science applications. Not intended for physical science or engineering majors. Not open to students with credit in Mathematics 141 or 150.

122. Calculus for the Life Sciences II (3) I, II
Prerequisite: Mathematics 121
A continuation of Mathematics 121 with topics from integral calculus and an introduction to elementary differential equations. Not open to students with credit in Mathematics 141 or 150.

137. Intermediate Computer Programming (4) I, II
Prerequisite: Mathematics 107
General concept of machine and assembly languages, including data representation, looping and addressing techniques, subroutine linkages and use of system and programmer-defined macros.

138. Higher Level Languages (1-2)
Prerequisite: Mathematics 107.
Syntax and semantics of a given high level language. Units will depend on language. Programs will be run on computer. Possible languages include FORTRAN, COBOL, ALGOL, PL/I, LISP, SNOBOL, APL. Simulation languages. See Class Schedule for current offering. Maximum credit six units.

140. College Algebra (3) I, II
Prerequisite: Mathematics 103 at this University or qualification on the mathematics placement examination.
Functional notation, mathematical induction, complex numbers, DeMoivre’s theorem, inequalities, binomial theorem, determinants, etc. Not open to students with credit in Mathematics 150.

141. Calculus for the Social Sciences (4) I, II
Prerequisite: Mathematics 140 at this University or qualification on the mathematics placement examination.
Types of functions and their graphs, especially those arising from social and behavioral models; trigonometry; single variable calculus, including techniques of integration, differentiation, and optimization. Not open to students with credit in Mathematics 121 or 150.

142. Calculus for the Social Sciences (4) I, II
Prerequisite: Mathematics 141
Matrix and vector algebra; and linear systems of equations and inequalities; multivariate calculus, including optimization methods; elementary techniques for solution of differential and difference equations. Not open to students with credit in Mathematics 122 or 151.

149. Introductory Matrix Algebra (3)
Prerequisite: Mathematics 140
Matrices, vectors, linear dependence and independence, basis, change of basis, similarity and congruence. Applications to systems of equations, characteristic values and orthogonality.

150. Single Variable Calculus (5) I, II
Prerequisites: Mathematics 104 and 140 at this University, with minimum grade of C, or qualification on the mathematics placement examination.
Concepts and techniques of one variable calculus. Differentiation and integration of algebraic, logarithmic, exponential, trigonometric and inverse trigonometric functions of one variable, with applications.

151. Calculus and Analytic Geometry (4) I, II
Prerequisite: Mathematics 150 with minimum grade of C.
Plane analytic geometry; polar coordinates; parametric equations in the plane; techniques of integration, indeterminate forms, improper integrals, Taylor’s formula and infinite series.

152. Multivariable Calculus (4) I, II
Prerequisite: Mathematics 151 with minimum grade of C.
Concepts and techniques of several variable calculus. Partial differentiation and multiple integration with applications. Analytic geometry and vectors in three dimensions. Line integrals and Green’s Theorem; differential equations.

210A. Structure and Concepts of Elementary Mathematics (3) I, II
This course or its equivalent is required for students working toward a teaching credential in elementary education.
Prerequisites: Two years of high school mathematics and completion of Mathematics Competency requirement. Proof of completion of prerequisites required.

210B. Structure and Concepts of Elementary Mathematics (3) I, II
This course or its equivalent is required for students working toward a teaching credential in elementary education.
Prerequisite: Mathematics 210A.
Elementary number theory and congruences, metric and nonmetric geometry, introduction to logic, probability and statistics and some concepts from algebra.
250. Basic Statistical Methods (3) I, II
Prerequisite: Mathematics 103 at this University or qualification on the mathematics placement examination.
Descriptive statistics: histogram, measures of central tendency and variability; sampling distributions. Estimation and hypothesis tests for means, proportions, variances, ANOVA models, linear regression and correlation, nonparametric methods. Not open to students with credit in Mathematics 119. Students with credit or concurrent registration in another statistics course other than Mathematics 119 will be awarded a total of four units for the two (or more) courses.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

299. Special Study (1-3)
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Intended for Undergraduates)

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 qualification 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 151
Principles and procedures of mathematics instruction in secondary schools. Investigation and development of mathematics curriculum. Designed especially for secondary and postsecondary teachers and teacher candidates. This course cannot be used as part of the major or minor in the Department of Mathematical Sciences.

336. Introduction to Mathematical Modeling (3) I
Prerequisite: Mathematics 122 or 142 or 152.
Models from the physical, natural and social sciences including population models and arms race models. Emphasis on classes of models such as equilibrium models and compartment models. Not open to students with credit in Mathematics 536.

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, and parabolic equations; Fourier series and integrals, electromechanical analogues, 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 a major or minor in the Department of Mathematical Sciences.

350A. Statistical Methods (3) I
Prerequisite: Mathematics 119 or 250 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.

350B. Statistical Methods (3) II
Prerequisite: Mathematics 350A
Multiple regression, factorial models and nonparametric methods, all with emphasis on applications.

371. Discrete Mathematics, with Computer Applications (3)
Prerequisite: Mathematics 122 or 142 or 151.
Equivalence and order relations. Boolean algebra, finite machines and their optimization, logical design.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

498. Directed Readings in Mathematics Literature (1-3)
Prerequisite: Consent of instructor.
Individually directed readings in mathematics literature. May be repeated for a maximum of three units, taken each time from a different instructor.

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)

510. Introduction to the Foundations of Geometry (3) II
Prerequisite: Mathematics 122 or 142 or 152.
The foundations of Euclidean and non-Euclidean geometries. Highly recommended for all prospective teachers of high school geometry.

511. Projective Geometry (3)
Prerequisites: Mathematics 122 or 142 or 151 and consent of instructor.
Concurrence, collinearity of points and other properties of figures not altered by projections. Construction and study of ellipses, hyperbolas, and parabolas by means of projections.

512. Non-Euclidean Geometry (3)
Prerequisite: Mathematics 122 or 142 or 151.
History of attempts to prove the fifth postulate; emphasis on plane synthetic hyperbolic geometry; brief treatment of other types of non-Euclidean geometry.

520A. Linear Algebra (3) I, II
Prerequisite: Mathematics 142 or 152.
A study of linear equations; Euclidean spaces, linear transformations, matrices, determinants, and eigenvalues.

520B. Applied Linear Algebra (3)
Prerequisite: Mathematics 520A.
Jordan forms, vector and matrix norms, condition numbers, generalized inverses, linear programming, analysis of a few standard algorithms in linear algebra.

521A-521B. Modern Algebra (3-3) I, II
Prerequisites: Mathematics 142 or 152. Mathematics 521A is prerequisite to 521B.
Selected topics from modern algebra to include an introduction to the theory of groups, theory of equations, and finite mathematics.

522. Number Theory (3)
Prerequisite: Mathematics 142 or 152.
Selected topics from the theory of numbers to include congruences, Diophantine equations, and a study of prime numbers.
523. Mathematical Logic (3)  
Prerequisite: Mathematics 142 or 151 or Philosophy 120.  
The logical rules of proof governing sentential connectives and the universal and existential quantifiers with applications. Not open to students with credit in Philosophy 521.

530. Differential Equations (3) I, II  
Prerequisite: Mathematics 142 or 152.  
Ordinary differential equations with applications to geometry, physics and chemistry. Not open to students with credit in Mathematics 340A.

531. Partial Differential Equations (3)  
Prerequisite: Mathematics 530.  
Study of boundary-initial value problems via separation of variables, eigenfunction expansions, Greens functions, and transform methods. Introductory material includes uniform convergence, divergence theorems and Fourier series. Not open to students with credit in Mathematics 340B.

532. Functions of a Complex Variable (3)  
Prerequisite: Mathematics 142 or 152.  
Analytic functions, Cauchy-Riemann equations, theorem of Cauchy, Laurent series, calculus of residues.

533. Vector Analysis and Differential Geometry (3)  
Prerequisite: Mathematics 142 or 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) I, II  
Prerequisite: Mathematics 142 or 152.  
Properties of the real numbers, continuity and differentiability of functions of one real variable, the Riemann integral, infinite series, uniform convergence.

534B. Advanced Calculus II (3) I, II  
Prerequisite: Mathematics 534A.  
Functions of several real variables: continuity and differentiability, transformations, Jacobians, Greens and Stokes theorems.

535. Introduction to Topology (3)  
Prerequisite: Mathematics 534A.  

541A. Numerical Analysis and Computation (3) I  
Prerequisites: Mathematics 107 and 142 or 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 142 or 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.

553. Stochastic Processes (3)  
Prerequisite: Mathematics 550.  
Introduction to stochastic processes with selected applications.

554. Computer Oriented Statistical Analysis (3)  
Prerequisite: Mathematics 350A.  
Using statistical computer packages such as SPSS and BMDP to analyze problems involving experimental data. (Formerly numbered Mathematics 331.)

561. Applied Graph Theory (3)  
Prerequisite: Mathematics 520A.  
Undirected and directed graphs, trees, Hamiltonian circuits, classical problems of graph theory including applications to linear systems.

562. Optimization Theory (3) I  
Prerequisite: Mathematics 520A.  
Transformation of optimization problems, sequential optimization, Lagrange multipliers, linear programming and duality, calculus of variations, and optimal control theory. Sample applications and numerical implementation of the techniques covered.

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.  
Introduction to computability (3)  
Prerequisite: Mathematics 371 or 523.  
Introduction to the limitations and capabilities of computing machines. Applications to logic, algebra, analysis.

575. Compiler Construction (3)  
Prerequisites: Mathematics 370 and 572.  

576. Artificial Intelligence (3) II  
Prerequisite: Mathematics 371 or 523.  

577. Probability and Statistics (3) I  
Prerequisite: Mathematics 142 or 151.  
Probability measures of central tendency and dispersion, characteristics of frequency functions of discrete and continuous variables; applications. Highly recommended for all prospective secondary school teachers of mathematics.

578. Algorithms and Their Analysis (3)  
Prerequisite: Mathematics 576.  
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 142 or 151.
Permutations, combinations, generating functions, recurrence relations, inclusion-exclusion counting, Pólya's theory of counting, other topics and applications.

580. Systems Programming (3) I, II
Prerequisites: Mathematics 137 and 579.
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.)

581. Small Computers (3)
Prerequisite: Mathematics 137.
Organization and application of minicomputers. Hands-on experience with minicomputers. Software aspects of and several detailed descriptions of popular minicomputers. Presentation of several microcomputers.

582. Database Theory and Implementation (3) I, II
Prerequisites: Mathematics 371 and 570.
Abstract data structures and techniques for their implementation. Review of sentential and predicate logic, relational view of data, relational calculus and algebra, normalization of relations; hierarchical and network views of data; review of some existing database systems (chosen from ADABAS, DSSG, IMS, S2000, TOTAL); data security and integrity.

583. Computer Simulation (3) I, II
Prerequisites: Mathematics 350A and 541A.
Methodology of simulation for discrete and continuous dynamic systems. State-of-the-art programming techniques and languages. Statistical aspects of simulation. Students will design, program, execute and document a simulation of their choice.

584. Aspects of Interactive Computer Graphics (3) I, II
Prerequisites: Mathematics 149, 152 and 570.
Theoretical and practical concepts and software requirements related to use of interactive computer graphics. Mathematical functions used in 3D graphics, data structures and languages both for programming graphical system and for communication between a user and a graphical system.

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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Mexican-American Studies
In the College of Arts and Letters

Faculty
Chair: Vega
Professors: Griswold del Castillo, Vega
Associate Professors: Cuellar, Rodriguez, Villafaro
Assistant Professor: Sanchez

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

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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.

Students majoring in Mexican-American studies must complete a minor in another field approved by the adviser 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 courses 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 the Department of Mexican-American studies. Refer to section of catalog on "Graduation Requirements."

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.


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**

110A-110B. Introduction to Mexican-American Studies (3-3)
- 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)
- Prerequisite: Completion of the Writing Competency Requirement. (See Graduation Requirements, section of this catalog) PROOF OF COMPLETION OF PREREQUISITE REQUIRED. Student to bring to first class meeting evidence of one of the following: test score of 42+ on SAT/SATWE or 17+ on ACT or 8 essay and 151 + total on EPT or satisfactory completion of Academic Skills 150 (grade slip or copy of student record). Training for students from Hispanic backgrounds 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 or higher-numbered composition or creative writing course or Afro-American Studies 120 or Linguistics 100.

115. Mexican American in Transition (3)

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)
- Study 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.

255. Ballet Folklorico (3)
- One lecture and four hours of activity. Survey of folkloric dance from pre-Columbian times to the present. Relationship between indigenous, Spanish and contemporary Danza Folklorica.

296. Experimental Topics (1-4)
- Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

**UPPER DIVISION COURSES**

301. Political Economy of the Chicano People (3)
- Prerequisite recommended: Mexican-American Studies 110A-110B. Political and economic roots of the oppression and exploitation of the Chicano from historical, institutional and theoretical points of view. Parallels between the experiences of the Chicano and other Hispanic groups. (Formerly numbered Mexican-American Studies 301A.)

303. Barrio Studies (3)
- Prerequisite recommended: Mexican-American Studies 110A or 110B. Sociological and practical analysis of barrio problems and agencies. Observation in formal agencies for experience and sensitizing. Community fieldwork and application of theory.

304. Narcotics in the Mexican-American Community (3) I, II
- Prevention and cure of drug problems; old and new methods; formal and informal agencies explored.

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) I, II
- 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.

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 (Pedagogia, Musica y Cultura) (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 critique each other’s work. Poetry is the point of departure, and goal in sight. Maximum credit six units.

334. Pre-Hispanic Literature (3)
- Literature of Nahua and Maya areas in translation: studied as literature.

335. Language of the Barrio (3)
- Pachuco, colo, and barrio Spanish: a linguistic study.

355. 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 bilingual and multicultural Southwest.

360. Effects of Political and Economic Institutions on the Barrio (3) I
- Prerequisite recommended: Mexican-American Studies 301. 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 in a multicultural society.

370. Families in the Southwest: Documents and Methods (3)
- History of important families in the Southwest. Preparation of family histories.

380. Chicano Folklore (3)
- Prerequisite recommended: Mexican-American Studies 110A or 110B. The intellectual history of the Mexican American as a synthesis of different cultural traditions and perspectives. Philosophical concepts from pre-Cortesian times to the present.
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 Concepts (3)
Prerequisite recommended: Mexican-American Studies 110A-110B.
Bilingual and bicultural philosophy; investigation of bilingual rationales and exploration of research in the area.

461. Bilingual Linguistics (3) I
Prerequisite recommended: 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.

464A-464B. Literature for the Chicano Bilingual Student (3-3)
Semester I: Chicano literature for the preschool, elementary, and junior high bilingual Chicano student. Semester II: Chicano literature for the high school, college, and adult bilingual Chicano student.

466. Bilingual Materials (3)
One lecture and four hours of activity
Prerequisite recommended: Credit or concurrent registration in Mexican-American Studies 110A, 110B.
Analysis of stereotyping and ethnic and multicultural themes in bilingual materials.

480. The Mexican American and the Schools (3) I, II
Prerequisite recommended: 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, prevention 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.

483. Rural and Migrant Issues (3)
The Mexican-American rural and migrant student; problems and new programs.

484. Counseling the Mexican-American Student (3) I
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)
Cultural bias in testing; survey of the latest testing techniques as applied to the Mexican American in the educational system.

496. Selected Topics in Mexican-American Studies (1-3)
Intensive exploration of selected topics in the area of Mexican-American Studies. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

497. Senior Survey in Mexican-American Studies (3)
Survey integrating studies of selected areas of Mexican-American Studies. Senior report will be written.

499. Special Study (1-3)
Prerequisite: Consent of instructor.
Individual study. Maximum credit six units.
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 fulfill the academic requirements for the certification examination given by the California State Department of Public Health for Public Health Microbiologist, 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: Microbiology 430A-430B, 515, 535L, Zoology 508 and 526.

**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 567; Microbiology 430A-430B, 515, 535L; Zoology 508 and 526. 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 admitted to the State of California examination for Registered Sanitarian.

**Preparation for the major.** Botany 200, Biology 215 or Mathematics 250, Chemistry 200, 201, 230 or 231, and 250 or 251; Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B; Psychology 101 or Sociology 101, Zoology 200 (45-47 units).

**Writing Requirement.** Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

**Major.** A minimum of 36 upper division units to include Biology 570; Civil Engineering 555; Microbiology 310, 410A-410B, 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 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 250; Chemistry 200, 201, 230 or 231, and 250 or 251; Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B. (44-44 units)

**Writing Requirement.** Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

**Major.** A minimum of 33-38 upper division units in microbiology and approved related fields to include Microbiology 310, 505, 505L, 540, 540L, and 510 or 520; three of the following courses: Microbiology 515, 525, 530, 560; Biology 400; Chemistry 361A-361B, and one of the following courses: Zoology 503, 510, 535, 570, or 421 and 421L.

**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. (Microbiology 110 not applicable to the major.)

**110L Microbiology and Man, Laboratory (1) I, II**

Three hours of laboratory. Prerequisite: Credit or concurrent registration in Microbiology 110.

**210. Fundamentals of Microbiology (4) I, II**

Two lectures and six hours of laboratory. Prerequisites: Chemistry 100 and 101 or 200 and 201. 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.

**296. Experimental Topics (1-4) I, II**

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

**300. Honors Course (1-3) I, II**

Refer to Honors Program.

**305. Microbes: The Key to the Future (3) I, II**

Completion of natural science requirements under the Foundations of Learning component of General Education.

Use of microbes in developing alternate energy sources, treatments for infectious diseases and cancers, methods for recycling of wastes, and application of recombinant DNA. (Microbiology 305 not applicable to the major.)

**310. General Microbiology (4) I, II, S**

Two lectures and six hours of laboratory. Prerequisites: Chemistry 230 or 231, Botany 200. 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.

**360. Microorganisms in Human History (2) I, II**

Prerequisites: Microbiology 110 or 110L. A course for students who are interested in biological sciences majors. Epidemiological concepts and methods as they apply to current community problems.

**410A-410B. Principles of Environmental Health (3-3) I, II**

Two lectures and six hours of laboratory. Prerequisites: Biology 215 or Mathematics 250, 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. (Formerly numbered Microbiology 410.)

**420. Environmental Health Administration (3) II**

Prerequisite: Microbiology 410A.

Concepts of organization and administration applied to environmental health; factors affecting these at the local, national and international levels.

**UPPER DIVISION COURSES**

(Reserved for Undergraduates)
reststance Laboratory experience in isolation and identification of bacterial pathogens.

**480. Industrial and Food Microbiology (2) II**
Prerequisite: Microbiology 310 or 310. Microorganisms in food, beverage, drug, and chemical industries. Production of alcohol and other solvents, organic acids, vitamins, steroids, paper, and other hydrocarbon degradation, food microbiology, and sewage disposal.

**490. Investigation and Report in Microbiology (2) I, II**
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) I, II**
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 of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

**499. Special Study (1-3) I, II**
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)

**505. Microbial Physiology (2) I, II**
Prerequisites: Microbiology 310, Chemistry 250 or 251, 361A; Physics 180A-180B. Recommended: Physics 182A-182B. Physiology of selected bacteria, fungi and other microorganisms. Not open to students with credit in Microbiology 320.

**505L. Microbial Physiology Laboratory (2) I, II**
Six hours of laboratory. Prerequisite: Credit or concurrent registration in Microbiology 505. Techniques and instrumentation used in microbial physiology, computer applications in physiology. Not open to students with credit in Microbiology 320.

**510. Advanced General Microbiology (2) II**
Prerequisite: Microbiology 310 or an introductory course in microbiology and consent of instructor. Taxonomy, comparative physiology, and ecology of representative microorganisms found in various natural environments.

**510L. Advanced General Microbiology Laboratory (2) I, II**
Six hours of laboratory. Prerequisite: Credit or concurrent registration in Microbiology 510. Methods and procedures for the selective isolation and characterization of important groups of soil and water bacteria.

**515. Bacterial and Viral Genetics (2) I, II**
Prerequisites: Chemistry 361A; Microbiology 310. The genetics of bacteriophages and bacteria.

**520. Pathogenic Bacteriology (4) I, II**
Two lectures and six hours of laboratory. Prerequisites: 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) I, II**
Two lectures and six hours of laboratory. Prerequisite: Microbiology 310. Fungal agents of disease in human and other animals. Consideration of the biology of fungi, concepts of host-parasite relationships, including factors affecting virulence and immunity. Experience in systematic identification.

**530. Hematology (4) I, II**
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) I, II**
Prerequisite: Microbiology 310. Recommended: Microbiology 520 and 540. Viruses, their structure, function, culture, and methods of study.

**535L. General Virology Laboratory (2) I, II**
Six hours of laboratory. Prerequisite: Credit or concurrent registration in Microbiology 535. The culture, isolation, and characterization of viruses.

**540. Immunology and Serology (2) I, II**
Prerequisites: Chemistry 361A and one upper division biological science course. Immunology and serology. Laboratory methods used in immunology and serology. Maximum credit six units.

**540L. Immunology and Serology Laboratory (2) I, II**
Six hours of laboratory. Prerequisite: Microbiology 310 and credit or concurrent registration in Microbiology 540. Serological and cellular immunological techniques. Not open to students with credit in Microbiology 330.

**540L. Immunology and Serology Laboratory (2) I, II**
Six hours of laboratory. Prerequisite: Microbiology 310 and credit or concurrent registration in Microbiology 540. Serological and cellular immunological techniques. Not open to students with credit in Microbiology 330.

**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) I**
Six hours of laboratory. Prerequisite: Credit or concurrent registration in Microbiology 560.

**580. Animal Viruses (4) I**
Two lectures and six hours of laboratory. Prerequisite: Microbiology 535. Recommended: Microbiology 520, 535L, 540. Animal virus identification and investigation, emphasizing cell culture, cytopathic effects and serology.

**590. Electron Microscopy (4) II**
Two lectures and six hours of laboratory. Prerequisites: Physics 180A-180B and 182A-182B; Microbiology 310. Recommended: Microbiology 535 and Zoology 508. Principles and techniques in the biological application of the electron microscope.

**596. Selected Topics in Microbiology (1-3)**
Prerequisite: Consent of instructor. Study of specific subject areas. Maximum credit six units to be taken in two different subject areas. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree. See Class Schedule for specific content.

**GRADUATE COURSES**
Refer to the Graduate Bulletin.
Military Science
In the College of Professional Studies and Fine Arts

Faculty
Professor: Kaul
Assistant Professors: Elizondo, Grant, Smith, Wells
Instructors: Forest, Rader

Offered by the Department
Army ROTC curriculum leading to a commission as a Second Lieutenant in the U.S. Army Minor in Military Science.

Curriculum
The Department of Military Science offers both a four-year and a two-year Army Reserve Officers Training Corps (ROTC) program designed to develop future officers in the areas of leadership, management, foreign policy, national security, military history, and military skills. Enrollment in the Army ROTC program is not a requirement for taking military science courses. The Army ROTC program consists of one course per semester along with one leadership laboratory period per month. The four-year program is divided into two parts; the Basic Course and the Advanced Course. The Basic Course is usually taken in the freshman and sophomore years. No military commitment is incurred during this time, and students may withdraw at any time through the end of the second year. The first year consists of one-unit introductory courses each semester. The second year consists of one-unit courses with instruction on Civil-Military Relations and Military Leadership. Uniforms, necessary military science textbooks, and materials are furnished without cost. After completing the Basic Course, students who have demonstrated officer potential and have met physical and scholastic standards are eligible to enroll in the Advanced Course. This course is normally taken in the final two years of college and consists of outlined military science and designated enrichment courses.

A paid six-week Advanced Camp is held during the summer between the junior and senior years. This camp permits students to put into practice the principles and theories acquired in the classroom. All students in the Advanced Course receive uniforms, necessary military science textbooks, and materials without cost. After completing the Basic Course, students who have demonstrated officer potential and have met physical and scholastic standards are eligible to enroll in the Advanced Course. This course is normally taken in the final two years of college and consists of outlined military science and designated enrichment courses.

On-campus, activities during the school year include orienteering, rappelling, mountainaineering, sports programs, and social activities. Upon completion of the Advanced Course, students are commissioned Second Lieutenants in the U.S. Army. The options available after commissioning are active duty for a minimum of three years or three months active duty for training followed by participation in the U.S. Army Reserve or U.S. Army National Guard.

Several special programs are available for students who have previous ROTC training or active military service. These programs allow for partial or full-placement credit for the Basic Course. In addition, a program is available for simultaneous participation in both Army ROTC and the Army Reserves or Army National Guard.

Two-Year Commissioning Program
This program offers students the opportunity to be commissioned officers after two years of Army ROTC instead of four years. The program consists of a six-week Army ROTC Basic Camp which qualifies a student for enrollment in the Advanced Course. The two-year program is designed for community and junior college graduates and students of four-year colleges who did not take Army ROTC during their first two years. The Basic Camp course of instruction is designed to provide the necessary military skills and leadership training normally provided during the Basic Course. The Basic Camp is conducted at Fort Knox, Kentucky, and a paid salary, transportation, meals and lodging will be furnished. No military obligation is incurred as a result of Basic Camp attendance.

Cross Enrollment
Students can participate in Army ROTC while attending area community and junior colleges or other four-year area colleges. For further information concerning cross enrollment, contact the Department of Military Science.

Applying for the Program
SDSU students enroll in military science courses by signing up during registration in the same manner as for other University classes. There is no advance application needed for the freshman or sophomore classes. The freshman classes consist of one-unit courses, Military Science 100A and 100B. The sophomore classes consist of Military Science 201 and 202. The Advanced Course classes consist of Military Science 301 and 302 during the first year and Military Science 401 and 402 during the second year. Students need to contact the Department of Military Science to enroll in the Army ROTC program and to receive information on lab schedules and activities.

Students enrolling in other area colleges and universities need to contact the Department of Military Science at SDSU for curriculum requirements and application procedures.

Financial Assistance
All students have the opportunity to compete for three- and two-year scholarships. These scholarships cover all tuition, laboratory fees, textbooks, supplies and a $100 monthly subsistence allowance during the school year. These scholarships are competitive nationwide and the initial processing is accomplished by the Military Science department during the spring semester each year. In addition, two-year scholarships are available at the Basic Camp at Fort Knox, Kentucky, where you will be in competition only with the students attending the Basic Camp. Contact the department chair for details.

Military Science Minor
The minor in military science consists of a minimum of 15 units to include Military Science 301, 302, 401, 402, and Sociology 499. (3 units)

LOWER DIVISION COURSES

100A-100B. Introduction to the U.S. Army (1-1-1). Semester I: Structure, organization, and missions of the U.S. Army; Preparation and development of officer status. Semester II: Officer leadership, development, and functions. Emphasizing command and responsibilities for a basic foundation of military fundamentals.

201. Civil-Military Relations (3) Theories of civil military relations as developed by Huntington, Perlmutter, et al.; analysis of governmental and military sector interaction, particularly the locus of power and manner of control.

202. Psychological Theories of Military Leadership (3) Psychological theories, models and concepts as applied in the practice of military leadership. Focus on style and role of the small unit military leader in applying principles of motivation, organizational behavior, participative group management in solving military leadership problems. Simulations, case studies and diagnostic tests.

UPPER DIVISION COURSES
(1-1-1)

301. Skills of Military Leadership (3) Techniques and skills required of military leaders. Military methods of instruction, review of essential map reading skills and case studies of military leadership techniques.

302. Theory and Dynamics of the Military Organization (3) Prerequisite: Military Science 301. Current tactical doctrine and military techniques of planning and designation required to apply doctrine to small unit operations.

401. Contemporary Military Policy (3) The Military Justice System as it has evolved from international law principles and established national security policies. History of military law, the philosophy and structure of the system to include court-martial and alternatives to court-martial.

402. Senior Leadership Seminar (3) Leadership and management problems encountered in a company-sized military unit. Role of the junior officer. Designed to prepare senior cadets for positions as leaders and managers of resources at the platoon/company level.
Music

In the College of Professional Studies and Fine Arts

The Department of Music is a Member of the National Association of Schools of Music.

Faculty

Emeritus: Flye, Hurd, Rohrfeisch, Rost, Savage, Smith, D., Smith, J.D., Springfield
Chair: Biggs
Associate Professors: Dutton, Hill, Loomis, Mitchell, Moe, O'Donnell
Assistant Professors: Kolar
Lecturers: Holtz, Peterman, Ward-Steinman, S., Warman
Visiting Lecturers: Capobianco

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. All new students and transfer students who wish to enroll as music majors or minors are given placement examinations in music theory and auditions on their major instrument and piano. On the basis of these exams and auditions, recommendations of specific courses will be made by the department adviser. The specific courses are Music 158A-158B, 258A-258B, 358A-358B, Music 250 and 450 with the appropriate letter suffix; and Music 110A, 110B, 110C, 110D.
2. Each semester of private instruction concludes with a solo performance before a faculty jury. The faculty grade accounts for one-third of the final semester grade; the teacher's grade accounts for the remaining two-thirds.
3. To qualify for upper division study, music majors must pass a Junior Level Examination. This is a more intensive solo performance before a faculty jury at the close of the fourth semester of study in Music 250. If it is not passed, a grade of "I" (Incomplete) is recorded. This must be resolved before enrollment in upper division study is permitted.
4. The Junior Level Aural Skills Examination is a requirement for graduation. It is normally given at the close of Music 258B and may be retaken until passed. The exam includes sight-singing, melodic and harmonic dictation, error detection, chromatic and modern harmony. A final grade of C (minimum) is required in each semester of the CMP courses in order to advance to the next higher course.
5. Students are encouraged to participate in at least one performing group each semester. One-half of the requirement stated in each degree program must be met by participating in a major performance group in which the student's major instrument is used regularly.
6. Attendance at and performance in recitals is a requirement of all music majors as set forth in the department recital regulations.

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 320A through 335; 158A-158B; four units selected from courses numbered 170 through 189; four units of Music 250, 258A-258B. (29-33 units.) Recommended: Physics 109 (satisfies G.E., physical science requirement). Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 28-29 upper division units to include Music 358A-358B; five units selected from courses numbered Music 370 through 389; 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), 168A-168B, 258A-258B; six units selected from courses numbered Music 170 through 189; four to eight units in Music 250. (26-34 units.) Recommended: Physics 109 (satisfies G.E., physical science requirement). Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. Thirty-eight to forty-two upper division units to include two units selected from Music 448A-448B or 449A-449B, 358A-358B, 552A-552B, six units selected from courses numbered 370 through 389, 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.)

(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.

(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 chair is required for admission to this emphasis.

D. All students must pass an audition of the lecture and the music to be performed no less than one month in advance of the recital(s). An Interview with the department is required to present 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 (or 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.

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 320A through 335; 158A-158B; four units selected from courses numbered 170 through 189, 246; four units of Music 250; 258A-258B. (31-35 units.) Recommended: Physics 109 (satisfies G.E. physical science requirement).

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 30 upper division units to include Music 358A-358B; two units selected from courses numbered Music 370 through 399; 446A-446B-446C; 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 361 and the music courses numbered 170 to 190 and from 370 to 390. Some students will be musically prepared to elect courses which may not be included in this 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 without 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 chair 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 Department of Music faculty who 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.
7. Students enrolled in performance studies must be concurrently enrolled in the Comprehensive Musicanship program until such time as the CM requirements are fulfilled.

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 advisor.

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
Two lectures and two hours of activity

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

Observation of individual or group lessons; critiques and discussion; performance in class.

140. Guitar—Elementary Class Instruction (1) I, II
Two hours.

Open to all persons interested in fundamentals of guitar and elementary music skills.

151. Introduction to Music (3) I, II
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. Closely to music majors and minors.
153. Opera Theatre (2) I, II
Six or more hours per week.
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.

166. Beginning Jazz Improvisation (1) I, II
Two hours.
Jazz harmony. Building a basic repertoire. Harmonic analysis of jazz standards.

169. Recorder: Elementary Instruction (1) I, II
Two hours.
Learning music fundamentals and music reading through recorder playing of soprano and alto instruments. Progresses from simple one note exercises through familiar folk songs into sight reading new material. Rhythm and intonation given special emphasis.

Performance Organization Courses
(Music 170 through 189)
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. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

175. Marching Band (1) I
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.

207. Composition Laboratory (1) I
Three hours of laboratory.
Prerequisite: Consent of instructor. Original writing in different homorhonic and polyphonic forms for various media. Maximum credit four units.

246. Practicum in Music (2) I
One lecture and two hours of activity.
Materials and techniques used in music instruction at the elementary and secondary school levels, with field observation. (Formerly numbered Music 246A-246B.)

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 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 of the music major. Maximum credit for Music 250 is eight units.

A. Piano
B. Harpsichord
C. Organ
D. Voice
E. Flute
F. Oboe
G. Clarinet
H. Saxophone
I. Classical Accordion
J. Bassoon
K. French Horn
L. Trumpet
M. Trombone
N. Baritone Horn
O. Tuba
P. Percussion
Q. Violin
R. Viola
S. Cello

258A-258B. Comprehensive Musicianship (5-5) I, II
Four lectures and two hours of activity.
Prerequisite: Music 158B. Music 258A is prerequisite to 258B.
Continuation of Music 158A and 158B. Late 19th and 20th century harmony. Counterpoint and texture in Medieval, Renaissance, and Baroque styles.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended 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.

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, II
Two hours.
Fundamentals of violin, viola, cello and string bass by lecture and acquisition of elementary skills.

320B. Strings—Elementary Class Instruction (1) I, II
Two hours.
Prerequisite: Music 320A.
Fundamentals of violin, viola, cello and string bass by lecture and acquisition of elementary skills emphasizing those instruments not previously studied in Music 320A.

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.

325B. Oboe and Bassoon—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of oboe and bassoon by lecture and acquisition of elementary skills.

330. Brass—Elementary Class Instruction (1) I, II
Two hours.
Fundamentals of brass instruments by lecture and acquisition of elementary skills.

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.

340. Guitar—Elementary Class Instruction (1) I, II
Two hours.
Open to all persons interested in fundamentals of guitar and elementary music 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 1586.
Analytical study of music suitable for children of all ages. Background information, musical structure and functions of this music in the lives of children are included.

344. Folk Music (3) I, II
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.

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. Jazz History and Appreciation.
E. Music of Africa and the Americas.
F. Music of Asia and the Pacific.

353. Opera Theatre (2) I, II
Six or more hours per week.
Interpretation and characterization of light and grand opera. Specific work in coordination of opera ensemble. Maximum credit eight units.

355. Ethnic Music (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 258B. 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 music.

364A-364B. History of Jazz (3-3) I, II
Jazz style and forms as they have evolved historically. Classroom playing experience in jazz styles as a part of study. Designed for music majors.

366. Intermediate Jazz Improvisation (1) I, II
Two hours.
Prerequisite: Music 169.
Techniques and materials of jazz improvisation. Melodic, rhythmic, and harmonic analysis of jazz solos. Expanding the basic repertoire.

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 and public performance. Examination before committee of music department faculty.

369. Collegium Musicum (1) I, II
Prerequisite: Consent of instructor.
Performance of medieval and renaissance music on reproductions of historical instruments. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units. (Formerly numbered Music 190 and 390.)

370. Chamber Music (1) I, II
Three hours.
Prerequisite: Consent of instructor.
Selection of literature for recital program not to exceed 30 minutes in length. Theoretical analysis and historical study of scores chosen. Preparation and public performance. Examination before committee of music department faculty.

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.
465. Small Jazz Ensemble Concepts (2) I, II
One lecture and two hours of activity
Prerequisite: Consent of instructor.
Performance practice, discussion of the musical elements involved in specific types of jazz combos and development of repertoire. Maximum credit four units.

469. Stylistic Interpretation (2) I, II
One lecture and two hours of activity
Prerequisite: Music 369.
Individual and group projects in period musical styles. Application of original treatises and manuscripts to performance on historical and modern instruments. May be repeated with new content. Maximum credit six units.

475. Band Pageantry (2) II
One lecture and two hours of activity
Prerequisite: At least one semester of college marching band
Marching band drill styles and techniques. Practical experience in marching band techniques.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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 and 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.

510. Advanced Electronic Music (3) I, II
Two lectures and three hours of laboratory
Prerequisite: Music 310.
Complex waveform generation, remote voltage control generation, and historic aspects of electronic music.

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.

542. Performance Studies Laboratory (2) I, II
One lecture and three hours of laboratory
Prerequisite: Music 541A is prerequisite to 542A and 541B 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 256B. 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.

553. **Proseminar in Ethnomusicology** (3) I
Prerequisite: Music 256B.
Ethnomusicological theory and methodology, including history of the field and its relation to such disciplines as anthropology and linguistics. Areas of concentration include organology, field work, notation, transcription and analysis.

554. **Music Literature** (2) I, II
Prerequisite: Music 256B.
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. Symphonic Literature
- C. Keyboard Literature
- D. Song Literature

561. **Area Studies: Ethnomusicology** (3) I, II
Prerequisites: Music 351E and 351F.
Music of a specific culture. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

562. **World Music in Context** (2)
One lecture and two hours of activity.
Prerequisites: Music 351E or 351F and consent of instructor.
Practical experience in performance of specialized traditional genres of world music, social and environmental context in which they exist, and relationship of music, dance, and theater. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

566. **Advanced Jazz Improvisation** (1) I, II
Two hours.

569. **Advanced Collegium Musicum** (1) I, II
Prerequisite: Music 359.
Preparation and performance of representative works by a specific medieval or renaissance composer on historical instruments. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

570. **Advanced Chamber Music** (1) I, II
Three hours.
Prerequisite: Consent of instructor.
Study and public performance of established repertory as well as new compositions. Sections for string, woodwind, brass, piano and mixed ensemble groups. May be repeated with new course content. See Class Schedule for specific content. Maximum credit four units.

580. **Analogs in Music, Art, and Literature** (3) I
Prerequisite: At least one survey course in music history or appreciation, art history, or comparative literature.
Cross-influences and correspondences in the arts from the standpoints of style, texture, rhythm, and form.

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. Limit of nine units of any combination of 196, 296, 396 courses applicable to a bachelor's degree. Maximum credit six units.

**GRADUATE COURSES**
Refer to the Graduate Bulletin.

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**NATURAL SCIENCE**
In the College of Sciences

**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.

**Preparation for the major**
Biology 100, Chemistry 200, 201, 231, 251, Geoscience 100, Mathematics 150, 151, Physics 180A-180B and 182A-182B. One unit of laboratory is counted toward the major.

**Writing Requirement**
Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

**Major**
A minimum of 24 upper division units to include Chemistry 310A, 310B, and 410A, 410B; six units of natural science; and six units from physics. An additional six units from chemistry, physics or natural science to be selected with the approval of the Natural Science Department Teacher Credential Adviser.

**Minor in History of Science and Technology**
The minor in the history of science and technology consists of a minimum of 18 units to include Natural Science 315 and 316 and 12 units selected from History 484, 485, Astronomy 103, 305, Biology 405, Mathematics 303, Microbiology 360, Natural Science 314, 317, Philosophy 537.

Courses in the minor may not be counted toward the major, but may be used to satisfy requirements for preparation for the major and general education requirements, if applicable.

**LOWER DIVISION COURSES**

100A-100B. **Physical Science** (3-3) I, II
Prerequisite for 100B: Natural Science 100A or completion of physical science requirement in Foundations of Learning.
Introduction to concepts and processes in science intended to show why science is essential to a liberal education by recognizing relationship with other areas of knowledge such as philosophy, literature, fine arts, economics. Emphasis varies with instructor. Natural Science 100A not open to students with credit in Natural Science 102 or 210A.

102. **Physical Science with Laboratory** (4) I, II
Three hours of lecture and three hours of laboratory.
Introduction to physical sciences. Emphasis varies with instructor. Laboratory activity is fully integrated with lecture material. Experiments and observations are done when relevant to the subject discussed. Not open to students with credit in Natural Science 100A or 210A. (Formerly numbered Natural Science 102A.)
305. Modern Physical Science (3) I, II
Prerequisite: A college-level course in the physical sciences or life sciences.
Development of scientific models and allied technologies and their influence on the
development of societal attitudes and public policy. Discussion of contemporary problems
such as environmental degradation and energy utilization, climatic change, uses of computers,
and armaments.

311. Readings in Physical Science (3) I, II
Prerequisite: Upper division standing and completion of lower division science requirement.
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
Prerequisites: Completion of the Foundations of Learning requirement in natural science and
three units in classics history category of Foundations of Learning. Recommended: Astronomy
101.
The growth and development of science from antiquity to the 15th century. Emphasis on
man's cognitive reactions to his environment, the confluence of the occult arts, empirical
practices and rational thought associated with early scientific theory.

316. History of Science II (3) I, II
Prerequisites: Completion of Foundations of Learning requirement in natural science and
three units in classics history category of Foundations of Learning. Recommended: Astronomy
101 and a course in chemistry.
The major developments during the 16th through 19th centuries. The scientific revolution,
the rise of empiricism, the emerging role of scientific societies, Histories of particular theories
in both the life sciences and physical sciences.

317. Development of Scientific Thought (3) I, II
Prerequisites: Six units from astronomy, chemistry, geological sciences, natural science, or
physical science. Recommended: Mathematics 121.
Basic scientific concepts and their historical development with emphasis on the problem of
theory construction. The relationship between disciplined imagination and observational fact,
as illustrated by selected case histories. Limitations of scientific inquiry.

333. Technology and Human Values (3) I, II
Prerequisite: Completion of Foundations of Learning requirement in natural science.
Recommended: Natural Science 100A or 102.
Technologies such as solar and fusion power, lasers, computer services, transport, synthetic
food and their impact on values and lifestyles of developed countries. Characteristics of
post-industrial society, future shock and biological revolution. Curve extrapolation and
simulation by games and computer.

351. Solar Energy (3) I, II
Prerequisites: Completion of a lower division course in the physical sciences and
mathematics competency requirement or Mathematics 102.
Principles and practical aspects of solar energy including radiation transfer, optics, solar
spectrum, heat transfer and storage, active solar and passive solar devices and systems, and
designs of passive solar buildings and shelters.

400. Seminar (1-3) I, II
A directed study of a topic to be chosen by instructor and announced in Class Schedule.
Maximum credit six units.

412A-412B. Processes and Inquiry in Physical Science (4-4) I, II
Three lectures and two hours of activity.
Prerequisite: One course in a physical science or a life science. Recommended: Natural
Science 210A or 210B.
Investigation of processes in science and the rational thinking skills characteristic of the
physical sciences. Especially suited for Liberal Studies Option majors.

430. Introduction to Reality, the Uncertainty Principle (3) I, II
Prerequisites: Completion of general education requirements in natural science.
Recommended: A course in chemistry or Natural Science 102.
Theories of chemical evolution with emphasis on multidisciplinary aspects involving
geology, geochemistry, cosmochemistry and molecular biology.

496. Topics in Natural Science (1-4) I, II
Prerequisites: Completion of lower division course in the physical sciences and
Prerequisite: Consent of instructor. Selected topics in classical and modern natural science. May be repeated with new content.
See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
Individual study or laboratory work on a special problem in physical science selected by the
student. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Naval Science

In the College of Professional Studies and Fine Arts

Faculty
Professor: Crayton
Assistant Professor: Brown

Offered by the Department
NROTC curriculum.

NROTC Curriculum

The Department of Naval Science offers two programs, a scholarship and a nonscholarship program leading to a commission in the United States Navy or United States Marine Corps. Scholarship Program students receive tuition, fees, books and a stipend of $100 per month while nonscholarship or College Program students receive a $100 per month stipend during their final two years of college. All students receive instruction in essential naval science subjects which, in conjunction with a baccalaureate degree in the field of their major, qualifies them for commissions as Ensign, United States Navy or Second Lieutenant, United States Marine Corps.

Naval science courses are open to all students having an interest in history, national security, foreign policy, organizational leadership, management and the military services. Enrollment in the Naval Reserve Officer Training Corps (NROTC) is not a requirement for taking naval science courses.

LOWER DIVISION COURSES

101. Introduction to Naval Science (2)
Structure, principles, and practices; lines of command and control; logistical organizations; functions and services of major components of the Navy and Marine Corps; shipboard organization.

102. Naval Ships Systems I (3)
Types, structure, and purpose of naval ships; compartmentation, propulsion systems, auxiliary power systems, interior communications, ship control, ship design and stability.

201. Naval Ships Systems II (3)
Theory and principles of operation of naval weapons systems including types of weapons and control systems, capabilities and limitations, theory of target acquisition, identification and tracking, trajectory principles, and the basics of naval ordnance.

202. Sea Power and Maritime Affairs (2)
Prerequisite: Naval Science 201
Sea power and maritime affairs, general concept of sea power (including Merchant Marine), role of naval warfare components used to support the Navy's mission, sea power as an instrument of national policy, comparative study of U.S. and Soviet strategies.

UPPER DIVISION COURSES

(Intended for Undergraduates)

301. Navigation and Naval Operations I (3)
Prerequisite: Advanced standing.
Theory, principles and procedures of ship navigation. Topics include mathematical analysis, spherical triangulation, practical work involving sight reduction, sextants, publications, required logs/reports, piloting, celestial and electronic navigation techniques.

302. Navigation and Naval Operations II (3)
Prerequisite: Naval Science 301
Principles and procedures of ship movement and employment including tactical formations and dispositions, relative motion, communications, sonar-radar search and screening theory, rules of the road, lights, signals and navigational aids.

401. Naval Leadership I (3)
Prerequisite: Advanced standing.
Principles of leadership and management. Development of skills in the areas of communications, counseling, control, direction, management and leadership.

402. Naval Leadership II (2)
Prerequisite: Naval Science 401
Human resource management, naval personnel management, material management and the administration of discipline.

Nursing

In the College of Human Services

Agency Member of the National League for Nursing
Agency Member of the American Association of Colleges of Nursing
Accredited by the California Board of Registered Nursing
and by the National League for Nursing

Faculty
Emeritus: Coffey, Lahee, Moses, Nye, Thomas
Director: Wozniak
Professors: Black, Salerno, Wozniak
Associate Professors: Flagg, Guilino, Heiniken, Hines, McDonald, Saltier, Standlee, Vedder
Assistant Professors: La Monica, Leslie Moffett, Shively
Lecturers: Boffa, Broom, Colwell, Dicks, Fraser, Gilbert, Goldberger, Good, Green, Holm, Isaacs, Keith-Leach, Lischke, Lucas, Mitchell, Palomo, Schreiber, Smith, Spadaro, Steinman

Offered by the School of Nursing

Master of Science degree in nursing
Major in nursing with the B.S. degree in applied arts and sciences
Health services credential

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.

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
      Microbiology 210
      Sociology 101
      Psychology 101
b. Course grade requirement (B or better) in each of these required university courses: Biology 261, Zoology 108.
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.)
4. Writing Competency Requirement. All students must demonstrate their writing competency on one of the following tests:
   a. By a score of 47 on the Test of Standard Written English of the Scholastic Aptitude Test
   b. By a score of 20 on the American College Tests
   c. By a score of 153 on the English Placement 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.
5. 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, practice experience and bilingual ability requirements, and applicants will be ranked in accordance with points earned. For specific additional point system allocation, consult the School of Nursing Office.
6. Health Requirement. To meet the specific health requirements, a medical examination and immunization series 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.
7. Academic Credit Through Examination. Academic credit by examination may be obtained by those whose prior education and/or experience provide 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.
8. Formal Application. Application to the nursing program must be made during the semester that the student is completing prerequisite non-nursing courses (22 units). Obtain application form at the College of Human Services, Director of Admissions office.

Special Instructions
1. Change of Major. Requests for change of major during the 1983-84 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 1983-84 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 and for home visits.
5. Impacted Program. The Nursing Major is designated as an impacted program and specific regulations related to admissions are imposed. Consult the “Locally and Statewide Impacted Programs” in the “Admissions” section of this catalog for regulations.
6. Honors Program. The honors program is available to students in the senior level who meet the criteria. Four units of honors courses constitute the Honors Program and will be validated as such on the official transcript. Less than four units completed will not be validated as honors, but may be credited as a special studies program.
7. Health Insurance. All students are advised to obtain health insurance coverage. Students are responsible for health care cost when services are rendered by a health care agency.

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 modifications or policy revisions.

Preparation for the major. Upon acceptance into the program, Nursing 202, 204, 250, 252; Chemistry 160; three units in statistics; and three units in growth and development must be successfully completed before continuation in the upper division courses required for the major.

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.

Writing Requirement. Passing the University Writing Examination or English 304 with a grade of C (2.0) or better.

Major. A minimum of 40 upper division units in nursing is required plus 300, 310, 354, 362, 412, 414, and five units selected from Nursing 452 or 454.

Sequence of Courses in the Nursing Curriculum

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<td>Chemistry 130</td>
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<td>Microbiology 210</td>
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<td>G.E. (Written Communication)</td>
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<td>General Education</td>
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<th>Second Semester</th>
<th>Units</th>
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<tr>
<td>First Semester</td>
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<td>Second Semester</td>
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<tr>
<td>Nursing 412</td>
<td>5</td>
<td>Nursing 452 or 454</td>
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<td>Nursing 414</td>
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<td>General Education</td>
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<tr>
<td>16</td>
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+ May be satisfied by examination.
GENERAL EDUCATION REQUIREMENTS

Students will complete a minimum of 50 units in General Education to include a minimum of nine upper division units. No more than 12 units may be used for General Education credit from any one department or academic unit.

I. Communication and Analytical Reasoning: 12 units
   A. Written Communication (6 units)
   B. Oral Communication (3 units)
   C. Statistics (3 units)

II. Foundations of Learning: 26 units
   A. Natural Science (11 units)
      1. Life Sciences (6 units) to be satisfied by:
         Zoology 108 (4 units)
         Microbiology 210 (4 units)
      2. Physical Sciences (3 units) to be satisfied by:
         Chemistry 130 (3 units) or Chemistry 160 (3 units)
   B. Social and Behavioral Sciences (6 units) to be satisfied by:
      Psychology 101 (3 units)
      Sociology 101 (3 units)
   C. Humanities (9 units)
      At least three units must be taken from three of the four areas 1, 2, 3, 4, from the Humanities section of the regular General Education program. Refer to General Education requirements in the Graduation Requirements section of the catalog.

III. Explorations: Twelve units to include Psychology 351 and at least three units from Humanities. At least nine of the twelve units must be upper division and three must be cross-cultural. Refer to General Education requirements in the Graduation Requirements section of the catalog.

Health Services Credential

San Diego State University offers curricula leading to the Health Services Credential. This authorizes the holder to serve as a School Nurse. For information concerning the credential, the student is referred to the School of Nursing Office, SS-101.

The Health Services Credential has been approved by the Commission for Teacher Preparation and Licensing.

Standards for Admission

1. Baccalaureate degree in nursing or related field (including community health nursing).
2. Current California Registered Nurse License.
3. Admission and planning interview with program adviser.

Program

The following program elements are required of all health services credential candidates:

(30 units)

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
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<td>Client Assessment</td>
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<td>NURS 502</td>
<td>School Nursing Management Practices</td>
<td>3</td>
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<td>NURS 504</td>
<td>Primary Health Care of the School-Aged Child</td>
<td>3</td>
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<td>NURS 504L</td>
<td>Primary Health Care of School-Aged Child Practice</td>
<td>1-3</td>
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<td>HS 574</td>
<td>Habit-forming Substances</td>
<td>3</td>
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<td>HS 575</td>
<td>Sex Education</td>
<td>3</td>
</tr>
<tr>
<td>PH 601</td>
<td>Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>C DIS 566</td>
<td>Hearing Conservation and Audiology for School Nurses</td>
<td>3</td>
</tr>
<tr>
<td>SPED 500</td>
<td>Exceptional Individuals</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: Three units selected from Nursing 630, 637, 638, 639; Health Science 520, 552; Public Health 621, 661, 753; Secondary Education 687 (specified sections); Social Work 550; Special Education 506.

LOWER DIVISION COURSES

202. Nursing Science I (5) I, II
   Prerequisites: Admission to the nursing program. Satisfactory completion or concurrent registration in Chemistry 160 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
   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, course in growth and development, and concurrent registration in Nursing 252.
   Differentiation 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 (5) I, II
   Three lectures and six hours of laboratory.
   Prerequisite: Concurrent registration in Nursing 250.
   Focus on psychological, social and biological 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

(30 units)

300. Honors Course (2-2) I, II
   Prerequisites: Nursing 350, 354, and 356, concurrent registration in Nursing 412 and 414.
   Cumulative overall GPA of 3.5.
   Current issues and trends in the nursing profession will be studied in depth, with emphasis on ethics, values, philosophy and history.

306. Nursing Science III (5) I, II
   Prerequisites: Nursing 250, 252; concurrent registration in Nursing 306, 310 and Psychology 351.
   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 (6) I, II
   Three lectures and nine hours of laboratory.
   Prerequisites: Nursing 250, 252; concurrent registration in Nursing 306, 310 and Psychology 351.
   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 (6) I, II
   Three lectures and nine hours of laboratory.
   Prerequisites: Concurrent registration in Nursing 306, 308 and Psychology 351.
   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 describing and explaining maladaptive behaviors and application of nursing interventions in a variety of treatment modalities.
320. Health and the Nature of Stress (3) I, II
Interdisciplinary focus on health; psychosocial and physiological stressors affecting health status. Concepts of stress theory with attention to developmental and situational stressors commonly experienced in modern society. People's adaptive and maladaptive responses from birth through senescence and death.

335. The Professional Role (3) Irregular
Development of the nurse's professional role in Western Civilization. Focus on the multifaceted role of the professional nurse in modern social order.

343. Health Care of the Aged (3)
Prerequisite: Open to all majors.
Assessment of the mental and physical health care needs of the aged client and principles of gerontology.

343L. Health Care of the Aged Laboratory (2)
Six hours of laboratory.
Prerequisite: Consent of instructor.
Open to students with clinical background in nursing or a related health discipline. Credit or concurrent registration in Nursing 343.

350. Nursing Science IV (3) I, II
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 effective objective evaluation of client care.

354. Maternal-Neonatal Nursing (6) I, II
Three lectures and nine hours of laboratory.
Prerequisites: Concurrent registration in Nursing 350 and 356.
A family-centered focus on the family's and neonate's developmental needs. 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 (6) I, II
Three lectures and nine hours of laboratory.
Prerequisites: Concurrent registration in Nursing 350 and 356.
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; 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.
Prerequisite: 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.

432. Clinical Nursing in Complex Situations (5) I, II
Three lectures and six hours of laboratory.
Prerequisites: Nursing 412, 414.
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.
Oceanography
Administered by the Dean of the College of Sciences

San Diego State University provides preparation for work in the ocean by offering degree programs in fundamental fields, supplemented by marine-related course work and oceanographic experience. A minor in oceanography is offered for undergraduate science students through the Department of Geological Sciences. 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. Master's degrees 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 should inquire at the Center for Marine Studies.

Marine Studies
Marine studies at San Diego State University are offered by departments in the sciences, engineering, economics, geography, and other fields. The Center for Marine Studies coordinates work in the area of marine studies and provides special supporting services to the faculty staff and students involved. Services provided by the Center include advising students concerning marine studies and employment opportunities, assistance in research and publication, operation of the University's marine laboratory at Mission Bay, a boat operations program, and support of the University's Diving Safety Program.

Degrees in oceanography or marine studies are not offered by the University. Instead, students emphasize marine studies within the traditional departmental degree programs through advanced, marine-related course work and research. Courses in general oceanography are offered with the cooperation of faculty from the departments of Geological Sciences, Natural Science, Biology, and Zoology. Advanced course work and research in geological and physical oceanography are conducted in the Geological Sciences Department. An option in marine geology is offered as part of the undergraduate major in geology. The Chemistry Department offers work in chemical oceanography. Advanced courses and research in biological oceanography, marine biology, marine botany, and marine zoology are conducted in the departments of Biology, Botany, Microbiology, and Zoology. Similar marine-related course work and research are offered in the departments of Economics and Geography and in the College of Engineering. Students who require advising in these areas should inquire at the Center for Marine Studies.

UPPER DIVISION COURSES
(Intended for Undergraduates)

320. The Oceans (3) I, II
Prerequisites: One introductory college course in a life science and one in a physical science. Biological and physical aspects of the oceans and their significance to man; problems of modern oceanography.

320L. Oceanography Laboratory (1) I, II
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Oceanography 320. Laboratory elective to accompany Oceanography 320. Laboratory and field methods of study in the major areas of oceanography.

400. Practical Oceanography (6) I, II Cr/NC
Laboratory, field work, or on-the-job training by arrangement.
Prerequisites: Chemistry 200, 201; Physics 180A-180B and 182A-182B; a course in intermediate college algebra and an elementary course in statistics. Recommended: a course in analytical chemistry (Chemistry 250 or 251).
Practical experience in oceanography at shore installations and at sea. An intensive full-time program in the laboratory and field aspects of the marine sciences. Offered only when ship berthing permits. Enrollment only by application; students will be notified of selection by the tenth week of the semester preceding the desired interval because of ship berthing limitations. Students will normally participate on extended cruises at sea and are advised not to enroll for other courses nor to make employment commitments during the semester.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

541. Oceanography (3) I, II
Prerequisites: Chemistry 200; Mathematics 121 and 122 or 150; Physics 180A or 195, 195L 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

Oriental Languages
Refer to sections on Chinese, Hebrew, Japanese.
Encouraged to think independently and formulate his own tentative conclusions.

101. Introduction to Philosophy: Values (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.

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 inductive and deductive logic. Logic and language. Analysis of fallacies. Uses of logic in science and in daily life.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

UPPER DIVISION COURSES

300. Honors Course (1-3)
(3-3)
Refer to Honors Program.

301. History of Philosophy I (3) I, II
Prerequisite: Three units of philosophy.

302. History of Philosophy II (3)
Prerequisite: Three units of philosophy.

303. History of Philosophy III (3)
Prerequisite: Three units of philosophy.

310. Philosophy and Human Nature (3)
Concept of human nature. Descriptive and normative aspects of major theories of human nature.

329. Social Ethics (3)
Ethical issues of contemporary life. Individualism vs. collectivism; democracy vs. dictatorship; ethical problems arising in law, medicine, business, government and interpersonal relationships.

330. Medical Ethics (3)
Value judgments upon which medicine is based and the ethical issues which medicine faces.

333. Philosophy of Literature (3)
Study of literature of philosophical significance, and of philosophical problems of literature.

336. Jewish Philosophy (3)
Prerequisite: Three units of philosophy.

350. Philosophical Aspects of Buddhist Thought (3)
Introduction to Buddhist thought emphasizing both differences and similarities with Western philosophical traditions. Emphasis on Indian sources.

351. Chinese Philosophy (3)
Philosophical traditions which have shaped the intellectual life and culture of China. Emphasis on foundational texts surviving from pre-Han China.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

499. Special Study (1-3) I, II
Prerequisites: Twelve upper division units in philosophy and consent of instructor. Individual study. Maximum credit six units.
502. History of Philosophy II (3)
Prerequisite: Philosophy 301
Plato through William of Occam.

504. Continental Philosophy After Kant (3)
Prerequisite: Six units of philosophy.
Major figures and movements in European philosophy from Hegel to Nietzsche.

505. British Philosophy After Hume (3)
Prerequisite: Six units of philosophy.
British philosophy from the late eighteenth century to World War I.

506. Twentieth Century Continental Philosophy (3)
Prerequisite: Six units of philosophy.
Major figures and movements in European philosophy from Husserl to the present.

507. Twentieth Century Anglo-American Philosophy (3)
Prerequisite: Six units of philosophy.
Major figures and movements in Anglo-American philosophy since World War I.

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)
Prerequisite: 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, 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.

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.

538. Philosophy of Mind (3)
Prerequisite: The three upper division units in philosophy.
Analysis of the concept of mind, intention, behavior, etc. Developments generated by works of such philosophers as Wittgenstein, Wisdom, and Ryle.

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 developments 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.

564. American Philosophy (3)
Prerequisite: Six units of philosophy.
American philosophy from 1850 to the 1920s: idealism, pragmatism, new and critical realism.

575. A Major Philosopher (3)
Prerequisite: Six units of philosophy.
The writings of one major philosopher. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to the major. Maximum credit six units applicable on a master's degree.

596. Selected Topics (3)
Prerequisite: Six units of philosophy.
A critical analysis of a major problem or movement in philosophy. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable toward content. See Class Schedule for specific content. Maximum credit six units for both 596 and 796 applicable to a master's degree. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Physical Education

In the College of Professional Studies and Fine Arts

Faculty
Emeritus: Andrus, Broadbent, Cave, Kasch, Landis, Lockman, Murphy, Schutte, Schwob, Scott, Sportsman, Terry, Tolletsen, Wilhelm, Williamson, Ziegler
Chair: Carlson
Professors: Arnheim, Benton, Carlson, Carter, Cullen, Fox, Grawunder, Olsen, A., Olsen, L., Phillips, Spelder, Suzee
Associate Professors: Aufsesser, Barone, Franz, Friedman, King, McKenzie, Simmons, Wells, Willis
Assistant Professors: Buono, Francis, Gutowski, Hempel, Mechikoff, Nunn, Placek, Quinn, Smith, Wallace, Whiby
Lecturers: Bandy, Nelson, Randall, Sandback

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.
Certificate in cardiopulmonary specialist.

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 276, Psychology 101, Zoology 108, four units of activity classes. This is in addition to the two units required for graduation, (16 units).

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Passing the University Writing Examination or English 304W or 305W with a grade of C (2.0) or better.

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
Purpose of the emphasis is to prepare students to meet the academic requirements necessary for a career in athletic training and to meet degree requirements for National Certification in athletic training. Students wishing to meet all requirements for National Certification by the National Trainers Association must also complete a minimum of two years' clinical internship under the direct supervision of a certified athletic trainer. Students interested in completing this requirement at San Diego State must make application for clinical internship to the athletic medical section of the San Diego State Physical Education Department. Selection is competitive and limited in number. Applications are accepted in Spring for Fall selections.

Preparation for the major.
Physical Education 265, 276, Biology 100, 100L, Chemistry 100, 190; Family Studies and Consumer Sciences 204, Psychology 101, Zoology 108, (25 units)

Writing Requirement. Passing the University Writing Examination or English 304W or 305W with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Physical Education 361, 362, 368, (2 units), 371, 376, 560, 561, 563, 564, 565, 567, 570, 585; Biology 362; Recommended Health Sciences 301, 574, 575.

This emphasis does not meet the teaching credential requirements.

Emphasis in Dance
Preparation for the major.

Writing Requirement. Passing the University Writing Examination or English 304W or 305W with a grade of C (2.0) or better.

Major. A minimum of 33 upper division units to include Physical Education 450, 451, 452, 453, 454, 455, 550, 551, 552, 553, 556, 557, 560; and four units selected from Physical Education 341A, 341B, 346D, 346F, 456. In addition to course requirements, the student must be a member of the Choreographer's Ensemble and participate in a minimum of three semesters of dance programs. Substitution for such participation will require approval of the Dance Committee. This emphasis does not meet the teaching credential requirements. Physical Education 398 (3 units), Supervised Field Experience (in an advanced dance area), may be substituted for Physical Education 453.

Physical Education 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 as an undergraduate major for the A.B. degree in applied arts and sciences.

Elementary/Secondary
Preparation for the major.

Writing Requirement. Passing the University Writing Examination or English 304W or 305W with a grade of C (2.0) or better.

Major. A minimum of 41 upper division units to include Physical Education 340, 347, 361, 371, 376, 380, 560, 561, 568, 570, 585; two units from team sports (346A, 346K); two units from individual sports (346B, 346G, 346H, 346I, 346J); and six units from Physical Education 322, 331, 341 or 346.

Adapted Physical Education Credential

Admission Categories
Level I: Physical Education major with an interest in adapted physical education, completion of a minimum of 45 units with a GPA of 2.5 or better, and official application to the Coordinator of Adapted Physical Education.

Level II: Physical Education major with a minimum of 2.75 after 90 units including the completion of Physical Education 371, 560, 561, 567, 568 and at least two units of Physical Education 368, and official application to the Coordinator of Adapted Physical Education.

Level III: Certified. Completion of all courses required for physical education major in the single subject teaching credential major, all classes for the certification including completion of single subject teaching credential major. This emphasis does not meet the teaching credential requirements. The student must have a 3.0 or better grade point average and a grade point average of 3.0 in the academic classes required to be certified. A grade of C or better in all the academic classes required to be certified. A minimum of 41 units in adapted physical education. Adapted Physical Education 398 (3 units), Supervised Field Experience (in advanced dance area), may be substituted for Physical Education 453.

Physical Education / 447
**Pre-Service Program**

Candidates for this program in adapted physical education must complete the requirements for the single subject teaching credential in physical education, apply for the program, be accepted, and complete the following specialist course work.

1. Adapted Program: Minimum 15 units. Physical Education 567, 568, 667, 672, 398* (1 unit), and Special Education 501.
2. Practical Experience and Student Teaching: The candidate must complete four units of Physical Education 368, Adapted Laboratory, and a full-time student teaching experience in adapted physical education.

* Approved by Coordinator, Adapted Physical Education.

**In-Service Program**

Candidates for this program in adapted physical education must complete the requirements for the single subject teaching credential in physical education, apply for the program, be accepted, and complete the following specialist course work.

1. Adapted Program: Minimum 15 units. Physical Education 567, 568, 667, 672, 683 and 398* (1 unit).
2. Practical Experience and Student Teaching: The candidate must complete four units of Physical Education 368 Adapted Laboratory and a full-time student teaching experience in adapted physical education or equivalent experience.

* Approved by Coordinator, Adapted Physical Education.

**Dance Minor**

The minor in dance consists of a minimum of 24 units in physical education to include Physical Education 134A, 134B, 136A, 136B, 153, 154, Zoology 108, and Physical Education 450, 451, 454 (prerequisites waived for students in minor), 455, 550 (prerequisites waived for students in minor), 551.

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.

**Physical Education Minor**

* Sport Skills and Coaching Area: A minimum of 23 units to include Psychology 101; Physical Education 265*, 274, 330, 346-I, 346-II, 346-III, 346-IV, 366 and 367. Four units selected from the Physical Education 331 series; two units of Physical Education 398, and two units selected from Physical Education 346A, 346B, or 361.

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.

**Certificate in Cardiopulmonary Specialist**

Students wishing to qualify for the American College of Sports Medicine Certificate Technician and Exercise Specialist in Preventive and Rehabilitation Programs should meet the requirements for an undergraduate degree in physical education. In addition the following courses are required: Physical Education 110A, 115A, 125A, 129B, 302*, 305*, 366, 367*, and Chemistry 100. (21 units.)

* Additional prerequisites required.

**Types of Activity Courses**

Adapted physical education classes to care for special needs are offered. The content of these courses is planned to give each student an opportunity to participate in many activities of carry-over value, developmental nature and recreational interest. An opportunity is afforded to students to participate in competitive sports in the extramural and intramural programs.

**LOWER DIVISION COURSES**

Courses offered for one unit credit meet two hours per week or equivalent. "A" signifies a beginning class, "B" intermediate.

100. Exercise and Health (3)
Two lectures and two hours of activity
Scientific bases of relationships between exercise and health and application of these principles to individual fitness appraisal and regimen.

102A-102B. Conditioning (1-1)
103A-103B. Jogging (1-1)
104A-104B. Weight Training (1-1)
105. Individual Adaptives (1)
Prerequisite: Consent of instructor: A health history record is required of each student.
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)
112. Field Hockey (1)
113. Flag Football (1)
114. Wrestling (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)
122A-122B. Fencing (1-1)
123A-123B. Racquetball (1-1)
124A-124B. Sailing (1-1)
Physical Education 124A is prerequisite to 124B.
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)
132A-132B. Beach Volleyball (1-1)
133A-133B. Folk and Square Dance (1-1)
133C. Advanced Folk Dance (1-1 II)
Prerequisite: Physical Education 133B.
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.

15—77136
323. Instructor's Course in Swimming for the Handicapped (1)
Two hours of activity.
Prerequisites: Medical exam, waiver for hazardous procedures, pass swimming competency test.
To develop knowledge of various types of handicapping conditions, as well as how to adapt programs, methods and materials for these conditions. Red Cross certification (WSIH) is given upon satisfactory completion of course.

330. Physical Welfare of the Athlete (3)
Two lectures and two hours of activity.
Prevention, diagnosis and treatment of athletic injuries, the use of ergogenic aids; nutrition; the conditioning program, including basic knowledge of appropriate parameters — flexibility, strength, endurance and related areas.

331. Practicum: Theory and Analysis of Coaching Competitive Sports (2)
Four hours of activity.
Concentrated study to include mechanical analysis, tactics and strategy, scouting, officiating and rules, and daily-seasonal practice planning in one of the sports listed below.

A. Basketball
B. Football
C. Baseball
D. Track and Field (including Cross Country)

F. Additional sports (offered on student demand) may be repeated with new content.

339. Intercollegiate Sports Practicum (2) Cr/NC
Prerequisites: Concurrent participation in varsity team sport.
Not open to students with credit in 380 or 381. (Formerly numbered Athletics 380 and 381N; PE 339F formerly numbered Athletics 380M and 381M.)

340. Physical Education for Elementary Schools (3) I, II
Two lectures and two hours of activity.
Prerequisites: Physical Education 371
Objectives, curricula, activities, and application of basic scientific principles for the conduct of elementary school physical education. Includes a practicum experience. Not open to students with credit in Physical Education 141 or 241.

341. Practicum: Physical Education Activities for Elementary Schools (2)
Four hours of activity.
Prerequisite: Physical Education 241.
In-depth study of selected physical education activities for elementary school children.
Includes teaching techniques, unit planning, progressions and resource materials.
A. Movement exploration activities for children
B. Rhythm and dance activities for children
C. Ball and sports activities for children
D. Gymnastic activities for children
E. Perceptual motor activity

350 / Physical Education
346. Practicum: Physical Education Activities for Secondary Schools (2)
Four hours of activity.
Prerequisite: Skill competencies for the specific activities of that section as determined by the instructor.
Selection and care of equipment and facilities; analysis of skills; progressions for skills; drills and the game; lead-up activities; safety; performance cues; resources; terminologies; skill evaluations; and prescriptions. Not open to students who took sport under Physical Education 345.
A. Basketball, Volleyball
B. Track and Field
C. Racquetball, Softball
D. Folk, Square and Ballroom Dance
E. Modern Dance

351. Leadership for Physical Education (3) I, II
Two lectures and two hours of activity.
Theory and development of leadership behavior of physical educators, emphasizing leadership qualities unique to diverse physical activity settings.

350. Ballet for Professional Dance (2) I, II
Four hours of activity.
Prerequisite: Physical Education 135A and 135B
Advanced work in ballet to enhance performance skills of dancers interested in career in dance.

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.

361. Weight Training and Physical Fitness (2) I, II
Circulatory-respiratory endurance, muscular strength and endurance, selection and care of equipment and facilities, and programs in the areas of flexibility, weight training and aerobics. (Formerly numbered Physical Education 345A.)

362. Exercise Physiology Laboratory (1)
Three hours of laboratory per unit.
Prerequisite: Credit or concurrent registration in Physical Education 561.
Laboratory experiences in the application of exercises and the analysis of the results.

364. Kinesiology—Biomechanics Lab (1)
Three hours of laboratory per unit.
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.
Prerequisite: Credit or concurrent registration in Physical Education 567 or 568.
Supervised laboratory of practicum experience in adapted or special physical education programs. Maximum credit six units.

369. Practicum in Athletic Training (1-3)
Three hours of laboratory per unit.
Prerequisite: Physical Education 265.
Practical training and clinical applications of basic and advanced techniques of athletic training and sports medicine. Athletic first aid, emergency procedures, bandaging techniques, and application of therapeutic exercises to be performed in actual athletic medicine clinics. Maximum credit six units.

371. Physical Growth and Development (3)
Principles of human growth; performance as affected by developmental levels and individual differences in structure and function.

376. History and Philosophy of Sport and Physical Education (3)
Prerequisite: Physical Education 276
Integrated approach to understanding of historical, philosophical, and sociological forces shaping development of physical education and sport.
### UPPER DIVISION COURSES
#### (Also Acceptable for Advanced Degrees)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>550</td>
<td>Choreography: Basic Elements</td>
<td>2</td>
<td>Physical Education 550.</td>
</tr>
<tr>
<td></td>
<td>Four hours of activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>551</td>
<td>Choreography: Large Groups</td>
<td>2</td>
<td>Physical Education 550.</td>
</tr>
<tr>
<td></td>
<td>Four hours of activity</td>
<td></td>
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<tr>
<td>552</td>
<td>Choreography: Form and Content</td>
<td>2</td>
<td>Physical Education 551.</td>
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<tr>
<td></td>
<td>Four hours of activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>553</td>
<td>Choreography: Recital</td>
<td>2</td>
<td>Physical Education 552.</td>
</tr>
<tr>
<td></td>
<td>Four hours of activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>554</td>
<td>Dance Criticism</td>
<td>2</td>
<td>Physical Education 556.</td>
</tr>
<tr>
<td></td>
<td>Artistic aspects of dance in general and specifically modern dance. Professional preparation and function of the dance critic.</td>
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<tr>
<td></td>
<td>Anthropology, syndesmology and kinesiology with emphasis on movement analysis. Muscle groups and their functional relationships. Application of simple mechanical principles to movement analysis.</td>
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</tr>
<tr>
<td>561</td>
<td>Physiology of Exercise</td>
<td>3</td>
<td>Biology 362 and Zoology 108.</td>
</tr>
<tr>
<td></td>
<td>Effects of physical activities on the physiological functions of the body.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>562</td>
<td>Cardiopulmonary Laboratory</td>
<td>2</td>
<td>Physical Education 362 and 561.</td>
</tr>
<tr>
<td></td>
<td>One lecture and three hours of laboratory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>563</td>
<td>Biomechanics of Human Movement</td>
<td>2</td>
<td>Zoology 108.</td>
</tr>
<tr>
<td></td>
<td>Mechanical principles as applied to movement; analysis and application to selected motor skills.</td>
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<td></td>
</tr>
</tbody>
</table>

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### GRADUATE COURSES

Refer to the Graduate Bulletin.
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." Individual 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 tower and upper division for all students plus additional upper division requirements in one of the following areas:

(a) Foundations of Physics
(b) Scientific Instrumentation
(c) Modern Optics
(d) Radiation Physics
(e) Senior Research

Basic Requirements for all Students


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

Required: Physics 510, and 532 or 564.
Recommended: Physics 350B, 552
Strongly recommended: Physics 532, 564.

(b) Scientific Instrumentation

Required: Physics 513, 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 513, 515, 563, 564.

(e) Senior Research

This major may be used by students in teacher education for the A.B. degree in liberal 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 or of physics are the same as those listed for either the B.S. degree in applied arts and sciences. The department is currently applying for a waiver of the State Examination for the Teaching Credential in Physics.

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 the A.B. degree in liberal arts and sciences or of physics are the same as those listed for either the B.S. degree in applied 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 selected from the courses in one of the areas listed below. Prerequisites: Physics 115A-115B or 195, 195L, 195L, 196L, 197, 197L, Mathematics 152.


Elementary Physics with Laboratory (4-4)

105. Physics for Poets Laboratory (1)

Elementary Physics with Laboratory (4-4)

109. Physics of Musical Sounds (3)

Applicable technology and fundamental principles of physics.

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)

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.

103L. Physics for Poets Laboratory (1)

Prerequisite: Consent of supervising instructor.

A one-semester sequence designed to illustrate how our perception of the world is changed through experiment and observation. Laboratory topics illuminate concepts covered in Physics 103.

105. Physics of Hi-Fi (3)

Fundamental laws of physics as applied to high fidelity music systems including speakers, amplifiers, tape machines, turntables, tuners, and room acoustics. Compares and contrasts applied technology and fundamental principles of physics.

107. Introductory Physics with Laboratory (4) I, II

Three lectures and three hours of laboratory.

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, 180A-180B, 195, 195L, 196L, 196L, 197, 197L.

109. Physics of Musical Sounds (3)

Physiological properties of sound, the ear and its perception of sounds, the effects of acoustical environment, the behavior of musical instruments, and the various applications of electronics to the production, reproduction and compositions of music.

115A-115B. Elementary Physics with Laboratory (4-4)

Two lectures, one discussion and three hours of laboratory.

Prerequisites: Two years of high school mathematics. Physics 115A is prerequisite to 115B. Physics 115A is not open to students with credit in 180A or 195. 195L, 115B is not open to students with credit in 180B, 196L, 196L, or 197, 197L. Foundations of wave motion, behavior of light, energy, mass, evolution of ideas concerning planetary motion. Emphasis on evolution of fundamental concepts.

149. Special Study (1-2) I, II

Prerequisite: Consent of supervising instructor.

Individual study and laboratory work in the area of the student's major interest. Each student will be assigned a member of the staff who will supervise his work.

180A-180B. Fundamental of Physics (3-3) I, II

Prerequisite: Consent or concurrent registration in Mathematics 121 or 150. Physics 180A is prerequisite to 180B.

Recommended: For Physics 180A, concurrent registration in Physics 182A; for Physics 180B, concurrent registration in Physics 182B.

This course provides a thorough basis in mechanics, electricity, magnetism, optics, and modern physics. In a two-semester calculus-based sequence. Intended mainly for life science majors. Physics 180B not open to students with credit in Physics 195 or Physics 196. (Formerly numbered Physics 194A-B.)

182A-182B. Physical Measurements (1-1) I, II

Three hours of laboratory.

Prerequisite for 182A: Credit or concurrent registration in Physics 180A.

Prerequisite for 182B: Credit or concurrent registration in Physics 180B.

A laboratory course to accompany Physics 180A-180B. Semester I: Properties of matter, mechanics, sound, and wave motion. Semester II: Electricity, DC circuits, oscilloscope, mechanics, sound, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion. Semester II: Electricity, DC circuits, oscilloscopes, and wave motion.
Mathematics 340A or 530 400A·400B. Classical Electromagnetism (3-3)
357. Advanced Physical Measurements (3) I, Mathematics 340A or 530, Physics 317, Electromagnetism, including solar, geothermal, and an introduction to nuclear reactors and their environmental impact.
303. Radiation Physics (2)
One lecture and three hours of laboratory.
Prerequisite: Physics 107, or 115A, or 180B and 182B, or 197 and 197L.
Radioactivity, measurement of radiation with matter, and methods of detection and measurement.
306. Optics (3)
Prerequisites: Physics 197, 197L, and credit or concurrent registration in Mathematics 340B or 531, and an introduction 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 197, 197L, and credit or concurrent registration in Mathematics 340B or 531.
Conventional and operational amplifiers, transistors, and 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.
Conventional and operational amplifiers, oscillators, 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.
357. Advanced Physical Measurements (3) I, II
One lecture and six hours of laboratory.
Prerequisites: Physics 197, 197L, and 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.
431. PSSC and PPC Physics (4)
Three lectures and discussions and three hours of laboratory.
Prerequisite: Physics 115B, or 180B and 182B.
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 Science Study Committee and the Harvard Project Physics. (Formerly numbered Physics 431A.)
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.
466. Selected Topics in Physics (1-4) I, II
Prerequisite: Consent of instructor.
Selected topics in classical and modern physics. May be repeated with consent of instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.
498A. Senior Research (1) I, II Cr/NC
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 (2) I, II
Two discussion periods and four additional hours per week to be arranged.
Prerequisite: Physics 498A.
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.
518. Minicomputer Interfacing (3)  
Two lectures and three hours of laboratory.  
Prerequisite: Credit or concurrent registration in Physics 413.  
Theoretical and practical aspects 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.

520. Microprocessor Instrumentation (3)  
Two lectures 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.

524. Physical Principles of Remote Sensing (3) I  
Prerequisites: Physics 306, Mathematics 340A.  
Physical principles of electromagnetic techniques in remote sensing. Topics include electromagnetic scattering, optical and radar image acquisition problems.

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)  
Prerequisite: Physics 350A.  
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)  
Prerequisite: Physics 306.  
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 recommended: Credit or concurrent registration in Physics 552.  
Experiments in various fields of modern optics such as holography, physics of lasers, Fourier transform spectroscopy, Raman spectroscopy, light modulation techniques, fiber 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.

561. Nuclear Radiation Physics Laboratory (3)  
One lecture and six hours of laboratory.  
Prerequisites: Physics 303 or 357, Mathematics 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.
Political Science

In the College of Arts and Letters

Faculty
Emeritus: Generales, Joy, Leiffer
Chair: Conniff
Professors: Andrain, Conniff, Crain, Feierabend, Funston, Gripp, Janssen, Johns, Kahng, Little, Loveman, Miles, Nesvoid, Padgett, Schultz, Terrell.
Associate Professors: Anderson, Catter, Fairlie, Hobbs, Jones, Lewin, Soule, Strand
Assistant Professor: Keiser
Lecturers: Bulimash, Sahar

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.
Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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 courses 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."

Writing Requirement: Passing the University Writing Examination or Anthropology 396W. English 305W or 500W, History 396W or 430W, or Sociology 396W with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units to include (a) three units in Political Science 301A-301B, 301B-301C or 301B-301D, and (b) 21 upper division units in political science distributed among at least four of the fields listed below, provided that at least three units shall be taken in Field I.

Field I: Political Theory. Courses numbered 301A to 313.
Field II: Research Methods. Courses numbered 515A-515B.
Field III: American Government and Politics. Courses numbered 320 to 338 and 522 to 537.
Field IV: Public Law. Courses numbered 345 to 354.
Field V: Comparative Politics. Courses numbered 356 to 370 and 555 to 571.
Field VI: International Politics. 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 to include Political Science 101 and either 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 matter areas:

Political Theory and Research Methods (Fields I and II)
Politics and Public Law (Fields III and IV)
Comparative Politics and International Politics (Fields 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 Politics and the American Political System (3)
Basic political concepts as applied to the American political system. The American political system as a constitutional democracy with reference to specific topics.

102. Introduction to American and California Government and Politics (3)
Political processes and institutions in the United States and California. Considers a variety of public policy issues such as environmental quality, health, education, religion between government and business, taxation, and foreign affairs as reflected in the dynamics of national and state politics.

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.

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. Students with credit or concurrent registration in another statistics course will be awarded a total of four units for the two (or more) courses.

296. Experimental Topics (1-4)
Selected Topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

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.

495. Internship in Politics (2-6)
Prerequisites: Three upper division units within Field III and consent of instructor.
Students will be assigned selectively to functional areas of politics, such as political party, interest group, political action, public offices and nonprofit political groups for work under joint headquarters, elective public offices and nonprofit political groups for work under joint headquarters. Participation will include project supervision of activity heads and the course instructor. Participation will include project supervision of activity heads and the course instructor. Participation will include project supervision of activity heads and the course instructor. Participation will include project supervision of activity heads and the course instructor.

496. Experimental Topics (1-4)
Selected Topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

497. Investigation and Report (3) I, II
Analysis of special topics. Admission by permission of instructor.

498. 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 (Field I)

301A-301B. 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. History of Western Political Thought I (3)
Prerequisite: Political Science 301A is prerequisite to 301B.
Prerequisites: 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.

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)
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.

305. American Political Thought (3)
The origin and development of American political ideas from colonial times to the present. Meets the graduation requirement in the United States Constitution. When taken with Political Science 320, 321 or 522, will also meet all requirements in American Institutions.

306. Democracy and Mass Society (3)
Origin and development of theories of democracy and application of democratic ideas to contemporary political life. (Formerly numbered Political Science 372.)

313. The Theory of Political Inquiry (3)
Philosophical bases of science with reference to political science. Concepts, concept formation, theory building and verification.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)
Research Methods (Field 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 application to election statistics, census data, poll call records, sample survey data and biographical information.

American Government and Politics (Field III)
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 government. When taken with Political Science 305, 321 or 522, will also meet all requirements in American Institutions. Not open to students with credit in Political Science 102.

321. State Politics (3)
Politics and policy making at the state and local levels, relations among national, state, and local governments. Emphasis on California problems and politics. Meets the graduation requirement in California government. When taken with Political Science 305 or 320, will also meet all requirements in American Institutions.

325. Political Behavior (3)
Prerequisites: Political Science 102.
Social and attitudinal variables in political behavior. Quantitative research data as used in electoral studies. May include a substantial amount of material about foreign political systems.

326. Political Communication (3)
Communication as a political process: the effects of political communication on individuals and groups. May include a substantial amount of material about foreign political systems.

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. May include a substantial amount of material about foreign political systems.
Public Law (Field IV)

UPPER DIVISION COURSES
(Intended for Undergraduates)

345. Constitutional Government (3)
Constitutionalism as a concept of legal and political philosophy; foundations of American constitutionalism; origin and framing of the American Constitution; development of constitutional principles through judicial interpretation.

346. 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. (Formerly numbered Political Science 546.)

347A-347B American Constitutional Law (3-3)
Substantive principles of American constitutional law. Rights and liberties protected by the Constitution against action of federal and state governments. May include problems of judicial review, federalism, separation of powers, nature of selected congressional-presidential powers. Meets graduation requirement in United States Constitution. (Formerly numbered Political Science 547A-547B.)

348. The Supreme Court and Contemporary Issues (3)
The Supreme Court of the United States and its relationship to contemporary political and social issues. Not open to those students with credit for Political Science 347A-347B.

350. Jurisprudence (3)
Prerequisite: Political Science 101 or 102 or three upper division units within Field IV. Theoretical foundations of law; relationship between legal and political philosophy; development of law and legal systems. (Formerly numbered Political Science 550.)

354. Special Problems in Public Law (3)
Prerequisite: Political Science 101 and 102, and three upper division units within Field IV. Exploration of selected issues in the field of law.

Comparative Politics (Field V)

UPPER DIVISION COURSES
(Intended for Undergraduates)

356. Governments of Continental Europe (3)
The political systems of countries of western continental Europe.

357. Government of England (3)
The structure and functioning of the English parliamentary system with emphasis on present-day political principles and parties.

358. Comparative Communist Political Systems (3)
The interrelations between the theory and practice of modern communism as found in representative communist systems. (Formerly numbered Political Science 558.)

359. Government and Politics in the Soviet Union (3)
The theory and practice of government and politics in the Soviet Union, with some attention to foreign affairs.

360. 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. (Formerly numbered Political Science 561.)

362. Governments and Politics of East Asia (3)
The internal political structure and foreign policies of China, Japan and Korea. (Formerly numbered Political Science 562.)

363. 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. (Formerly numbered Political Science 563.)

364. Political Change in Modern Africa (3)
Dynamics of social and political change in modern Africa.

370. Political Violence (3)
Prerequisite: Political Science 101, 102 or 103. Underlying conditions, expressions and consequences of violence within political systems.

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 universes among political systems.

560. Comparative Public Policy (3)
Prerequisite: Political Science 103 or 335. Ways that political and social factors shape policy choices, implementation strategies, and policy outcomes in selected countries, emphasis on industrialized nations. Policy areas chosen from: education, health, nutrition, crime, transportation, housing, energy, population control, poverty, unemployment, inflation.

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 566. 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 Politics (Field VI)

UPPER DIVISION COURSES
(Intended for Undergraduates)

375. International Relations (3)
Dynamics of conflict and cooperation among national, international and transnational factors; contributing political, economic, and social factors.

376. International Organization (3)
Evolution, functions, achievements and limitations of international organization in modern society. Primary focus on the United Nations.

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. Dynamics of change and conflict between the developing nations and relations of such nations with the developed countries.

382. International Relations of the Latin American States (3)
The foreign policies of the Latin American states; the organization of American states; relationships with the United Nations and with the United States.

390. Dynamics of Modern International Crises (3)
Origins, development and control of selected international crises since World War II.
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 Field 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.

578. 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: Barrera
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 552.

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 Portuguese may be counted as the equivalent of Portuguese 101. 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. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit.

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, 301, 302 taken out of sequence.

101. Elementary/Intensive (4)
Four lectures and one hour of laboratory. Pronunciation, oral practice, reading on Luso-Brazilian culture and civilization, essentials of grammar.

211. Conversation and Grammar Review (3)
Prerequisite: Credit or concurrent registration in Portuguese 101. Emphasis on spoken language and major grammatical points.

212. Conversation and Grammar Review (3)
Prerequisite: Credit or concurrent registration in Portuguese 101 with consent of instructor. Continuation of Portuguese 211.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

301. Advanced Oral and Written Composition (3)
Oral and written composition in Portuguese, based on models from modern Portuguese and Brazilian literature.
302. Advanced Oral and Written Composition (3)
Oral and written composition in Portuguese, based on models from Modern Portuguese and Brazilian literature.

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, McCallion, Pfleffel, Psomas, Sand, Turner, Voeks
Chair: Litrownik
Associate Professors: Brown, Delran, Fenson, Hornbeck, Lee, Lynn, McCoride, Price, Scillay, Smith
Assistant Professor: Fragaszy

Offered by the Department
Master of Arts degree in psychology.
Master of Science degree in psychology.
Minor in psychology with the A.B. degree in liberal arts and sciences.

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 students with a greater understanding of human behavior as the emphasis in their 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, 260, and 270. (12 units.) Recommended courses in related fields: Six units in general education courses in biology and/or zoology; three units in a general education course in philosophy; and six units in general education courses in anthropology and/or sociology.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Passing the University Writing Examination or English 304W with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in psychology to include Psychology 330, 340, 350, and 351. It is expected that students under Plan A will select, with the assistance of their advisor, a pattern of courses in line with their particular objectives in pursuing Plan A.

Note: At the Imperial Valley Campus, students are to select 12 units from Psychology 316, 321, 336, 386, 410, 452, 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 general education courses in biology and/or zoology; three
units in general education courses in philosophy, and six units in general education courses in anthropology and/ or sociology.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Passing the University Writing Examination or English 304W with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in psychology to include Psychology 360, 405, 410; and one of the following: 412, 413, 414, 415, 416, 417, 418 or 419; and ten units selected from courses in consultation with the departmental adviser.

Psychology Minor
Mathematics 103 is a required prerequisite to this minor (except for Personality and Social). The minor in psychology consists of 18-23 units selected from one of the following areas:

Experimental: Psychology 101, 210, and 270 or equivalent; 14 units of upper division psychology to include Psychology 410 and three of the following: Psychology 316, 414, 416, 417, 419, 517, 587. (23 units.)

Industrial/Organization: Psychology 101 and 270 or equivalent; 12 units of upper division psychology to include Psychology 320, 405, and two of the following: Psychology 321, 322, 326, 332. (18-19 units.)

Personality and Social: Psychology 101 and 210 or 260; 12 units of upper division psychology of which nine must be selected from Psychology 330, 340, 350 and 351. (18 units.)

Physiological: Psychology 101, 210, 260, and 270 or equivalent; 11 units of upper division psychology to include Psychology 410, 413 and 460. (23 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.

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.

270. Statistical Methods in Psychology (3) I, II
Prerequisite: Mathematics 103 at this University or qualification on the Mathematics Placement Examination. Recommended: Psychology 101. Quantitative methods in psychology. Measures of central tendency and variability. Graphical methods and percentiles, linear correlation, application of the normal probability curve, chi-square, and an introduction to statistical inference. Students with credit or concurrent registration in another statistics course will be awarded a total of four units for the two (or more) courses.

UPPER DIVISION COURSES (Intended for Undergraduates)

300. Honors Course (1-3)
Refer to Honors Program.

301-S. Contemporary Problems in Psychology (1) S
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.

305. Parapsychology: Fact and/or Fiction (3) I, II
Prerequisite: An introductory course in a social or biological science. Recommended: Psychology 110. Critical evaluation of the scientific evidence for and against the existence of psychic phenomena. Current testable theories related to such phenomena.

316. Operant Behavior (3)
Prerequisite: Psychology 101. Recommended: Psychology 210. Contingencies of reinforcement, stimulus control, response shaping, aversive control, and other basic principles of operant behavior applied to the understanding and modification of human behavior.

320. Personnel and Industrial Psychology (3) I, II
Prerequisites: Psychology 101, and 270 or statistics in another field. Psychological principles applied to industrial problems of selection, placement and training.

321. Organizational Psychology (3) I, II
Prerequisite: Psychology 101. The interplay of man 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)
Two lectures and six hours of laboratory. Prerequisites: Psychology 101, and a course in statistics. 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. 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. 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.

335. Psychology of Later Maturity (3)
Prerequisite: Psychology 101. The psychological, physiological, and sociological factors influencing behavior in the later years of life.

340. Social Psychology (3) I, II
Prerequisite: Psychology 101. The major problems and findings concerning group behavior and group membership, the socialization of the individual, and processes of social interaction.

342. Public Opinion Measurement (3)
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.

Refer to Honors Program.
417. Experimental Psychology: Primate Behavior (4)
Prerequisites: Psychology 101, 260 or three units of biology or three units of anthropology, and Psychology 270. Recommended: Psychology 410.
Experimental literature, assigned and original observational and experimental projects in the field of primate learning and behavior.

418. Experimental Psychology: Child Development (4) I, II
Prerequisite: Psychology 410. Recommended: Psychology 330.
Methods, techniques and principles used in the scientific study of child behavior.

419. Experimental Psychology: Memory and Cognition (4)
Prerequisite: Psychology 410.
Experimental literature, assigned and original laboratory projects in human memory and cognition. Examination of information-processing capacities and processes in perception, learning, memory, and other cognitive activities.

422. Advanced Developmental Psychology (3)
Prerequisite: Psychology 330.
Selected topics in the areas of infancy, childhood and adolescence.

426. Advanced Topics in Social Psychology (3)
Prerequisite: Psychology 340.
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
Prerequisite: Psychology 270 or a semester of statistical methods in any other department.
A survey of theory, methods and research in psychological approaches to personality and behavior change. Practice in basic interviewing 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 270 or a semester of statistical methods in any other department.
An intensive study and evaluation of research methodology and current literature concerning the neuroses, psychoses, aphasias, ataxia, mental defect, and psychopharmacology.

454. Mental Deficiency (3) I, II
Prerequisite: Psychology 101. Recommended: Psychology 330.
The nature and causes of mental retardation, including the psychological effects of brain injury. Characteristics of the mentally defective.

455. Psychology of Human Sexual Behavior (3)
Prerequisite: Psychology 101.
Evaluation of behavioral and physiological data of normal, aberrant, and dysfunctional human sexual behavior, including description of available treatment methods.

456. Psychology of Death and Bereavement (3)
Latest psychological research and clinical practice in the area of death and dying, geared to assisting the student in appropriate ways of aiding both the dying and the bereaved in coming to terms with death.

457. Psychological Factors in Alcoholism (3)
Prerequisite: Six units of psychology, upper division standing.
Theoretical and empirical approaches to alcoholism: causes and treatment.

460. Physiological Psychology (3) I, II
Prerequisite: Psychology 260 or six units of biology.
An evolutionary approach to the development of complex behavior in higher organisms and man. The neurophysiology of emotion, sleep, bodily needs, instinctive patterns of behavior, and learning, brain and behavior disorders.

462. Sleeping and Dreaming (3)
Sleep and sleep disorders: electrophysiological, neurophysiological, biochemical, psychopharmacological, and psychological aspects.
478 / Psychology

481. Philosophical Issues in Psychology (3)
Prerequisite: Six units of psychology.
Modern empiricism and the philosophy of science as related to issues in contemporary psychology.

496. Selected Topics in Psychology (1-4)
Prerequisite: Psychology 101.
Intensive study in specific areas of psychology. See Class Schedule for specific content. Limit of nine units of any combination of 496, 497, 596 courses applicable to a bachelor's degree. Maximum credit six units.

497. Senior Project (1-3) I, II
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) I, II
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)
Analysis of linguistic and cognitive processes within the context of social behavior.

551. Clinical Psychology: Theory and Practice (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Psychology 350.
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.

571. Correlational Analysis (3)
Prerequisite: Psychology 270.
Quantitative methods in psychology with emphasis on methods of correlation, multiple correlation, partial correlation, and factor analysis.

580. 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 and 270.
The empirical data, basic principles and theoretical positions of major learning theorists.

596. Selected Topics in Psychology (3)
Prerequisites: Psychology 101 and consent of instructor.
Intensive study in specific areas of psychology. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.

Public Administration and Urban Studies
In the College of Professional Studies and Fine Arts

Public Administration and Urban Studies is a Member of the National Association of Schools of Public Affairs and Administration (NASPAA)

Faculty
Emeritus: Bigger, Kitchen, Love
Chair: Clapp
Professors: Clapp, Gazell, Gilbreath, Glitchoff
Associate Professors: Boostrom, Gupta, Rea, Ross, Sparrow, Stock, Sutton
Assistant Professors: Calavita, Henderson, Pugh, Walshok, Waste, Wirth

Offered by the School of Public Administration and Urban Studies
Master of City Planning degree
Master of Public Administration degree
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. Accountancy 210A-210B or 212, Information Systems 180, Economics 101 and 102, Political Science 101, Public Administration 220, and a course in statistics (3 units). (22 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include Public Administration 301, 310 or 312 or 315, 330, 340, 450, 460, 497 or 498, and 15 units selected with the approval of an adviser from the Public Administration faculty. Within this program, students may specialize in such areas as personnel and labor relations, urban management, urban planning, public finance and budgeting, information systems, and environmental management. Interested students must seek guidance from a Public Administration program faculty adviser. A master plan of the courses taken to fulfill the major must be approved by a Public Administration program faculty adviser 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 a course in statistics or Information Systems 180. Public Administration 301, 310 or 312 or 315, 330, 340, and two additional courses with the consent of a public administration 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 COURSE

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
(Reserved for Undergraduates)

301. Concepts and Issues in Public Administration (3)
Theory and practice of governmental administration in differing environments; role of administrators in public policy; issues facing administrators, techniques of administration.
305. Studies in Public Administration (1-3) I, II Cr/NC
Offered only in Extension.
Analysis of selected administrative processes and problems of governmental agencies,
their legal and political relations to other agencies and to the public. May be repeated
with new content. Consent of instructor. Maximum credit six units.

310. Management of Urban Governments (3) I, II
Problems of local units of government in the urban environment. Organization and function
of local agencies. Emphasis on California.

312. Management of State Governments (3)
Administrative and constitutional problems of state management in the American federal
system. Emphasis on California.

315. Management of the Federal Government (3) II
Prerequisite: Public Administration 301.
Problems in the administration of the federal government; for example, leadership,
specialization, unity of command, oversight.

320. Introduction to Urban Planning (3) I, II
An introduction to community planning: regional, county, and city. Consideration of the
Master Plan, including its purposes, contents, and method of adoption.

330. Public Personnel Administration (3) I, II
Analysis of personnel problems. Supervision and management of public employees and
public organizations in an age of change.

340. Administrative Behavior (3) I
Social, psychological, and behavioral theories of organization; concepts of administrative
leadership; organization and the individual; emphasis on governmental organizations.

341. Administrative Management (3) I, II
Areas and problems of administrative research; methods of analyzing structures and
procedures in organizations; planning and administration of programs; design of forms; job
classification and salary surveys; preparation of administrative reports.

350. Contemporary Urban Issues (3)
Focus on urban areas and urbanism from a public policy perspective; course examines and
critiques the physical, economic, social, and political dimensions of contemporary American
cities utilizing a multidisciplinary approach.

350. Fiscal and Budgetary Policy (3) I, II
Prerequisites: Economics 101 and 102, Public Administration 301.
Analysis of fiscal administration and budgeting; political implications of the governmental
budget process; revenue, debt, and treasury management; the functions of accounting and
financial reporting.

400. Administration and Public Policy Development (3) I, II
Prerequisite: Consent of instructor.
Process of formulating public policy with emphasis on the role of public agencies.

422. Selected Topics in Public Affairs (3)
Selected topics in the administration of public policy and problems of public administrative
organization. May be repeated with new content. Maximum credit six units.

463. Science, Technology and Public Policy (3) I, II
Scientific and technological innovations currently being introduced into public organizations
and their impact on the public policy-making process, and effects of government regulations
and policy on scientific and technological developments in society.

496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific
content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a
bachelor's degree.

497. Investigation and Report (3) I, II
Prerequisite: Consent of instructor.
Analysis of special topics. Admission by permission of instructor.

498. Internship in Public Administration (2-6) I, II Cr/NC
Prerequisites: Public Administration 301, 341 and all lower division required courses; credit
or concurrent registration in Public Administration 530 or 440 and 450; senior standing and a
"B" (3.0) average in the major.
Students will be assigned to various government agencies and will work under joint
supervision of agency head and the course instructor. Participation in staff and internship
conferences.

499. Special Study (1-3) I, II
Prerequisite: Twelve division units in public administration.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

510. Intergovernmental Relations in the United States (3) I
Prerequisite: Public Administration 310 or 312 or 315.
Constitution, political and administrative characteristics of American federalism, including
regionalism, interstate compacts, and state 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) I, II
Prerequisite: Public Administration 301.
Specific issues such as strategies, 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.
The management of labor relations: crisis management, labor relations, and employee relations.

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 offices, powers of administrative authorities, scope and
limits of administrative powers, remedies against administrative action.

580. Comparative Public Administration (3) II
Prerequisite: Public Administration 301.
Comparative organization and process of selected foreign and American governments.
Analysis of the cultural basis of administrative systems.

GRADUATE COURSES IN PUBLIC ADMINISTRATION AND URBAN STUDIES
and CITY PLANNING
Refer to the Graduate Bulletin.
Recreation

In the College of Professional Studies and Fine Arts

Faculty
Emeritus: Butler
Chair: Duncan
Professors: Duncan, Geba, Hanson
Associate Professors: Dixon, Dustin, Hutchinson, Lamke, Peterson
Assistant Professor: Namba
Lecturers: Levin, Satz

Offered by the Department
Major in recreation administration with the A.B. degree in applied arts and sciences
Minor in recreation.

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 three areas: (1) Outdoor Recreation, (2) Recreation Systems Management, or (3) Recreation Therapy.

A minor is not required with this major.

Emphasis in Outdoor Recreation
Preparation for the major. Recreation 101, 104, 107, 205, 284; Biology 100, 100L; Geography 101; Geological Sciences 100, 101. (26 units.)
Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 42-48 upper division units to include Recreation 351, 464, 485, 496, 498, 565, 575; Geography 370, 575; Zoology 314; and nine units selected from Biology 420, 430, 440; Botany 312; Geography 570; Geological Sciences 301; History, 340; Psychology 340; Political Science 334; Recreation 496, 548, 549; Zoology 515, 516, 517, 518.

Emphasis in Recreation Systems Management
Preparation for the major. Recreation 101, 104, 107, 205, 284; Information Systems 290; Psychology 101; Sociology 101; six units selected from Accountancy 210A, Economics 101; Finance 140; Information Systems 180. (30 units.)
Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 42-48 upper division units to include Recreation 351, 464, 498, 565; and nine units selected from Recreation 475, 485, 496, 548, 549, 575, 580; plus twelve units from Counseling Education 400; Economics 370, Finance 339, Marketing 370, 471, 373; Psychology 321, 340, 342, 347; Public Administration 301; 340, 350, 460; Sociology 325, 508, 514, 557.

Emphasis in Recreation Therapy
Preparation for the major. Recreation 101, 104, 107, 205, 284; English 100; Information Systems 290; Psychology 101; Sociology 101; Zoology 108. (31 units.)
Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 45 upper division units to include Recreation 351, 361, 371, 452, 464, 498, 565; Biology 362; and twelve units selected from Counseling Education 400; Drama 310; Psychology 330, 335, 350, 351, 452, 454; Recreation 549, 575, 580; Sociology 513, 514, 516, 523, 526, 527, 528.

Recreation Minor
The minor in recreation consists of a minimum of 24 units to include Recreation 101, 104, 107, 205, 284, and nine upper division units selected from Recreation 340, 351, 361, 371, 452, 464, 475, 485, 496, 498, 548, 549, 566, 575, 580.

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 Recreation Systems (3) I, II
Basic role of recreation and park systems in today's society. Scope of recreation services, their history, philosophy, facilities, programs, personnel and evaluation.

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 Planning and Leadership (3) I, II
Two lectures and three hours of laboratory.
Theses, principles and techniques of group leadership, group dynamics, communication, problem solving, creativity, program planning, and publicity as they relate to selected recreation systems.

110. Principles of Camp Counseling (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 weekend 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.
Prerequisite: Recreation 107. Development of an appreciation for leadership techniques in special events and the performing arts — music, dance, drama, arts and crafts. Focuses on organization, leadership, and supervision of these activities, rather than on the mastery of performing arts skills.

284. Supervised Field Work (3) I, II Cr/NC
Prerequisites: Consent of instructor or department chair. 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.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Reserved for Undergraduates)

300. Honors Course (1-3) I, II
Refer to Honors Program.

340. Conduct of Recreational Sports (3) I, II
Two lectures plus outside practical experience in the conduct of recreational sports programs.
Prerequisites: Consent of department chair. Credit or concurrent enrollment in Recreation 107. Organization of competition, community sports programs, administration of intramural athletics, and techniques of officiating.

351. Recreation for Special Populations (3) I, II
Analysis of the sociopsychological aspects of special populations and their implications for leisure time pursuits. Field trips may be included.
361. Scientific Foundations of Recreation Therapy (3) I, II
   Theoretical principles of therapy and prevention. Survey of medical and psychiatric
   pathology and terminology.

371. Professional Foundations of Recreation Therapy (3) I, II
   Analysis of present-day policies, programs, implementation and future aspects of
   professional principles of recreation therapy.

452. Clinical Methodology of Recreation Therapy (3) I, II
   Two lectures and three hours of laboratory.
   Prerequisites: Recreation 251, 361, 371.
   Integration and application of clinical principles and therapeutic procedures. Emphasis on
   methodology and refinement of skills.

464. Supervision of Recreation Agencies (3)
   Prerequisite: Recreation 101.
   Interagency relations, personnel policies and procedures, volunteer coordination,
   supervisory techniques, community organization, public relations and fund-raising in public,
   private and commercial settings.

475. Commercial Recreation Management (3)
   Analysis of commercial recreation field, including design, development, programming and
   marketing aspects of various commercial recreation enterprises.

484. Directed Leadership (3) I, II, S Cr/NC
   One lecture and eight hours of supervised activity.
   Prerequisite: Recreation 284.
   Supervised leadership experience in public and private recreation agencies. Maximum
   credit six units.

485. Outdoor Recreation Planning and Policy (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. (Formerly entitled "Non-Urban Recreation Resources." )

486. Interpretative Techniques In Outdoor Recreation (3) I, II
   Concepts of interpretation. Role of the interpreter. Designing nature trails, exhibits and
   centers. Audiovisual aids to interpretation.

496. Experimental Topics (1-4)
   Selected topics. May be repeated with new content. See Class Schedule for specific
   content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a
   bachelor's degree.

498. Internship In Recreation Systems (6 or 12) Cr/NC
   Twenty off-campus hours required per week for 6-unit program, or 40 off-campus hours
   required per week for 12-unit programs.
   Prerequisites: Consent of instructor or department chair, completion of all required lower
   division recreation courses, and completion of both Standard or Multimedia First Aid certificate
   and CPR certificate by end of semester.
   Students will be assigned to various governmental, commercial, private or medical
   agencies conducting recreation programs. Variety of experiences in supervision and
   administration. Maximum credit 12 units.

499. Special Study (1-3) I, II
   Prerequisite: Consent of special study adviser.
   Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

548. Aquatic Administration (3)
   Management of swimming pools, beaches, lakes and marinas, safety factors; legal
   requirements; health standards, facilities and programming.

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.
Religious Studies

In the College of Arts and Letters

Faculty
Chair: Sparks
Professors: Anderson, Downing, Friedman, Jordan, Sparks
Associate Professor: Khalil
Assistant Professors: Hermansen, Holler, O'Sullivan
Lecturer: Mueller, O'Sullivan

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.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible, they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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 courses 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."

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in religious studies to include either Religious Studies 301 or 305 and at least three units from courses included in each of the three areas listed below, and Religious Studies 496.


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, 305, 310, 312, 314, 316, 318, 330, 340, 522.

Eastern Religions: Religious Studies 401, 403, 506, 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

101. World Religions (3) I, II
Major figures, attitudes and teachings of world religions.

201. Ways of Understanding Religion (3)
Examples of major approaches to study of religious phenomena, and central issues in methodology.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

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.
Problems of composition and historical significance in the context of religious meanings of the scriptures known to Jews as the Tanakh (the Pentateuch, the Prophets and the Writings) and to Christians as the Old Testament.

305. The 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. Russian Orthodox Spirituality (3)
Prerequisite: Three units of religious studies.
Major doctrines, practices and developments in Eastern Christianity with focus on Russian Orthodoxy.

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. Modern Religious Thought in the West (3)
Prerequisite: Three units of religious studies.
Selected issues in religious thought in Europe and America during the nineteenth and twentieth centuries.

330. Topics in Judaism (3)
Prerequisite: Three units of religious studies.
Selected topics such as early Hebrew religion, the Talmudic period, medieval religious thought, mysticism, modern Judaism from the emancipation to the Holocaust, contemporary thought. May be repeated with different content. See Class Schedule for specific content. Maximum credit six units.

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: Three units of religious studies.
Chiee 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.

353. The Human Dimension of Religion and Psychology (3) I, II
Prerequisite: Three units of religious studies.
The meeting of religion and psychology. Selected religious thinkers and selected traditions. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units of which three units may be applicable to General Education.
Religious Studies

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, Literature and the Arts (3)
Prerequisite: Three units of religious studies.
The relations between religion, literature and the arts in major cultural traditions.

363. Religion and the Sciences (3)
Prerequisite: Three units of religious studies.
Relation of the natural sciences to religious questions of nature, humanity and destiny.

365. Religion and Contemporary Moral Issues (3)
Prerequisite: Three units of religious studies.
Critical exploration of moral dilemmas (biomedical, social, economic, political) from eastern and western religious perspectives.

401. Religions of India (3)
Prerequisite: Three units of religious studies.
Phenomenological studies in the major religious traditions of India, especially Hinduism and Buddhism. (Formerly numbered Religious Studies 501)

403. 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. (Formerly numbered Religious Studies 503)

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)
Prerequisite: Three units of religious studies.
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

498. Senior Project (3)
Prerequisites: Twelve upper division units in religious studies and consent of instructor.
Seminar workshop and project 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)

506. Spiritual Traditions of India (3)
Prerequisite: Three units of religious studies.
India's religious and philosophical modes of thought, reading and analysis of primary texts in translation.

508. Spiritual Traditions of East Asia (3)
Prerequisite: Three units of religious studies.
East Asian religious and philosophical modes of thought, especially those of 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.

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.

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: Three units of 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.

GRADUATE COURSES
Refer to the Graduate Bulletin
Russian

In the College of Arts and Letters

Faculty
Chair: Wulbern
Professors: Dukas, Fetzer, Kozlik

Offered by the Department of Germanic and Slavic Languages and Literatures

Master of Arts degree in Russian.

Major in Russian with the A.B. degree in liberal arts and sciences.

Teaching major in Russian for the single subject teaching credential.

Minor in Russian.

Advising
All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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, Russian 101, 102, 201, 202, 211 and 212. (21 units.)

Foreign Language Requirement, The foreign language requirement for graduation is automatically fulfilled through course work for preparation for the major.

Writing Requirement, Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major, A minimum of 24 upper division units in Russian to include Russian 301, 302, 305A-305B, and 12 units in 500-level courses in Russian.

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. 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 Russian is required for the degree.

Preparation for the major, Russian 101, 102, 201, 202, 211, and 212. (21 units.)

Writing Requirement, Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Teaching major, A minimum of 27 upper division units in Russian to include 301, 302, 305A-305B, 580, 581; six units of electives in Russian, and Humanities 330 or 331.

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.

Russian Minor

The minor in Russian consists of a minimum of 15 units in Russian to include Russian 202 and six units of 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 Russian may be counted as the equivalent of Russian 101; three years the equivalent of Russian 102, and four years the equivalent of Russian 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. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit.

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. First Course in Russian (4/5), I, II
Four lectures and one hour of laboratory.

Pronunciation, oral practice, reading in Russian literature, minimum essentials of grammar.

Not open to students who have completed three years of high school Russian.

102. Second Course in Russian (4/5), I, II
Four lectures and one hour of laboratory.

Prerequisite: Russian 101 or two years of high school Russian.

Continuation of Russian 101. Not open to students who have completed four years of high school Russian.

201. Third Course in Russian (4)
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.

202. Fourth Course In Russian (4)
Prerequisite: Russian 201.

Continuation of Russian 201.

211. Conversation (2)
Prerequisite: Russian 102 or two 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.

212. Conversation (2)
Prerequisite: Russian 201 or 211, or four years of high school Russian.

Continuation of Russian 211.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES (Intended for Undergraduates)

300. Honors Course (1-3), I, II
Refer to Honors Program.

301. Advanced Grammar and Composition (3)
Prerequisites: Russian 202 and 212.

Advanced grammar and stylistics; intensive writing practice; reports based on outside reading.
302. Advanced Grammar and Composition (3)
Prerequisites: Russian 202 and 212.
Advanced grammar and stylistics; intensive writing practice; reports based on outside reading.

305A-305B. Survey of Russian Literature (3-3)
Russian literature from its beginnings, with emphasis on the nineteenth and twentieth centuries.

499. Special Study (1-3) I, II
Prerequisites: 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)

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.

580. Russian Syntax and Stylistics (3)
Prerequisites: Russian 301 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.
Emphasis In Africa and the Middle East

The adviser for this emphasis is Dr. James N. Kerr, Afro-American Studies.

Preparation for the major.
History 105, 106, Humanities 157 and/or 158, and three to six units selected from Anthropology 101, 102, Comparative Literature 270A, 270B, 272A; Economics 101, 102, Geography 101, 102, and Humanities 130, 131, 151, 155. 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. French 101, 102, or Hebrew 101, 102, 201, or Portuguese 101. An equivalent level of competency in another language judged appropriate by the Committee on Africa and the Middle East is acceptable. Competency will be determined by examination.

A minor is not required with the major. Students in this major may wish to consider a minor in Jewish Studies.

Writing Requirement. Passing the University Writing Examination or Anthropology 396W or History 396W or Sociology 396W with a grade of C (2.0) or better.

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; Geography 335; six units from History 473A, 473B, 475A, and Political Science 363 or 364. In addition, the following courses are recommended: Anthropology 350, 424, 426, 429; Art 365, 568, 569, 570; Comparative Literature 553; Economics 365, 489; Political Science 361, 381; 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 105, 106, or 110A-110B or 115A-115B, Political Science 101 and 102, Sociology 110 and 111. Additional recommended courses include Biology 130 and Geographical Sciences 100 and 101.

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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 for the major.

Writing Requirement. Passing the University Writing Examination or Anthropology 396W or History 396W or Sociology 396W with a grade of C (2.0) or better.

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; Geography 335; six units from History 473A, 473B, 475A, and Political Science 363 or 364. In addition, the following courses are recommended: Anthropology 350, 424, 426, 429; Art 365, 568, 569, 570; Comparative Literature 553; Economics 365, 489; Political Science 361, 381; Religious Studies 312, 330, 340.

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. The requirements for the Secondary Waiver Credential in Social Science are as follows:

1. A major in Social Science for the A.B. degree.

2. Writing Requirement. Passing the University Writing Examination or Anthropology 396W or History 396W or Sociology 396W with a grade of C (2.0) or better. Students with a 15-unit specialization in history must take History 430W.
Political Science: 313, 325, 497, 515A.
Social Science: 498.

E. Three units of electives.

Certificate in Quantitative Analysis in the Social Sciences

The Director of the Social Science Research Laboratory is coordinator for this program. The purpose of this certificate program is to prepare students to be able to carry out social science work which is often required in public agencies and the private sector. Students must apply for admission to Certificate program before the completion of nine units.

The certificate requires fifteen units, nine to twelve of which must be upper division to include:

Three units selected from Economics 201, Political Science 201, Sociology 201; three units selected from Mathematics 107 or three one-unit sections of 499 (Computer Modules offered by Social Science Research Laboratory) of the student’s choice in the Department of Social Science; six units selected from Economics 347, Geography 585, Political Science 515A, Sociology 464; three units selected from among the four upper division courses listed above or from Economics 541, Geography 582, Political Science 325, Sociology 560.

The nine upper division units must include work from three different departments. Three to six units of equivalent courses may be accepted with the approval of the Certificate Coordinator.

UPPER DIVISION COURSE
(Intended for Undergraduates)

498. Senior Seminar (3)

Advanced reading and independent research on selected topics integrating at least two of the social science disciplines. Usually taught by two instructors representing two of the six social science disciplines of anthropology, economics, geography, history, political science and sociology.

GRADUATE COURSES
Refer to the Graduate Bulletin.

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School of Social Work

in the College of Human Services

The undergraduate and graduate programs of the School of Social Work are accredited by the Commission on Accreditation of the Council on Social Work Education.

Faculty

Emeritus: Bely, Clary, Herman, Maxwell, Morgan, Öntell, Pepper, Reichert, Watson, Witte

Director: Harbert

Associate Director: Griffin

Professors: Brennen, Butler, Davis, Griffin (Undergraduate Coordinator), Harbert, Haworth, Ishikawa, Kahn, Kelley; Kukkonen (Graduate Program Coordinator and Coordinator of Field Instruction). Lee, Stanford, Stumpf, Valle

Associate Professors: Ellis, Guidry, Herman, Riehman, Sardinas, Schmidt, Simon

Assistant Professors: Ajermian, Cohen, Harris, Jones, Pritchard, Raymer, Runelhart, Suwato

Lecturers: Gallegos, Gross, Kurtz, Martinez, Peer, Roberts

Offered by the School of Social Work

Major in social work with the A.B. degree in liberal arts and sciences.

Major in social work with the A.B. degree in applied arts and sciences.

Minor in social work.

Master of Social Work

Human Services Paraprofessional Certificate

Programs and Objectives

The School of Social Work offers a two-year graduate curriculum leading to the Master of Social Work degree under approval granted by the Board of Trustees of The California State University and Colleges in May 1963. The curriculum was developed in close cooperation with the Council on Social Work Education and was fully accredited by its Accreditation Commission in June 1966 and September 1979.

The School of Social Work is committed to ethnic and cultural diversity in its student body, its faculty, the populations it serves and the unique concerns on which it focuses.

The objectives of the School of Social Work at San Diego State University are to prepare students with the essential knowledge, philosophy and basic skills for their responsible practice in the profession of social work. In order to achieve these objectives, the School will assist students to develop a philosophy which recognizes individual human welfare as the purpose and goal of social policy; to acquire attitudes and values that will permit the development and maintenance of professional relationships and professional standards; to develop the discipline and self-awareness essential to the professional social worker; to attain a level of competence necessary for professional practice; to acquire knowledge in methods of research in social work, and to accept responsibility for the continued development of their competence in the practice of social work.

Social Work Major

With the A.B. Degree in Liberal Arts and Sciences or in Applied Arts and Sciences

All candidates for a degree in liberal arts and sciences or 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 primary educational objective of this major is preparation for beginning professional social work practice. In addition, this major serves broad educational purposes based on an understanding of contemporary social welfare programs and prepares for professional social work education at the graduate level. The major prepares for immediate employment in those social work positions which do not require professional social work education on a graduate level.

Preparation for the major. Social Work 110, 120, Anthropology 102, Biology 100, Economics 100, Health Science 101, Psychology 101, Sociology 101, Psychology 270 or Sociology 201 or Mathematics 250, (27 units.)
Human Services Paraprofessional Certificate Program

This certificate is designed primarily for ex-offenders and ex-substance abusers who seek para-professional positions in human services. A certificate in para-professional human services may be sought by ex-offenders and ex-substance abusers who:

(a) do not meet the prerequisite requirements for a major in social work 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 a second degree.

Students are admitted to the certificate program as regular students of San Diego State University. Students must apply to the program as well as to the university. Candidates for the certificate program will be established by the Coordinator of the Undergraduate Social Work Program.

Awarding 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 Work 350, 360, 370A, 381, 382, 489A, 489B, Health Science 296, Philosophy 101; and three units of an elective in another professional discipline with consent of coordinator. Course offerings under this program may only be taken in the on-campus program.

For further information, consult the Coordinator, Undergraduate Social Work Program.

LOWER DIVISION COURSES

Note: All social work courses numbered 110-596 formerly offered under rubric of 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 distributive problems and forms of stratification.

120. Explorations in Human Services (3) I, II
Two lectures and three hours of field work. Orientation to the field of social welfare. Readings, class discussions and participation in social work 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 Relations (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. Assist students in acquiring the abilities to develop and sustain interpersonal relationships. This course not open to students with credit in Family Studies and Consumer Sciences 135.

FOREIGN LANGUAGE REQUIREMENT FOR LIBERAL ARTS AND SCIENCES ONLY

 депательной работы на территории и курс не открыт для студентов с кредитом на 120. Explorations in Human Services (3) I, II

Социальные проблемы и проблемы общества. Учение о распределительных проблемах и формах стратификации.

СОЦИАЛЬНАЯ РАБОТА

Изучение социальных услуг (3) I, II
Два лекции и три часа практики. Ориентация на область социальной работы. Прочтение, дискуссия и участие в социальных услугах на территории кампуса и в сообществе. Работа в качестве волонтера в организации требует участия в различных практиках. Расписание гибкое.

Свадебные браки и современные отношения (3) I, II
Развитие понимания и способности оценивать различные концепции, установки и системы ценностей, связанные с браком и другими современными отношениями. Помощь студентам в приобретении способности развивать и поддерживать дружеские отношения. Этот курс не открыт для студентов, имеющих кредит в Family Studies and Consumer Sciences 135.

FOREIGN LANGUAGE REQUIREMENT FOR LIBERAL ARTS AND SCIENCES ONLY

Минимальные требования по иностранному языку для ЛИБЕРАЛЬНЫХ НАУК И НАУК О ЕСТЕСТВЕННЫХ НАУКАХ

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
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.

370B. Social Provision and Program Evaluation (3) I, II
Prerequisites: Social Work 370A, 370B. Issues and dilemmas related to the provision of social services, and analysis of social programs. Evaluating effectiveness and efficiency of social service programs and social work services.

483A-483B. Integrating Seminar (3-3) I, II
Prerequisites: Social Work 370A and 483B. Integrating Seminar (3-3) I, II. Students are expected to participate in simulation of social work practice situations.

489A-489B. Field Experience in Social Work (3-9, 3-9) I, II
Prerequisites: Social Work 370B. Arrangement in prior semester with Undergraduate Field Coordinator and a 2.0 grade point average in all junior level social work courses required in the major, concurrent registration in Social Work 489A for 489A, concurrent registration in Social Work 489B for 489B. The integration of social work theory, principles and practice techniques.

491. Methods of Social Work Research (3) I, II
Prerequisite: Social Work 370B. Characterization 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.

496. Experimental Topics (1-4)
Selection of topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.
500 / Social Work

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)

540. Seminar in Social Effects of the Legal Process (3)
Prerequisite: Upper division, undergraduate social work 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, conservatives 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.

550. Seminar in Administration and Decision Making In Human Service (3)
Prerequisite: Upper division, undergraduate social work major; or classified graduate standing in the School of Social Work; or classified graduate standing or unclassified standing with consent of the director.
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 legislatively bodies, and budget development are considered in the ways that policy is shaped and reflected through social programs.

596. Experimental Topics (1-4)
Selected topics in social work. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES
Refer to the Graduate Bulletin.
Power Relations and Inequality: Prerequisites: Sociology 101, 422, 440, Sociology 325, 333, 424, 537, 546, 547, 557. (Sociology 422 is prerequisite to 537, Sociology 440 is prerequisite to 546.)

Social Change: Prerequisites: Sociology 101. Sociology 390, 404, 506, 508, 519, 546, 547, 557. Sociology 440 is prerequisite to 546.


Health and Social Behavior: Prerequisites: Sociology 101, Sociology 350, 510, 523, 526, 527, 528, 534.

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 333, 334, 454, 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.

* Unless waived by the department.

LOWER DIVISION COURSES

101. Introductory Sociology (3) I, II
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.

110. Contemporary Social Problems (3) I, II
Prerequisite: Sociology 101.

201. Elementary Social Statistics (3) I, II
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. Students with credit or concurrent registration in another statistics course will be awarded a total of four units for the two (or more) courses.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES

(intended for Undergraduates)

300. Honors Course (1-3)
Refer to Honors Program.

325. Minority Group Relations (3) I, II
Prerequisite: Sociology 101.
Theories of ethnic prejudice. Analysis of racial and ethnic discrimination. An analytical inquiry into sources of friction and causes of conflict between majority and minority groups. (Formerly numbered Sociology 525.)

333. Sex Roles in Contemporary Societies (3) I, II
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. (Formerly numbered Sociology 533.)

334. Love, Jealousy, and Envy (3)
Prerequisite: Sociology 101.
Sociological understanding of human emotions developed through consideration of history of sex and love, social psychology of jealousy, and political implications of envy. Psychological approaches to understanding and management of emotions analyzed from a sociological point of view. Some implications for self-understanding are developed.

350. Population and Contemporary Issues (3) I, II
Prerequisite: Sociology 101.
Analysis of population processes as they affect and are affected by such contemporary issues as rapid world population growth, famine, ecological pressures, abortion, women's liberation, racial and ethnic relations, and illegal migration. (Formerly numbered Sociology 550.)

396W. Writing in Sociology (3)
Prerequisite: Sociology 101.
Introduction to and practice in methods of writing in the social sciences. Principles of scientific discourse, research and report writing and proposal writing. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication.

400. History of Social Thought (3) I
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) I, II
Prerequisite: Sociology 101.
Theories of the major early European and American sociologists, including Marx, Weber, Durkheim, 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) I, II
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 or qualitative methods to sociological problems and/or the use of experimental, social simulation teaching techniques.

406. Science, Technology and Social Dynamics (3)
Prerequisite: Sociology 101.
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) I, II
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. Wealth, Status and Power (3) I, II
Prerequisite: Sociology 101.
Distribution of wealth, power, privilege and prestige in society. Causes, outcomes and dynamics of inequality, process of upward and downward social mobility, and relationship of social class to politics, the economy and other institutions. (Formerly entitled "Social Stratification")

432. Formal Organization (3)
Prerequisite: Sociology 101.
The structure and dynamics of various types of complex formal organization. Their development, internal structure and processes, external relations and function in contemporary society.
540. Social Psychology: Sociological Approaches (3) I, II
  Prerequisite: Sociology 101
  Survey of the major theoretical frameworks, problems and findings of sociology and
  social-psychology concerning group behavior and group membership, the socialization of the
  individual, and processes of social interaction.

540. Quantitative Methods in Social Research (3) II
  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 correlational techniques.

544. Survey and Experimental Research Methods (3) I, II
  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.

545. Qualitative Research Methods (3)
  Prerequisite: Sociology 201.
  Examination of field research methods including interviewing, observation, participant
  observation and case studies. Problems in research design, gaining and maintaining rapport,
  and analysis and interpretation of data.

546. Field Internship (3-6) I, II
  Prerequisite: Sociology 201.
  Supervised field placement of students in community agencies. Practical experiences
  related to studies within the sociology curriculum. Maximum credit six units.

549. Special Study (1-3) I, II
  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
  consequences of industrialization, utilizing historical and contemporary study of macrosocial
  change.

508. Sociology of the Future (3)
  Prerequisite: Sociology 101.
  Examines sociological aspects of alternative futures and the role of contemporary behavior
  in creating those futures. Analysis of projections in selected areas such as family, technology,
  work and leisure.

510. Sociology of Deviance (3) I, II
  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.

513. Criminology (3) I, II
  Prerequisite: Sociology 101.
  The extent and characteristics of crime, consideration of physical, mental, economic and
  sociological causes of crime.

514. Juvenile Delinquency (3) I, II
  Prerequisite: Sociology 101.
  The nature and extent of delinquency; the causative factors involved; methods of control
  and prevention, with special attention to the protective and remedial measures offered by the
  school, home, juvenile court, correctional institutions and camps, probation and parole, and
  recreational agencies.

515. Societal Processing of Criminals and Delinquents (3)
  Prerequisite: Sociology 101.
  Sociological features of societal processing of criminals and delinquents in terms of
  sociological theory, concepts and research.

516. Sociology of Punishments and Corrections (3)
  Prerequisite: Sociology 101.
  Historical, theoretical and empirical analyses of punishment and rehabilitation, analysis of
  contemporary correctional settings, and examination of prison populations and alternatives to
  prison.

518. Women and Crime (3)
  Prerequisite: Sociology 101.
  Female criminality in our society and the feminist movements. Examination of social science
  literature on women and crime and the experience of women with the criminal justice system,
  the experience of women in prison, crimes against women, and how sexuality has been treated
  as crime.

519. Topics in Comparative Societies (3)
  Prerequisite: Sociology 101.
  Analysis of contemporary social structure, the process of modernization and current social
  problems in selected areas of the world. May be repeated with new content. See Class
  Schedule for specific content. Maximum credit six units.

520. Industrial Sociology (3) I, II
  Prerequisite: Sociology 101.
  Group relationships within economic organizations. Problems of leadership, morale and
  conflict. Some attention to the sociology of occupations and professions.

521. Sociology of Occupations and Professions (3) I, II
  Prerequisite: Sociology 101.
  Division of labor, status ranking of occupations, authority structures, occupational and
  professional organization, occupational socialization, problems of identity and role conflict.

523. The Sociology of Mental Illness (3) I, II
  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.

526. Medical Sociology (3) I, II
  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 561.

527. Sociology of Aging (3) I, II
  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) I, II
  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.
534. Sexuality in Modern Society (3) I, II
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) I, II
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 communal 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) I, II
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) II
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. 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.

542. Sociology of Social Movements (3)
Prerequisite: Sociology 101. Recommended: Sociology 422 and 454.
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. Urban Sociology (3) I, II
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.

545. Urbanization and Modernization in Latin America (3)
Prerequisite: Sociology 101.
Impact of urbanization and modernization on status, class, and power relations in Latin America. Changes in beliefs, attitudes and values as affected by the processes of urbanization and modernization.
Spanish

in the College of Arts and Letters

Faculty
Emeritus: Baker, Sender
Chair: Barrera
Professors: Barrera, Case, Christensen, Head, Jimenez-Vera, Lemus, Segade, Silverman, Walsh
Associate Professors: Higgins, O'Brien, Santalo, Talamanes, Weeter, 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
- Certificate in Translation and Certificate in Court Interpreting

Advising

All College of Arts and Letters majors are urged to consult with their department adviser as soon as possible; they are required to meet with their department adviser within the first two semesters after declaration or change of major.

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.

Students majoring in Spanish must complete a minor in another field approved by the departmental adviser in Spanish.

Preparation for the major: Spanish 101, 102, 201, 202, 211, and 212 or equivalents. See adviser. (21 units.)

Foreign Language Requirement. The foreign language requirement for graduation is automatically fulfilled through course work for preparation for the major.

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units in Spanish to include Spanish 301, 302; and 18 units selected from one of the following areas of specialization:

Hispanic Literature: Spanish 305A-305B, 306A-306B, and six units of electives with no more than three units from Spanish 440, 441, 442.

Spanish Linguistics: Six units selected from Spanish 305A, 305B, 306A, 306B, Spanish 490, 548 or 549; and six units of electives.

Spanish 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. 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 Spanish is required for the degree.

Preparation for the major: Spanish 101, 102, 201, 202, 211 and 212. (21 units)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 27 upper division units in Spanish to include Spanish 301, 302; six units of a survey course in Spanish literature or Spanish-American literature selected from Spanish 305A-305B, 306A-306B; 490, 548; two courses from 440, 441 or 442; and three units of upper division electives from any of the department 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.

Certificate in Translation and Certificate in Court Interpreting

- The Department of Spanish and Portuguese Languages and Literatures offers a Certificate in Translation and a Certificate in Court Interpreting. Both certificates require 15 units in Spanish dealing with problems of translation and/or court interpreting and include both translation and interpreting from Spanish to English and from English to Spanish.
- Prospective candidates for the certificates should possess a bilingual facility in Spanish and English. All students must complete with a grade of B or better English 305W (or pass the University Upper Division Writing Competency Examination), and Spanish 301, 302 and 490 prior to starting work on either certificate.
- After meeting the basic requirements for admission, a student must complete 15 units with a GPA of 3.0 or better chosen from the following courses: Spanish 304, 305, 306, 494, 556, 557, and either 499 or 599 when offered with appropriate certificate-related content. Students working for the Certificate in Court Interpreting must take six units in Spanish 494 as part of the 15-unit program.
- Upon completing 15 units from the course work, students must take a departmental examination either for the Certificate in Translation or for the Certificate in Court Interpreting. Upon successful completion of an examination, the student shall be awarded the appropriate certificate.

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, but not to exceed four units of repeated foreign language work. In addition, students who completed three years of a high school language five or more years ago may repeat the first semester of that language with no loss of credit. 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, 490, 491, 492, 596 when offered with appropriate related content. Students working for the Certificate in Translation and a Certificate in Court Interpreting may be counted toward meeting the foreign language requirement.

100. Medical Spanish (4) II Cr/NC

- Beginning Spanish. Will combine medical terms with basic Spanish grammar. Oriented toward those in health-related fields.
- Prerequisites: Spanish 101 or two years of high school Spanish.
- Four lectures and one hour of laboratory.
- Pronunciation, oral practice, readings on Hispanic culture and civilization, essentials of grammar. Not open to students who have completed three years of high school Spanish.
- Continuation of Spanish 101. Not open to students who have completed four years of high school Spanish.

101. Elementary (4½) I, II

- Four lectures and one hour of laboratory.
- Pronunciation, oral practice, readings on Hispanic culture and civilization, essentials of grammar. Not open to students who have completed three years of high school Spanish.
- Continuation of Spanish 101. Not open to students who have completed four years of high school Spanish.
- Prerequisites: Spanish 101 or two years of high school Spanish.
- A minimum of 2½ units of first-year high school Spanish may be counted toward university entrance.

102. Elementary (4½) I, II

- Four lectures and one hour of laboratory.
- Pronunciation, oral practice, readings on Hispanic culture and civilization, essentials of grammar. Not open to students who have completed three years of high school Spanish.
- Continuation of Spanish 101. Not open to students who have completed four 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 cultural material, short stories, novels or plays; oral practice; outside reading with oral and written reports.

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.

211. Intermediate Conversation and Writing (2)
Prerequisite: Spanish 102 or three years of high school Spanish.
Emphasis on the spoken language with a modicum of writing practice; practical vocabulary and useful phrases; conversation on assigned social, cultural or literary topics at an intermediate level; all class discussion conducted in Spanish. Not open to students with credit for Spanish 211-Y.

211-Y. Intermediate Conversation and Writing in Mexico (3)
Prerequisite: Spanish 102 or three years of high school Spanish.
Emphasis on the spoken language with a modicum of writing practice; practical vocabulary and useful phrases; conversation on assigned social, cultural or literary topics at an intermediate level; all class discussion conducted in Spanish; course arranged in tour fashion in Mexico during winter interim or pre-summer period. Not open to students with credit for Spanish 211.

212. Intermediate Writing and Conversation (2)
Prerequisite: Spanish 201 and 211 or four years of high school Spanish.
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.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

301. Advanced Conversation and Writing (3)
Prerequisite: 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 tour 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 creative writing with supporting practice in conversation; written composition on social, cultural or literary topics at an advanced level; all class discussion conducted in Spanish.

303. Advanced Composition and Style (3)
Prerequisites: Spanish 301 and 302.
Expository writing course, based on study of outstanding works of imaginative literature, and the arts; emphasis on mastery of style and organization.

304. Introduction to Spanish-English/English-Spanish Translation (3) I, II
Prerequisites: Spanish 301 and 302.
Problem areas in Spanish-English and English-Spanish translation. Theoretical problems of translation; linguistic obstacles; lexical problems of translation; interpersonal communication, morphology and syntax.

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.

306A-306B. Survey of Spanish-American Literature (3-3)
Prerequisites: Spanish 202 and 212.
Reading from representative Spanish-American authors during colonial, revolutionary and modern periods.

440. Spanish Civilization (3)
Prerequisites: Spanish 202 and 212.
Spanish culture of the past and present, with emphasis on literature, philosophy and the arts. Not open to students with credit in Humanities 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.

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.

490. Advanced Grammar (3)
Prerequisites: Spanish 301 and 302.
Significant systematic features of modern Spanish grammar with analysis of passages from literature. Required for credential applicants.

493. Advanced Spanish-English/English-Spanish Translation (3) I, II
Prerequisites: Spanish 304, 490.
Practicum involving methods and techniques in translation of legal or government papers, banking documents, and business contracts from Spanish into English and from English into Spanish. Practice in translation of old Spanish into English (deeds, surveys, baptismal records, manuscripts of books). (Formerly numbered Spanish 544.)

494. Court Interpreting in Spanish-English and English-Spanish (3) I, II
Prerequisites: Spanish 304, 490.
Practicum in court interpreting. Problem areas include: simultaneous interpreting, consecutive interpreting, summary interpreting, sight translation; mock trials and specialized vocabulary; visits to local courts. May be repeated with consent of instructor. Maximum credit six units. (Formerly numbered Spanish 544.)

495. Intensive Spanish for Public School Personnel (6) S
Prerequisite: Limited to persons working in the field of education (inservice students).
Beginning through Advanced Spanish according to learner’s entrance proficiency level, with accompanying study of Hispanic and Chicano cultures and teaching methods for bilingual education.

496. Selected Studies in Spanish (3)
Topics in Spanish or Spanish-American language, literature, culture and linguistics. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

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.  
Semester I: Development of Spanish theater from 1800 to Spanish Civil War. Major literary movements and themes analyzed through study of works of representative dramatists of the period. Semester II: theater from the Civil War to the present. Theater of the absurd, theater of social justice, underground theater, and new directions in today’s Spanish drama.

515A-515B. Mexican Literature (3-3)  
Prerequisites: Spanish 306A-306B.  
Aspects of Mexican culture. Semester I: A rapid survey of Mexican literature from the colonial period to present. Special emphasis on contemporary Mexican novel and theater.

520. Caribbean Area Countries Literature (3)  
Prerequisites: Spanish 306A-306B.  
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 306A-306B.  
Literature of Ecuador, Peru, Bolivia and Chile from the period immediately preceding the Spanish conquest to the present.

524. River Plate Literature (3)  
Prerequisites: Spanish 306A-306B.  
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.

533. Contemporary Spanish Novel (3)  
Prerequisites: Spanish 305A-305B.  
The development of the novel and short story in Spain since 1936.

548. Spanish Linguistics (3)  
Prerequisites: Spanish 301 and 302.  
Structural, historical and applied Spanish linguistics.

549. Phonetics and Phonemics (3)  
Prerequisites: Spanish 301 and 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 306A-306B.  
Major writers and works, concentrating on prose and lyric poetry.

556. Translation of Literary Works: A Critical Comparison (3)  
Prerequisite: Spanish 493.  
Techniques and methods of translating literary texts from English to Spanish and Spanish to English; textual and stylistic problems in different periods, genres, and dialects, with emphasis on contemporary literature.

557. Spanish-Spanish-American Dialectology (3)  
Prerequisites: Spanish 490; one English composition course and one linguistics course.  
Phonological, morphological, syntactic and lexical characteristics of the principal dialects of Spanish.

561. Methods in Teaching Spanish as a Second Language (3)  
Prerequisite: Spanish 490 or 548.  
Teaching of Spanish as a second language: contemporary theory and methods.
Speech Communication
In the College of Professional Studies and Fine Arts

Faculty
Emeritus: Ackley, Sanders
Chair: King
Professors: Adams, Benjamin, King, Mills, Samovar, Weitzel
Associate Professors: Andersen, J., Lustig
Assistant Professors: Gaske, Hellweg
Lecturer: Andersen, P.

Offered by the Department
Master of Arts degree in speech communication.
Minor in speech communication.
The Speech Communication Department conducts a number of activities such as the Forensics Program as co-curricular 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 English/Speech. (Except Speech Communication 104.) (15 units.)
Writing Requirement. Speech Communication 396W or waiver by Department Chair based on faculty recommendation.
Major. A minimum of 27 upper division units to include Speech Communication 350, 355 and 592: three units selected from Speech Communication 362, 391, 392, 407, and 508; and 15 units selected from 300- through 500-numbered Speech Communication courses excluding 396W. 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.
Preparation for the major. Speech Communication 105, 111A, 135, 160, 191, 204. (18 units.)
Writing Requirement. Speech Communication 396W or waiver by Department Chair based on faculty recommendation.
Major. A minimum of 24 upper division units in speech communication to include Speech Communication 362, 391, 392, 508, 530; three units of 309; and six units selected from any combination of Speech Communication 301, 361 and 400.
CREDENTIAL REQUIREMENTS. Eighteen units to include:
1. Language: Three to six units from Linguistics 101, 520, 524 or 550.
2. Literature: Six to nine units from English 250A-250B, 260A-260B, or other literature courses approved by the Speech Communication Department Chair, or Drama 310, 480.
3. Composition: Six to nine units from English 200 and 500W, Journalism 220 or 310.

Speech Communication Minor
For the Single Subject Teaching Credential In English/Speech Communication
The minor in speech communication consists of a minimum of 24 units to include 12 units selected from Speech Communication 111A, 135, 160, 191, 204; and 12 units of electives most appropriate to the student's major selected in consultation with the undergraduate advisor from the following areas:

Communication History: Speech Communication 350, 362, 391, 392, 400, 495 and 508.
Communication Forms: Speech Communication 359, 361, 391, 392, 399, 400, 495 and 508.

Courses in the minor may not be counted toward the major, but may be used to satisfy graduation or 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 education.
Not open to students with credit in Afro-American Studies 140, Mexican-American Studies 111A.

105. Introduction to Speech Communication (3) I, II, S
The status of the discipline, interrelationships among varied specialties within the field, and career opportunities. Intended for students who are either considering or who are committed to a speech communication major or minor. This class should be completed as early as possible.

111A. Fundamentals of Interpretation (3) I, II
Literature and principles of its oral presentation by the interpreter.

111B. Intermediate Interpretation (3)
Prerequisite recommended: 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.

155. Principles of Communication (3), I, II
Identification, description, and study of fundamental communication principles such as language, nonverbal codes, perception and empathy. Emphasis on the interpersonal communication context.

160. Argumentation (3) I, II
Argument as a form of discourse; organizing, supporting, presenting and refuting arguments in a variety of formats; evaluating argument, including common fallacies in reasoning.

161. Intercollegiate Forensics (1) I, II Cr/NC
Two field trips required.
Three hours of activity and two coaching hours to be assigned. Credit for participation in intercollegiate program. Maximum credit for units for Speech Communication 161 and 361.

191. Group Discussion (3) I, II

204. Advanced Public Speaking (3) I, II
Prerequisite recommended: Speech Communication 103.
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. (Formerly numbered Speech Communication 104.)

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.
GENERATION EDUCATION REQUIREMENT IN WRITTEN COMMUNICATION

have completed 60 units, fulfilled the Writing Competency requirement, and completed the writing research reports. Satisfies University upper division writing requirement for students who also developed interviewing, technical and nontechnical oral presentations. Skill in parliamentary procedure.

396W. Research and Writing in Speech Communication (3)
Prerequisite: Speech Communication 105.
Rationale for research and research techniques in speech communication. Practice in writing research reports. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the writing competency requirement, and completed the General Education requirement in Written Communication.

300. Honors Course (1-3) I, II Cr/NC
Refer to Honors Program.

301. Management of Speech Activities (1) I, II Cr/NC
Two hours of activity. Planning, preparation, management and supervision of speech tournaments and other interscholastic activities under the supervision of the speech communication staff. Maximum credit two units.

309. Workshop in Speech (1-3) Cr/NC
Prerequisite: Speech Communication 105.
Study of some problems in speech communication. Maximum credit six units.

315. Nonverbal Communication (3)
Prerequisites recommended: Speech Communication 104 or 391 and 135. Theory and practice of nonverbal aspects of speech communication, with emphasis on pronouns, kinesics, and paralinguistics.

345. Interpersonal Communication Theory and Application (3) I, II
Prerequisite: Speech Communication 135.
Theoretical and empirical evidence on communication strategies and behaviors in relationship initiation, development, and termination. Relationship of communication behaviors to relational goals.

350. Classical Rhetorical Theory to 1700 (3)
Rhetorical theories from their origins to the Renaissance. Emphasis on the theories of Plato, Aristotle, Cicero and Quintilian, and the application of principles to rhetorical discourse.

354. Contemporary Rhetorical Theory and Criticism (3) I, II
Emphasis on rhetorical criticism and contemporary developments since the Renaissance. The approaches of Blair, Connell, Whately, Richards, Weaver, Burke and others investigated as systems of rhetorical criticism and sources of principles of rhetorical discourse.

361. Intercollegiate Forensics (1) I, II Cr/NC
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.

362. Advanced Argumentation (3) I
Prerequisite recommended: Speech Communication 160.
The approach to argument and the patterns and problems in argument. Consideration of implications for society. Written and oral reports.

380. American Public Address (3) I, II
Public discourse from the colonial period to the present.

391. Group Communication (3) I, II
The theoretical processes of small group communication. Emphasis on the theory of group formation, interaction, procedures and leadership.

392. Business and Professional Speech (3)
Prerequisite recommended: Speech Communication 204. Communication principles in a variety of business and professional contexts, including interviewing, technical and nontechnical oral presentations. Skill in parliamentary procedure also developed.

396W. Research and Writing in Speech Communication (3)
Prerequisite: Speech Communication 105.
Rationale for research and research techniques in speech communication. Practice in writing research reports. Satisfies University upper division writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication.

400. Contemporary Forensics Problems (2) I, II Cr/NC
Prerequisite: Speech Communication 160.
Identification of significant arguments in political, economic and social problems confronting Twentieth Century United States. Use of case studies to emphasize research tools leading to comprehensive analysis. Oral performance stressed. See Class Schedule for specific content. Maximum credit eight units.

406. Organizational Communication (3) I, II
The organization as a communication system. Role of the organization in persuasive campaigns, communication strategies and problems within the organizational structure.

407. Communicative Perspectives on Interviewing (3)
Prerequisite recommended: Speech Communication 135. Application of communicative theory to interviewing situations. Emphasis on perception, source, message, and receiver variables, defense, communication, feedback, Phrasing of questions, ways to enhance respondent participation, and formulation of behavioral objectives. Classroom simulation, supplemented by out-of-class interviews.

475. Intercultural Communication (3) I, II
Study of communication with emphasis on the influence of cultural background, perception, social organization, language and nonverbal messages in the cross-cultural communication experience.

485. Internship in Speech Communication (1-3) I, II Cr/NC
Prerequisites: Nine units of speech communication to include Speech Communication 105, and approval of the Director of Internships. A specialized study of selected topics from the areas of speech communication. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

499. Special Study (1-3) I, II
Prerequisite: Consent of instructor.
UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

508. Advanced Interpretation (3) I, II
Three one-hour demonstrations per week and 32 hours of laboratory per semester. Prerequisite recommended: Speech Communication 111A. Analysis of techniques of literary composition as guides to oral interpretation. Achievements of the creative artist as they affect the interpretive artist.

509. Readers Theatre (3)

530. Semantics (3) I, II
Recognition of various types of linguistic meaning; logical distinctions in discourse; distinction between real and verbal disagreement; recognition and correction of semantic fallacies.

535. Theories of Human Communication (3) I, II
Prerequisite recommended: Speech Communication 135.
Theoretical approaches for the study of human communications, relationship of meaning, message, and behavior in the communication process; special issues in communication theory.
580. Communication and Politics (3)
Prerequisite: Speech Communication 103 or 204.
Contemporary political communication events and processes, with a focus on speeches, debates, and campaigns.

589. Ethics of Speech Communication (3)
Classical and modern ethical concepts applied to oral persuasion.

590. Empirical Study in Speech Communication (3) I, II
Philosophy of social science and application to current research in speech communication. Theories and constructs related to communication: analysis of current research literature. (Formerly numbered Speech Communication 537.)

592. Persuasion (3) I, II
Prerequisite recommended: Speech Communication 103 or 204.
Persuasion with emphasis on psychological principles. Research project on a significant problem.

GRADUATE COURSES
Refer to the Graduate Bulletin.

END OF PAGE 518
Production: Telecommunications and Film 501, 510, 520, 550 and 560A-560B or 580A-580B. (19 units)

Allied Professional Sequences. (Courses taken in Core Professional Sequences cannot be counted toward the Allied Professional Sequence.)


Communications: Political Science 326; Psychology 321, 326, 340; Sociology 422, 440, 537, Speech Communication 350, 354, 362, 391, 392, 408, 475, 536, 580, 589, 592.

Criticism: Comparative Literature 562; Linguistics 551; Music 351, 355; Philosophy 523, 531, 541, 542; Speech Communication 354, 530.

Education: Education 376, 377, 383; Educational Technology and Librarianship 540, 541, 544; Psychology 330, Telecommunications and Film 570.

Graphic Art: Art 340, 341, 440, 441, 590; Industrial Arts 381, 482.

Industrial Arts: Industrial Arts 341, 361, 443, 444, 462, 563.


International Media: Political Science 375, 577; Telecommunications and Film 363, 590.

Law and Government: Journalism 502; Political Science 335, 346, 347A, 347B, Telecommunications and Film 505.


Mass Communication: Journalism 408, 500, 503, 509; Political Science 310, 326; Psychology 326, 342; Sociology 422, 440, 460, 545, 546; Telecommunications and Film 400, 562.

News: Journalism 320, 425, 474, 475, 502, 529; Telecommunications and Film 310, 505.

Performance: Drama 330, 431, 432; Speech Communication 380, 508, 535; Telecommunications and Film 390, 391.

Playwriting: Drama 420; English 527, 572, 581W; Telecommunications and Film 510.

Production Design and Management: Art 381, 451, 481, 581; Drama 440, 448, 540, 545A; Psychology 320; Telecommunications and Film 550.

Research Methods: Telecommunications and Film 400; Management 301, 366; Journalism 509; Psychology 322, 342, 405; Sociology 460, 464.

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. Requirements for admission to the minor are sophomore standing (30 or more units completed) with a minimum grade point average of 3.0 overall and a grade of B or better in either Telecommunications and Film 100, 160 or 315. Radio-television minors may select one of the following areas:

Film as Art and Communication: Telecommunications and Film 160, 363, 364, 562, and three units of electives.

Public Telecommunications: Telecommunications and Film 100 or 315, 505, 570, 575, 590.

Telecommunications Management: Telecommunications and Film 100 or 315, 505, 500, 505, plus nine units selected from the following: Telecommunications and Film 400, 440, 530, 535, 540, 575.

Obtaining courses to fulfill this minor is not easy because of the high demand for 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. Backgrounds in Broadcasting (3) I, II

Theory and operation of the broadcasting industry to include the history and regulation of broadcasting in the U.S., the social and economic setting of American broadcasting and the organization of commercial and educational radio and television stations.
315. *Theory and Criticism of Broadcasting and Film* (3)  
Analysis of social, political, economic, and aesthetic criticism of broadcasting and film. The function of radio, television, and film in the mass communication process. Not open to telecommunication and film majors.

320. *Workshop in Educational Television* (3)  
Open to teachers and students interested in instruction by television. The procedures and theories of television production as it pertains to closed-circuit and instructional use of television. The selection and utilization of program content and the method of presenting material through the television medium will be discussed and demonstrated. Not open to students with credit in Educational Technology and Librarianship 553.

363. *International Cinema* (3) I  
Foreign feature films as expression of rational cultures. Maximum credit six units of which three units may be applicable to General Education. May be repeated with new content. See Class Schedule for specific content.

364. *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 563.)

390. *Broadcast and Film Performance* (3) I  
Two lectures and more than three hours of activity. Prerequisites: Drama 110 or Speech Communication 111A, and Drama 130. Preparation and delivery of materials before the microphone and camera. Practical experience in University-sponsored productions.

391. *Acting for TV and Film* (3) II  
Two lectures and more than three hours of activity. Prerequisite: Drama 130. Interrelationship between acting and the various media—radio, television, film. Experience in film and television productions. Practical experience in University-sponsored productions.

400. *Broadcast Research* (3)  
Prerequisite: Telecommunications and Film 100. Research in radio and television decision-making processes. Methodologies, analyses and applications of audience, programming, and advertising research.

440. *Broadcast Commercial Practices* (3) I  
Prerequisite: Twelve units in Telecommunications and film. Consideration of the structure and procedures in broadcast advertising organizations, policies, training, and evaluation of research tools. (Formerly numbered Telecommunications and Film 522.)

495. *Workshop in Broadcasting* (1-3)  
Study of some problem in radio, television or film. Maximum credit six units. (Formerly numbered Telecommunications and Film 495A.)

496. *Experimental Topics* (1-3)  
Prerequisites: Upper division standing, permission of instructor. Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

497. *Internship in Telecommunications and Film* (3) Cr/NC  
Supervised work in area telecommunication and film organizations under combined supervision of professionals and professors. (Formerly numbered Telecommunications and Film 495B.)

499. *Special Study* (1-3) I, II  
Prerequisite: Consent of instructor. Individual study. Maximum credit six units.
565. Animated Film Techniques (3) II
Two lectures and more than three hours of activity.
Survey of representative examples and production of a film or animated motion picture. Practical experience in University-sponsored productions.

570. Public Telecommunications (3) I, II
Prerequisite: Telecommunications and Film 100.
Role of public broadcasting and related technology in the United States. Applications of telecommunication technology for instruction in the home, classroom, and industry.

575. Technological Trends in Telecommunications (3) I
Prerequisite: Twelve units in telecommunications and film.
Developments and trends in telecommunication and related technology, with their implications for the future.

580A-580B. Advanced Television Producing and Directing (3-3) I, II
One lecture and more than six hours of activity.
Prerequisites: Telecommunications and Film 280, 510, 520 and consent of instructor.
Program development, presentation techniques and individual projects in the producing, 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 200.
Comparative study of broadcasting in various world areas; economic, social and political determinants of broadcasting patterns.

596. 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. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree. Maximum credit six units.

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 interdisciplinary and nontraditional course work.

General Courses

LOWER DIVISION COURSES

105. Living in the Information Society (3) I, II
For further information contact the Department of Telecommunications and Film.
The media, information and the citizen of post-industrial society. Producers and consumers in an information-centered world. Issues including critical analysis of media messages, personal privacy, and implications for society and government.

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.
Students interested in enrolling in University Studies 200 should contact the Division of Undergraduate Studies (AD-223) for information. Applications must be submitted to the 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 toward a bachelor's degree.

210. Our Global Future: Values for Survival (3)
For further information contact Dr. Mary E. Clark in the Department of Biology.
Prerequisite: Sophomore standing is recommended but not required.
Identifies resource and social crises toward which contemporary American values are leading, examines the nature of human action, contrasts other value systems with ours; considers origins of our values and the individual's potential for changing them. Interdisciplinary; team taught. (Formerly offered as University Studies 250.)

275. Honors Special Study (1)
For further information contact the Department of Telecommunications and Film.
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
(Designed for Undergraduates)

400. Selected Activities (1-3) Cr/NC
Prerequisite: A minimum grade point average of 2.0.
Supervised experience in college or community activities.
Students interested in enrolling in University Studies 400 should contact the Division of Undergraduate Studies (AD-223) for information. Applications must be submitted to the 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 toward a bachelor's degree.

Human Services Courses

The College of Human Services sponsors University Studies courses 302 and 502. The purpose of these courses is to provide an opportunity for interdisciplinary study for students entering human service professions. Refer to the Class Schedule for specific content.

302. Selected Topics in Human Services (1-3) Cr/NC
502. Advanced Topics in Health and Human Services (1-3)
University Studies

Liberal Arts Courses

The College of Arts and Letters sponsors University Studies courses 101 and 301 which are interdisciplinary courses. They fall into two main categories: (1) Lecture series on topics of current interest for which the humanities and social sciences bring insight; and (2) Workshops designed to give liberal arts students skills desirable for advancement in their major, but not normally offered by their departments.

Students interested in enrolling in University Studies 101 and 301 should contact the faculty adviser of the department(s) offering the course or the College of Arts and Letters Assistant Dean for further details.

101. The Liberal Arts in Today's World (1-3) Cr/NC
301. The Liberal Arts in Today's World (1-3) Cr/NC

Innovative Courses

University Studies courses (250, 350, 550) are interdisciplinary courses characterized by new methods of teaching and learning. These courses are proposed by faculty or by students acting through a faculty sponsor and may be offered up to four semesters. 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 250, 350 or 550 should contact the faculty adviser of the department(s) offering the course for further details.

250. Innovative Approaches to Teaching and Learning (1-6)
350. Innovative Approaches to Teaching and Learning (1-6)
550. Innovative Approaches to Teaching and Learning (1-6)

Women's Studies

In the College of Arts and Letters

Faculty
Chair: Watson
Professor: Boxer
Associate Professors: Huckle, Kohen, Watson, Zimmerman
Assistant Professor: Horst
Lecturer: Phillips

Offered by Women's Studies
Major in women's studies.
Minor in women's studies.

Women's 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."
Students majoring in women's studies must complete a minor in another field to be approved by the chair or major adviser of the department.

Preparation for the major. Women's Studies 101, 201 and 205, (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."

Writing Requirement. Passing the University Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 24 upper division units to include twelve units from Group I, six units from Group II, and Women's Studies 590 and 595 or 597.


Group II: (Prerequisite: Three upper division units in women's studies.) Women's Studies 415, 421, 430, 453, 480, 485.

Women's Studies Minor

The minor in women's studies consists of a minimum of 18 units in women's studies, 12 units of which must be upper division, to include Women's Studies 101 and 201 or 205, the remaining 12 units must include at least one course from three of the following groups:

Group A: Courses which investigate the experience of women in varying cultures, subcultures and historical eras — Women's Studies 310, 335, 340, 341A-341B, 415.

Group B: Courses which examine biological, psychological and sociological influences on women's personality and behavior — Women's Studies 320, 325, 350, 365, 390, 421.

Group C: Courses which explore artistic expression by and about women — Women's Studies 351, 362, 356, 453.

Group D: Courses which examine the roles of women in political and economic life — Women's Studies 370, 375, 430, 480, 485.

Women's Studies 590 and 595 should include Women's Studies 590 and 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.
LOWERING DIVISION COURSES

Women's Studies courses are open to all students.

100. New Views of Women (1) Cr/NC
Lecture series.
Overview of new research and fresh interpretation about women, feminism and changing relationships between the sexes. Presentations from the perspective of various disciplines.

101. Women: Self and Society (3) I, II
Perspectives on women's personal and public lives. Emphasis on integrating individual experiences with social and cultural contexts.

201. 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 concepts and modes of thought in disciplines dealing with human interaction; also alternative strategies for research.

205. Women in Western Culture (3)
Concepts of womanhood in mythic, classic, Judeo-Christian, and major modern philosophical traditions. Images and roles of women found in the humanities, their impact and contemporary relevance.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

UPPER DIVISION COURSES
(Intended for Undergraduates)

310. Women in Cross-Cultural Perspective (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 women; investigation of biological and cultural factors influencing personality and behavior.

335. Women-Identified Women (3)
Historical, cultural, and social exploration of lesbianism in Western civilization. Topics include myths and stereotypes, homophobia, history and literature, psychological and political theories, and current conditions.

340. Women in Modern History (3)
Social, cultural, economic, political and ideological aspects of women's history, with emphasis on impact of modernization on roles of women in family and society in Western civilization.

341A-341B. Women in American History (3-3)
History of American social, cultural, economic, political, and intellectual institutions, focusing on the role and perspective of women. Semester I: From colonization to 1860; Semester II: From 1860 to the present. The year course meets the graduation requirements in American Institutions, U.S. Constitution, and California state and local governments.

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.

356. Women in Popular Culture (3)
Images and concepts of womanhood found in popular culture and mass media. Topics include critical theories, popular literature, television, women's magazines, myths and rituals, and the impact of feminism.

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.

365. Women and Health (3)
Relationship among social institutions and women as producers and consumers in the health care system. Topics include established and alternative medical institutions, physical and mental health, reproduction and related issues.

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.

375. Sex, Power and U.S. Politics (3)
Social, economic and political factors which explain women's political status and participation. Topics include institutional structures, leadership and ideology, power and authority, and the women's movement as a political movement.

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.

415. Women, Mythology and Ritual (3)
Prerequisite: Three upper division units in women's studies.
Meanings and functions of myths and rituals in their sacred and secular aspects, emphasizing their impact on women's lives and relationships in differing cultural contexts, past and present.

421. Life Cycles of Women (3)
Prerequisite: Three upper division units in women's studies.
Women's developmental processes across the life cycle; their impact on women, men, and the family, including life passages related to adolescence, marriage, motherhood, divorce, widowhood, "second careers," and aging in varying socioeconomic and cultural contexts.

430. Contemporary Issues in the Liberation of Women (3) I, II
Prerequisite: Three upper division units in women's studies.
An 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 321)

435. Women Writers (3) II
Prerequisite: Three upper division units in women's studies.
Women writers as literary artists and social critics. (Formerly numbered Women's Studies 353)

480. Women and Political Systems (3)
Prerequisite: Three upper division units in women's studies.
Comparative analysis of political systems, and the processes which determine political power. (Formerly numbered Women's Studies 380)

485. Economics of Women and Work (3)
Prerequisite: Three upper division units in women's studies.
Economic factors which affect women's lives. Topics will include economic analyses of economic discrimination; government economic policies and women's welfare. (Formerly numbered Women's Studies 385)
496. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

498. Field Experience (3) I, II
Prerequisites: Three upper division units in women's studies and consent of instructor.
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 and consent of department chair and instructor. Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

590. Feminist Thought (3) I
Prerequisite: Six upper division units in women's studies.
Readings in feminist theory and contemporary theoretical perspectives on core concepts and issues in feminist scholarship. Focus on understanding from a feminist perspective and on the significance of analyzing female experiences.

595. Seminar in Women's Studies (3)
Prerequisites: Six upper division units in women's studies and consent of instructor.
Directed research in women's studies. Field of investigation, development of bibliography, presentation of paper based on original research. See Class Schedule for specific content.

597. Research Project (3) I, II
Prerequisites: Six upper division units in women's studies and permission of adviser.
Individual research project. May be taken in place of Women's Studies 595, Seminar in Women's Studies.

Zoology
in the College of Sciences

Faculty
Emeritus: Crouch, Harwood, Huffman, Kaston, Norland, Olson
Chair: Estes
Professors: Atkins, Bohnsack, Carpenter, Chen, Cohn, Conier, Dexter, Estes, Etheridge, Huffman, Hunsaker, Krekorian, McLean, Monroe, Olson, Wilson
Associate Professors: Avila, Novacek, Pymale
Assistant Professor: Metten
Lecturers: Berta, Welter

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; 201; and either 230 or 231; Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B; Zoology 200. (38-39 units.)

Foreign Language Requirement. Competency (equivalent to that which is normally attained through three consecutive courses 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."

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

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; 201; and either 230 or 231; Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B; Zoology 200. (38-39 units.)

Writing Requirement. Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major. A minimum of 36 upper division units to include either Biology 411, 430, 501, or Biology 411, 502, 503; plus a minimum of 12 units of zoology consisting of no less than 2 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. Remaining 12 units from the following courses: Chemistry 310A-310B, 361A-361B; Microbiology 310, 505, 505L, 540, 400 and 500 series biology, botany, chemistry, microbiology, and zoology courses. All courses not on this list must have prior approval of the Zoology Department Chair.
Emphasis in Entomology

Preparation for the major: Botany 200; Zoology 200; Biology 215; Chemistry 200, 201, and either 230 or 231; Geography 103, Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B. (41-42 units.)

Writing Requirement: Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major: A minimum of 38 upper division units to include Biology 503; Botany 503 or 514, plus 562; Zoology 421, 421L, 524, 528, plus either 525 or 527, plus either 526 or 526L, plus eight or nine additional units selected from above courses not already taken, Biology 411, 519, 525, Botany 526, Chemistry 361A, Zoology 522, Geography 505 selected in consultation with an entomology adviser.

Zoology 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 program of the College of Education by the Biological Science Credential Screening Committee.

Preparation for the major: Biology 215; Botany 200; Chemistry 200, 201, and either 230 or 231; Mathematics 121 and 122, or 150; Physics 180A-180B and 182A-182B, Zoology 200. (38-39 units.)

Writing Requirement: Passing the University Writing Examination or completing one of the approved writing courses with a grade of C (2.0) or better.

Major: A minimum of 36 upper division units to include Biology 400 and 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 421 and 421L, 503, 506, 510, 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 minor consists of 20 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.

* Additional prerequisite required.

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)
Three hours of laboratory.
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.
Prerequisite: An introductory course in high school biology or zoology.
Gross and microscopic anatomy of the organ system of the human body.

200. Introduction to Zoology (4)
Three lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Botany 200.
Zoology for life sciences major. Animal diversity and evolution, development, morphology and functioning of animal organ systems, activities and behavior patterns of animals, role of animals in human affairs.

250. Preprofessional Topics (1) Cr/NC
A. Topics in Medicine
B. Topics in Dentistry
C. Topics in Veterinary Medicine
Designed to expose the preprofessional student to the profession of his/her choice through speakers and selected readings. Emphasis on alternatives and meeting stresses as a preprofessional student.
Maximum combined credit three units for 250A, 250B and 250C.

296. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree.

UPPER DIVISION COURSES (Intended for Undergraduates)

308. The Human Body (3)
Survey of the human body with emphasis on intricacy of the design and integration of the various organ systems. Not open to students majoring in nursing or physical education or with credit in Zoology 108.

308L. The Human Body Laboratory (1)
Three hours of laboratory.
Prerequisite: Concurrent registration in Zoology 308.
Examination of the organ systems of the human body.

314. Zoological History of the Vertebrates (3)
Two lectures and three hours of laboratory.
Prerequisite: A college-level course in a biological science.
Natural history, distribution and classification of vertebrate animals, emphasis on local forms. Not open to zoology majors.

330. Life in the Sea (3)
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 (3)
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.

421. Introductory Entomology (3)
Prerequisite: Zoology 200.
Morphology, growth and behavior adaptations, natural history, and overall importance of insects.

421L. Introductory Entomology Laboratory (2)
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Zoology 421.
External and internal structure of insects; insect classification.

460. Vertebrate Zoology (4)
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.
490. Endangered and Extinct Species (3)
Prerequisite: Completion of the Foundations of Learning requirement in the sciences.
Examination of reasons that some plants and animals become rare, endangered and extinct.
Emphasis on man's activities as pressure that often leads to extinction.

491. Experimental Topics (1-4)
Selected topics. May be repeated with new content. See Class Schedule for specific content.
Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Refer to Class Schedule for lecture/laboratory format.

492. Methods of Investigation (2)
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 496 or a combination of this course with Microbiology 495.

493. Special Study (1-3)
Prerequisites: Fifteen units in biological sciences with a grade of A or B and consent of instructor.
Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

503. Embryology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Studies in comparative gametogenesis, morphogenesis, and reproductive physiology.

504. Comparative Anatomy of the Vertebrates (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Mammalogy, comparative anatomy of organs; systems of representative vertebrates.

505. Advanced Human Anatomy (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 108 or 506.
Comprehensive whole body dissection with primary emphasis on laboratory participation.
The dissection will be from a regional aspect.

506. Histology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200. Recommended: Microbiology 310 or Zoology 108.
Microscopic anatomy of normal and abnormal tissues and organs of mammals with special emphasis on humans.

510. Marine Invertebrate Zoology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Structure and function of invertebrates; behavior, physiology and phylogenetic relationships of marine invertebrates.

511. Special Topics in Marine Invertebrates (3-4)
Prerequisite: Zoology 510 and consent of instructor.
Treatment of some aspect of marine invertebrate zoology such as invertebrate embryology, intertidal ecology, experimental approaches. See Class Schedule for specific content and lecture/lab format. May be taken twice with new content. Maximum credit eight units applicable on a master's degree.

515. Ichthyology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Identification, classification, evolution, structure, physiology, behavior and ecology of fishes.

516. Herpetology (4)
Three lectures and three hours of laboratory.
Prerequisite: Zoology 200 and consent of instructor.
The origin, evolution, distribution and systematics of amphibians and reptiles of the world.

517. Ornithology (4)
Two lectures, six hours of laboratory or field excursions, and a field project.
Prerequisite: 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 (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200 and consent of instructor.
The evolution, systematics, distribution and ecology of mammals of the world.

522. Special Topics in Entomology (3-4)
Two lectures and three hours of laboratory.
Prerequisites: Zoology 421, 421L.
Treatment of some aspect of entomology, such as biological control, microbial control or forest entomology. Not covered in regularly scheduled courses. See Class Schedule for specific content. Maximum credit nine units. Maximum credit six units applicable on a master's degree.

523. Immature Insects (3)
Two lectures and three hours of laboratory.
Prerequisites: Zoology 421, 421L.
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 (3)
Prerequisites: Biology 411 and Zoology 421, 421L.
Ecological principles as applied to insects, including consideration of crop ecosystems in relation to insect and mite outbreaks.

525. Economic Entomology (4)
Two lectures and six hours of laboratory.
Prerequisites: Zoology 421, 421L.
Course designed for students of entomology, agriculture and horticulture. Emphasis is placed on determination and control of insects affecting plants. Quarantine measures are also studied.

526. Medical Entomology (4)
Three lectures and three hours of laboratory. See Class Schedule for lecture/lab format.
Prerequisites: Zoology 200 or Microbiology 310. Zoology 421, 421L 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)
Three lectures and three hours of laboratory.
Prerequisites: Zoology 421, 421L.
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)
Two lectures and six hours of laboratory.
Prerequisites: Zoology 421, 421L, or an upper division course in physiology, and Chemistry 230 or 231.
Description, theory and experimental analysis of all major physiological processes in insects.

535. Parasitology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Study of animal parasites with special reference to those of humans. Laboratory including identification of important human parasites, and collection and preservation of local forms.
540. Physiological Zoology (3)
Prerequisite: Zoology 200. Recommended: At least one course in each of college algebra, chemistry and physics.
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. Vertebrate Paleontology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 506.
Advanced studies in the evolution of vertebrates, including relations to earth history and topics in paleoecology and functional morphology. Field and laboratory techniques and exercises in identification are included.

570. Animal Behavior (4)
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.

580. Aquaculture (3)
Prerequisite: Zoology 200.
Principles and practices of the farming of aquatic organisms.

GRADUATE COURSES
Refer to the Graduate Bulletin.
DAG, THOMAS B. (1978) , President, Professor of Physics
A.B., University of Notre Dame; Ph.D., Cornell University
ABBOTT, MELINDA T. (1964) , Professor of Chemistry
A.B., Ph.D., University of California, Los Angeles
ABBOTT, PATRICK L. (1971) , Professor of Geological Sciences
A.B., San Diego State University; M.A., Ph.D., University of Texas at Austin
ABUT, HUSEYN (1981) , Professor of Electrical and Computer Engineering
B.S.E.E., Robert College; M.S.E.E., Ph.D., North Carolina State University
ACKERLY, ROBERT S. (1963) , Professor of Secondary Education
A.A., College of Wooster; M.A., Colgate University; Ed.D., Indiana University
ADAMS, ELISE B. (1971) , Professor of English and Comparative Literature
A.A.S., M.A., Ph.D., University of Oklahoma
ADAMS, WILLIAM J. (1966) , Professor of Speech Communication
B.S., McPherson College; M.A., Northwestern University; Ph.D., Stanford University
AGUADO, EDWARD (1982) , Professor in Geography
B.A., M.A., University of California, Los Angeles
AJEMIAN, JAMES A. (1970) , Assistant Professor of Social Work
B.A., Harvard College; M.S., Columbia University; Ph.D., University of Michigan
ALEXANDER, JAMES V. (1967) , Associate Professor of Botany
A.B., San Diego State University; M.S., Ph.D., University of California
ALF, EDWARD F., JR. (1963) , Professor of Psychology
A.B., San Diego State University; Ph.D., University of Washington
ALLEN, BROOKS BRUSH (1962) , Assistant Professor of Educational Technology and Librarianship
A.B., M.A., University of California, Berkeley; Ph.D., University of Southern California
ALLEN, ELIZABETH J. (1971) , Associate Professor of Communicative Disorders
A.B., Seattle Pacific College; M.A., Ph.D., Louisiana State University
ALLISTER, SHIRLEY L. (1979) , Lecturer in Academic Skills
A.B., San Diego State University; Ph.D., Florida State University
ALMOND, FRANK W. (1968) , Professor of Music
B.A., M.A., San Diego State University; Ph.D., Florida State University
ALTAMURA, NOLASCO C. (1967) , Associate Professor of Secondary Education
B.S., Ithaca College; M.Ed., University of Arizona; Ph.D., Arizona State University
ALVAREZ, ELIZABETH R. (1974) , Counselor
A.B., California State; M.S., San Diego State University
AMBLE, KJELL (1954) , Professor of Drama
A.B., Denison University; M.A., Ph.D., Northwestern University
ANANTHANARAYANAN, KOKO (1981) , Associate Professor of Mathematics
B.A., M.S., Madras University
ANDERSEN, JANIS F. (1981) , Associate Professor of Speech Communication
B.A., M.A., Bradley University; Ed.D., West Virginia University
ANDERSON, ALLAN W. (1962) , Professor of Religious Studies
A.B., Washington Missionary College; M.A., Trinity College; Ph.D., Columbia University
ANDERSON, DWIGHT G. (1969) , Associate Professor of Political Science
A.B., University of Montana; M.A., Ph.D., University of California, Berkeley
ANDERSON, EVANS L. (1964) , Professor of Elementary Education
A.B., Gustavus Adolphus College; M.A., University of Minnesota; Ed.D., University of Denver
ANDERSON, HARLEY L. (1966) , Professor of Telecommunications
A.B., Oregon State University; M.A., Ph.D., Michigan State University
ANDERSON, PHIL Y. (1954) , Professor of Music
B.M., North Texas State College; M.M., University of Wisconsin
ANDRAN, CHARLES F. (1964) , Professor of Political Science
A.B., University of California
ANGELONE, RONALD J. (1969) , Professor of Astronomy
A.B., M.S., San Diego State University; Ph.D., University of California
ANNIGER, THOMAS R. (1967) , Assistant Professor of English and Comparative Literature
A.B., M.A., Ph.D., University of California, Los Angeles
ANNAS, ALICE M. (1970) , Associate Professor of Drama
A.B., University of Detroit; M.A., University of Texas
ANTHONY, SALVATORE E. (1965) , Professor of Secondary Education
A.B., University of California, Los Angeles; Ed.M., Ed.D., Rutgers University
ARCHER, ANITA LOUISE (1970) , Associate Professor of Special Education
M.A., Ph.D., University of Washington, Seattle
ARHEIM, DANIEL (1963) , Professor of Physical Education
B.A., Pepperdine College; M.A., Los Angeles State College; Ph.D., Springfield College
ASSAF, NANCY C. (1976) , North County Center Senior Assistant Librarian
B.A., University of Colorado; M.A. (L.S.), University of Denver
ATCHELSON, THOMAS J. (1965) , Professor of Management
B.A., Stanford University; M.B.A., University of California, Los Angeles; Ph.D., University of Washington
ATKINS, MICHAEL D. (1970) , Professor of Zoology
A.B., M.S., University of British Columbia; Ph.D., Oregon State University
AUERBACH, PETER M. (1970) , Associate Professor of Physical Education
B.S., Springfield College; Ed.M., State University of New York, Buffalo; Ph.D., University of Maryland
AUSTIN, JOAN M. (1970) , Associate Professor of Chinese
A.B., California State University, Long Beach; M.A., Cranbrook Academy of Art
AVERY, MARGO W. (1963) , Lecturer in Family Studies and Consumer Sciences
B.A., Rutgers University; M.A., San Diego State University
AVILA, VERNON L. (1973) , Associate Professor of Zoology
B.S., University of New Mexico; M.A., Northern Arizona University; Ph.D., University of Colorado
AWBREY, FRANK T. (1964) , Professor of Biology
A.B., University of California, Riverside; M.A., Ph.D., University of Texas
AYRES, RAYNOLD (1969) , Associate Professor of Social Science, Imperial Valley
B.A., University of Minnesota; M.A., Ph.D., Southern Illinois University
BAILEY, JULIA S. (1970) , Professor of Mathematics
A.B., New York University; M.A., Ph.D., University of California, Berkeley
BABCOCK, GEORGE (1960) , Professor of Economics
A.B., Hastings College; M.A., University of Nebraska; Ph.D., University of Oregon
BACON, ELIZABETH A. (1970) , Director of Disabled Students Services
A.B., M.S., San Jose State
BAER, ALESA S. (1962) , Professor of Biology
B.S., University of Illinois, Ph.D., University of California
BAILEY, ALLAN R. (1968) , Dean, College of Business Administration, Professor of Accounting
B.S., San Diego State University; M.B.A., Ph.D., University of California, Los Angeles
BAILEY, W. (1982) , Professor in Industrial Arts
B.S., Arizona State University
BAILEY, GERALD D. (1966) , Professor of Industrial Studies
B.A., M.A., Central Washington State College; Ed.D., University of Missouri
BAKER, JAMES R. (1966), except 1961-62, Professor of English and Comparative Literature
A.B., M.A., Ph.D., University of Denver
BAKER, KEEP L. (1967) , Professor of Art
A.B., M.A., University of Colorado; M.F.A., State University of Iowa
BAKER, RICHARD J. (1979) , Assistant Professor of Art
A.B., Kansas City Art Institute; M.F.A., University of Cincinnati
BAKER, WILLIAM S. (1973) , Associate Professor of Health Services
A.B., University of Detroit; M.D., Wayne University
BALDWIN, EMIL J. (1963) , Professor of Education, Imperial Valley
A.B., College of the Pacific; M.A., University of Connecticut; Ed.D., Washington State University
BAILDILL, CAROLYN K. (1971) , Associate Professor of Home Economics
B.S., Michigan State University; M.S., Kansas State University; Ph.D., University of Georgia
BAILEY, ROY W. (1976) , Professor of Anthropology
B.A., Fordham University; M.A., Ph.D., University of Wisconsin
BALSAM, B. (1981) , Associate Professor of Accounting
B.A., Ph.D., University of Houston
BANDY, SUSAN J. (1980) , Lecturer in Physical Education
B.A., B.A. College of the Pacific; M.Ed., University of Georgia; Ph.D., Arizona State University
BANKS, JAMES K. (1978) , Associate Dean, University of California, Berkeley
BARNETT, W. (1966) , Associate Professor of Civil Engineering
B.A., M.A., Harvard University; M.S. Ph.D., University of Washington
BARBER, WILLIAM F. (1959) , Associate Dean for Graduate Studies, College of Business Administration
B.A., M.B.A., University of Washington
BARTLE, ROBERT L. (1956) , Professor of Economics
B.S., B.S., University of North Dakota; M.B.A., University of Illinois
BARCLAY, A. BERNICE (1969) , Associate Librarian
A.B., San Diego State University; M.A.S., University of Denver
BARROW, JUDITH M. (1981) , Lecturer in Management
B.S., Purdue University; M.S., Cornell University; Ph.D., University of Michigan
BARLEY, ARTHUR L. (1975) , Associate Professor of Linguistics
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<td>Name</td>
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## Index

| Academic calendar, 6 |
| Academic credit — (see Credit) |
| Academic organization, 43 |
| Academic renewal, 109 |
| Academic skills, 142 |
| Center, 37 |
| Accidents, 37 |
| Accountancy, 195 |
| Accounting — (see Accountancy) |
| Accreditation, 26 |
| ACT — (see American College Test) |
| Activity fee, student, 8 |
| procedure for establishment of, 11 |
| Addenda, 537 |
| Administration and organization, 13 |
| Administrative services, 138, 256 |
| Admission application for, 86 |
| criteria, 86 |
| early admission, 91 |
| eligibility, 89 |
| filing of records, 88 |
| filing periods, 87 |
| hardship petitions, 87 |
| impacted programs, 86 |
| limitation of enrollment, 94 |
| mathematics requirement, entry-level, 89 |
| of foreign students, 94 |
| of freshmen, 88 |
| of graduate students, 92 |
| of high school students, 90 |
| of postbaccalaureate students, 92 |
| of undergraduate transfers, 92 |
| procedures and policies, 86 |
| requirements, new, 91 |
| requirements, undergraduate, 89 |
| space reservation, 87 |
| tests for, 88 |
| to summer sessions, 78 |
| Advanced placement examinations, credit for, 106 |
| Advertising emphasis, 384 |
| Advising, 96 |
| Advisory board, 19 |
| Aerospace engineering, 289 |
| Aerospace studies, 144 |
| minor, 144 |
| Africa and the Middle East, 494 |
| African studies, 373 |
| Afro-American studies, 146 |
| AFROTC, 144 |
| Aging, University Center on, 52 |
| Alan Pattee scholarship, 10 |
| Alumni and associates, 30 |
| American Chemical Society certificate, 215 |
| American College Test, 88, 89 |
| American history requirement for graduation, 120 |
| American Indian studies, 150 |
| American institutions, 120 |
| American language institute, 76 |
| American literature — (see English) |
| American studies, 152 |
| Annual calendar, 5 |
| Anthropology, 155 |
| Aquatics Center, 39 |
| Art, 162 |
| Art history, 165 |
| Arts and Letters, College of, 44 |
| Asian studies, 176 |
| Center for, 48 |
| Astronomy, 176 |
| Athlete, satisfactory academic progress requirement, 112 |
| Audiology Clinic, 38 |
| Audiology Diagnostic Center, 38 |
| Audiovisual Center — (see Learning Resource Center) |
| Auditing courses, 102 |
| fees, 8 |
| Aztec Center, 39 |
| Aztec Shops, 40 |
| Bachelor of arts degree, 122 |
| Bachelor of music degree, 122, 419 |
| Bachelor of science degree, 122 |
| Bachelor of vocational education, 122, 278 |
| Bachelor’s degree graduation requirements for, 115 |
| second, 93 |
| Bilingual/cross-cultural credential, 272 |
| Biochemistry emphasis, 216 |
| Biological field stations, 57 |
| Biological sciences, 181, 188, 411, 531 |
| Biology, 181 |
| Board of Trustees, 17 |
| Botany, 155 |
| British literature — (see English) Broadcasting — (see Telecommunications) Business Administration, College of, 48 certificate, 193 curricula, 192 Business and Economic Research, Bureau of, 48 Calendar academic, 6 annual, 5 California government requirement for graduation, 120 |