Deadlines

1. Dropping courses will be permitted with no penalty or restriction only until the end of the tenth day of classes.
2. Adding courses or complete withdrawal from the University will be allowed without penalty or restriction until the end of the fifteenth day of classes.
3. Change of grading option will NOT be permitted after the fifteenth day of classes.

The Graduate Bulletin is completed in May of each year. Bulletin cover by University Design Center. The Bulletin may be purchased, starting in May of each year, at the Aztec Shops on campus for $3.44 plus 6% sales tax. To order by mail, send $6.25 directly to the Aztec Shops, San Diego State University, San Diego CA 92182.
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### 1984-1985

#### Summer Sessions, 1984

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<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 28</td>
<td>Holiday—Memorial Day—Campus Closed (No Classes).</td>
</tr>
<tr>
<td>June 4-June 22</td>
<td>Term A (3 weeks).</td>
</tr>
<tr>
<td>June 2</td>
<td>Graduate Record Examination General (Aptitude) Test. Applicants should contact the Test Office five weeks in advance of the test date.</td>
</tr>
<tr>
<td>June 16</td>
<td>Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.</td>
</tr>
<tr>
<td>June 25-August 3</td>
<td>Term B (6 weeks).</td>
</tr>
<tr>
<td>June 25-July 27</td>
<td>Term C (5 weeks).</td>
</tr>
<tr>
<td>June 18</td>
<td>Last day to apply for summer graduation with an advanced degree, Graduate Division Office.</td>
</tr>
<tr>
<td>June 22</td>
<td>Last day to file petition for concurrent master's degree credit.</td>
</tr>
<tr>
<td>July 4</td>
<td>Holiday—Independence Day—Campus Closed (No Classes).</td>
</tr>
<tr>
<td>July 30</td>
<td>Final day for submitting theses to the Thesis Review Service, University Library.</td>
</tr>
<tr>
<td>August 3</td>
<td>Last day for submission of incomplete and SP grade removals for summer graduation with an advanced degree.</td>
</tr>
<tr>
<td>August 6-24</td>
<td>Term D (3 weeks).</td>
</tr>
<tr>
<td>August 17</td>
<td>Last day for reporting results on comprehensive examinations to the Graduate Division Office by department or college.</td>
</tr>
<tr>
<td>August 20</td>
<td>Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation.</td>
</tr>
<tr>
<td>June 4-July 13</td>
<td>Term E (6 weeks).</td>
</tr>
</tbody>
</table>

#### Fall Semester, 1984

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 1</td>
<td>Applications for admission or readmission to San Diego State University for the spring semester 1985 accepted. Applications are accepted until degree program enrollment quotas are met.</td>
</tr>
<tr>
<td>August 3</td>
<td>Last day for disqualified students to apply for reinstatement to the University.</td>
</tr>
<tr>
<td>August 10</td>
<td>Last day to apply for leave of absence for fall semester.</td>
</tr>
<tr>
<td>August 27</td>
<td>Schedule adjustment day.</td>
</tr>
<tr>
<td>August 27</td>
<td>Opening date of the academic year.</td>
</tr>
<tr>
<td>August 28-29</td>
<td>Walk-through registration.</td>
</tr>
<tr>
<td>August 30-31</td>
<td>Testing and Advising Days.</td>
</tr>
<tr>
<td>September 3</td>
<td>Holiday—Labor Day—Campus Closed (No Classes).</td>
</tr>
<tr>
<td>September 4</td>
<td>First day of classes.</td>
</tr>
<tr>
<td>September 4-7</td>
<td>Late registration.</td>
</tr>
<tr>
<td>September 7</td>
<td>Last day to file petition for concurrent master's degree credit.</td>
</tr>
<tr>
<td>September 17</td>
<td>Last day to drop classes.</td>
</tr>
<tr>
<td>September 18</td>
<td>Last day to apply for refunds.</td>
</tr>
<tr>
<td>September 24</td>
<td>Last day to add classes or change grading basis.</td>
</tr>
<tr>
<td>September 24</td>
<td>Last day to officially withdraw from the University for fall semester 1984 without penalty.</td>
</tr>
<tr>
<td>September 24</td>
<td>Last day to apply for mid-year graduation with an advanced degree, Graduate Division Office.</td>
</tr>
</tbody>
</table>

#### Winter recess begins.

#### Spring Semester, 1985

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 1</td>
<td>Application for admission or readmission to San Diego State University for the fall semester 1985 accepted until degree program enrollment quotas are met.</td>
</tr>
<tr>
<td>January 18</td>
<td>Last day to apply for leave of absence for spring semester.</td>
</tr>
<tr>
<td>January 22</td>
<td>First day of second semester.</td>
</tr>
<tr>
<td>January 22</td>
<td>Schedule Adjustment Day</td>
</tr>
<tr>
<td>January 23</td>
<td>Walk-Through Registration</td>
</tr>
<tr>
<td>January 24-25</td>
<td>Testing and Advising Days.</td>
</tr>
<tr>
<td>January 28</td>
<td>First day of classes.</td>
</tr>
<tr>
<td>January 28-31</td>
<td>Late registration.</td>
</tr>
<tr>
<td>February 1</td>
<td>Last day to file petition for concurrent master's degree credit.</td>
</tr>
<tr>
<td>February 8</td>
<td>Last day to drop classes.</td>
</tr>
<tr>
<td>February 10</td>
<td>Graduate Record Examination General (Aptitude) Test. Applicants should contact the Test Office five weeks in advance of the test date.</td>
</tr>
</tbody>
</table>
February 11  Last day to apply for refunds.
February 13  Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
February 15  Last day to apply for May graduation with an advanced degree.
February 15  Last day to add classes or change grading basis.
February 15  Last day to officially withdraw from the University for spring semester without penalty.
March 30  Last day of classes before Spring recess.
April 1-7  Spring Recess.
April 8  Classes resume.
April 13  Graduate Record Examination General (Aptitude) Test. Applicants should contact the Test Office five weeks in advance of the test date.
April 16  Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
April 26  Final day for submitting thesis to the Graduate Division Office prior to being taken to the Thesis Review Service.
May 3  Final day for submitting theses to Thesis Review Service.
May 3  Last day for submitting approved dissertations to the Graduate Division for May commencement.
May 16  Last day of classes before final examinations.
May 17  Study and consultation day.
May 17  Last day for submission of incomplete and SP grade removals (excluding thesis) for May graduation with an advanced degree.
May 17  Final day for reporting results on comprehensive examinations to the Graduate Division Office by department or college.
May 18-25  Final examinations.
May 27  Commencement. Refer to Spring Schedule of Classes for date.
May 27  Holiday—Memorial Day—Campus Closed (No Classes).
May 30  Final day for depositing approved thesis at Aztec Shops Copy Center. (Theses will be accepted on an at-risk basis up to the last day of the term, but unless final processing is completed by noon on May 30, the student will be required to reapply for graduation in any subsequent term in which he or she expects to graduate.)
May 31  Grades due from instructors.
May 31  Last day of spring semester.
August 2  Last day to apply for leave of absence for fall semester.

**Summer Sessions, 1985**

June 1  Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
June 3-June 21  Term A (3 weeks).
June 8  Graduate Record Examination General (Aptitude) Test. Applicants should contact the Test Office five weeks in advance of the test date.
June 17  Last day to apply for summer graduation with an advanced degree.
June 21  Last day to file petition for concurrent master's degree credit.
June 24-August 2  Term B (6 weeks).
June 24-July 26  Term C (5 weeks).
July 4  Holiday—Independence Day—Campus Closed (No Classes).

July 29  Final day for submitting thesis to the Graduate Division Office prior to being taken to the Thesis Review Service.
July 29  Final day for submitting thesis to the Thesis Review Service.
August 2  Last day to apply for leave of absence for fall semester.
August 5-23  Term D (3 weeks).
August 16  Final day for submission of incomplete and SP grade removals for summer graduation with an advanced degree.
August 16  Last day for reporting results on comprehensive examinations to the Graduate Division Office by department or college.
August 22  Final day for depositing approved thesis at Aztec Shops Copy Center. (Theses will be accepted on an at-risk basis up to the last day of the term, but unless final processing is completed by noon, August 22, the student will be required to reapply for graduation in any subsequent term in which he or she expects to graduate.)
June 3-July 12  Term E (6 weeks).
Schedule of Fees

Fees are subject to change without advance notice by the Trustees of The California State University.

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 AND YOU WILL BE BILLED $10.00. 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 SDSU. (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.

<table>
<thead>
<tr>
<th>Units Attempted</th>
<th>Undergraduate Registration Fee</th>
<th>Postbaccalaureate Registration Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 units - 5.9 units</td>
<td>$215.00</td>
<td>$233.00</td>
</tr>
<tr>
<td>6.0 or more units</td>
<td>$350.00</td>
<td>$366.00</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 Instructionally Related Activities Fee of $15.00, Student Services Fees of $105.00, and a State University Fee of either $66.00 or $201.00, depending on unit load. Postbaccalaureate students pay an additional $18.00 State University Fee surcharge per semester regardless of unit load.

Legal residents of California are not charged tuition.

Tuition for Nonresident Student (Foreign and Domestic)

(In addition to registration fees listed above.)

Tuition will be charged for all units attempted per unit $117.00

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

Health insurance (mandatory for foreign students) per year, approximately 125.00

Parking Fees

Nonreserved parking space, per semester $22.50

Car pool—see Cashiers Office Less than four-wheeled, self-propelled vehicle (motorcycle, mopeds) 5.60

Miscellaneous Fees (Fees payable when service is rendered)

Application for admission or readmission (nonrefundable) $35.00

Late registration/fee payment (nonrefundable) (Refer to Class Schedule for dates when this fee will be assessed) 25.00

Change of program correction fee 10.00

Failure to meet administratively required appointment or time limit 10.00

Photo-identification card (One-time cost to both new undergraduate and graduate students at time of registration) 3.00

Name change 1.00

Lost identification cards/stickers

Card only 2.00

Registration sticker only 2.00

Card and sticker 4.00

Transcript of record (official or unofficial) 4.00

Second through tenth transcript, prepared at the same time as the first each 2.00

Additional copies over ten, prepared at the same time each 1.00

R.O.T.C. deposit (Unexpended portion is refundable) 50.00

Check or charge slip returned for any cause 10.00

Replacement cost plus $8.00 service charge
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>80 percent of fee</td>
</tr>
<tr>
<td>(4) During the fourth week of the semester</td>
<td>70 percent of fee</td>
</tr>
<tr>
<td>(5) During the fifth week of the semester</td>
<td>60 percent of fee</td>
</tr>
<tr>
<td>(6) During the sixth week of the semester</td>
<td>50 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:

<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>

Refund of Registration Fees

This nonrefundable fee pertains to the following deadlines. The Cashiers Office must be notified prior to the close of business on the fourteenth day following the commencement of instruction:

<table>
<thead>
<tr>
<th>Deadline</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonreserved space per semester</td>
<td>$64.00 (per unit)</td>
</tr>
<tr>
<td>Entire summer period</td>
<td>$15.00</td>
</tr>
<tr>
<td>Five- and six-week terms</td>
<td>$9.00</td>
</tr>
<tr>
<td>Three-week terms</td>
<td>$6.00</td>
</tr>
</tbody>
</table>

Appeals Process

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

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 services 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 campuses, 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, established by the Board of Trustees in January 1975, is a reimbursement to the General Fund to provide the following student support services:

Counseling. Counseling assists students in personal growth, value formation, and the resolution of personal problems which, especially in the period of young adulthood, may impede the learning process.

Testing. The Testing Office administers and interprets and, when necessary, develops tests used by Counseling, Career Planning and Placement, and other student support services. It also administers academic placement and advanced placement tests and conducts student profile surveys used in assessing the need for specific student support programs.

Placement. Career Planning Services locates the student on vocational and career opportunities related to a particular field of study. The Placement Office also assists students in preparing resumes, improving interviewing techniques, and in securing both part-time employment while students and full-time employment following graduation.

Social/Cultural Development. The Social/Cultural Development Program provides both opportunities and direction for students in developing organizational skills, planning and implementing programs, developing and administering program budgets and in working effectively with others to achieve a common goal.

Health Services. Student Health Services aids students to maintain physical and mental health and to avoid health related problems which prevent active participation in the educational program.

Financial Aid Administration. Although funds for grants and loans are provided by federal and state governments and through private benefactors, the administrative staff required to assist students in securing needed financial support is funded through Student Services Fee reimbursements.

Housing Administration. Not all campuses offer on-campus housing for students. Each campus, however, provides services to all students in their efforts to secure suitable housing near the campus and at a reasonable cost.

Vice President for Student Affairs. Fifty percent of the administrative cost for coordination of student support programs has been funded by Student Services Fee revenue since 1973-74. The Vice President provides leadership and direction for fee-supported programs as well as for other programs and personnel (e.g., residence halls, student union, EOP, disabled students), not receiving Student Services Fee support.

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 89300.) 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 contained in the academic program.
4. Data regarding student retention at San Diego State University and, if available, 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 upon request 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.
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). Black, who left the position of State Superintendent of Public Instruction to become the first President (1898-1910), 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 (1935-1952) was appointed 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 1,911.

In the next quarter century, under Dr. Hepner and subsequently under Malcolm A. Love (1962-1971), enrollments increased phenomenally until with some 30,000 students San Diego State is today one of the largest institutions in the State. In 1960, the College became a part of the newly created California State College system, under a statewide Board of Trustees and a Chancellor. In 1971, recognizing that the institution had in fact achieved the status of a university, the Legislature renamed the system The California State University and Colleges, and shortly afterward renamed the institution San Diego State University.

Acting President Donald E. Walker (1971-1972), President Brage Goding (1972-1977), and Acting President Trevor Colbourn (1977-1978) were followed by the sixth president Thomas B. Day (1978—1990) 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 University 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 ideally arranged collections and services. The Health Sciences, Art, Humanities, and Professional Studies and Fine Arts classroom buildings are the most recent additions to the campus physical facilities.

The building is made up of over 1,100 scholars and teachers who are distinguished members of their professions coming from over 100 colleges and universities in the United States or abroad. Committed to good teaching, they are also engaged in research, scholarship and professional activities, which is necessary in maintaining a stimulating and exciting academic climate for graduate education.

The degree of intellectual leadership which the University plays in higher education has been recognized by a number of learned societies which are located on campus, including the Phi Beta Kappa and Phi Kappa Phi honor societies.

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; to learn about their cultural, social, physical, and institutional surroundings; and to 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 endeavors to identify 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 sum, the mission of 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.

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 for Public Health (candidacy)
- 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
- 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. The clinical services area of communicative disorders is in the process of being accredited by the American Speech and Hearing Association Professional Services Board.

The College of Engineering 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.
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
Vice President for Student Affairs: Daniel B. Nowak
Director of University Affairs: Leslie Yerger
Director of University Telecommunications: Paul J. Steen

Academic Administration

GRADUATE DIVISION

Dean of the Graduate Division and Research: James W. Cobble
Associate Dean: Lawrence B. Feinberg
Assistant Dean: Bradley N. Bartel

THE GRADUATE COUNCIL

The Graduate Council of San Diego State University consists of the Dean of the Graduate Division and Research (chairman), the Vice President for Academic Affairs, the Associate and Assistant Deans of the Graduate Division, and members of the faculty from the various schools and colleges. For the academic year 1983-84, the membership of the Council was as follows:

James W. Cobble ... Dean of the Graduate Division and Research
Albert W. Johnson ... (ex officio) Vice President for Academic Affairs
Don L. Bosseau (ex officio) University Librarian
Lawrence B. Feinberg ... Associate Dean of the Graduate Division
Bradley N. Bartel ... Associate Dean of the Graduate Division
Arthur W. Schatz ... Assistant Dean of the Graduate Division
Hayes L. Anderson Department of Telecommunications and Film
Katherine K. Bertine Department of Geological Sciences
Glen M. Broom Department of Chemistry
Keith C. Brown Department of Finance
J. E. Case Department of Spanish and Portuguese Languages and Literatures
Patricia T. Cogelka Department of Special Education
Dennis A. Dirksen Department of Industrial Studies
James Flood Department of Secondary Education
Richard F. Ford Department of Biology
Ernst G. Griflin Department of Geography
Marilyn E. Newhoff Department of Communicative Disorders
James T. Perry Department of Information Systems
John G. Pinto Department of Mechanical Engineering
William N. Rogers II Department of English and Comparative Literature
Muriel Standeven School of Nursing
Sandra Feinswog Graduate Student, Business Administration

(Membership for 1984-85 will be determined prior to the beginning of the academic year.)

Academic Deans

College of Arts and Letters: Robert C. Detweiler
College of Business Administration: Allan R. Bailey
College of Education: Dennis D. Goeler
College of Engineering: George T. Craig
College of Human Services: Peter A. Dual
College of Professional Studies and Fine Arts: Merrill J. Lessley (Acting)
College of Sciences: Donald R. Short
College of Extended Studies: William P. Locke
Division of Undergraduate Studies: Bonnie H. Neumann
Imperial Valley Campus: David Ballesteros

PART TWO

Graduate Division

The Graduate Division
Admissions
Regulations
Requirements for Doctoral Degrees
Requirements for Master's Degrees
Graduate Division

The Graduate Division is composed of all departments and academic units of the University that offer graduate study and programs leading to advanced degrees. The Graduate Council is delegated University-wide jurisdiction over all matters relating to graduate studies, subject only to the right of review by the Senate. The Council's responsibility is broad and includes, but is not limited to, the development of University-wide policy on graduate programs, graduate student affairs, graduate research and scholarship, and the participation of faculty in graduate programs.

The Dean of the Graduate Division and Research is the chief administrative officer of the Graduate Division, and is assisted by two Associate Deans and a half-time Assistant Dean. The Dean of the Graduate Division takes general responsibility for the development, improvement, and administration of all postbaccalaureate and graduate study at the University, as well as for the research activities of faculty and graduate students.

Graduate study is highly exacting and requires in-depth study and scholarship and not merely the completion of a prescribed set of courses. Further, thesis and dissertation research is required of all graduate students. In addition, students must meet requirements for scholarship, publications, and the like. 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, greater academic flexibility than students seeking degrees.

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, 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, greater academic flexibility than students seeking degrees.

Enrollment in postbaccalaureate status does not preclude a student from later admission to a degree program. Otherwise completed courses may 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.

Graduate Teaching Assistantships

Graduate teaching assistantships may be obtained by qualified graduate students in the areas of anthropology, art, astronomy, biological sciences, business administration, chemistry, communication disorders, drama, economics, educational technology, engineering, English, family studies and consumer sciences, French, geography, geological sciences, family studies and consumer sciences, industrial arts, journalism, linguistics, mathematical sciences, microbiology, music, physical education, physics, psychology, sociology, Spanish, speech communication, and telecommunications and film.

Qualifications for appointment include admission to San Diego State University with a classified graduate standing for the purpose of obtaining an advanced degree, and enrollment in not less than six units on the official program of study except during the terminal semester.

Appointment to a graduate teaching assistantship is for a period of either one semester or the academic year. Reappointment following an appointment of one semester or one year is dependent upon satisfactory performance in graduate studies, as prescribed by the Graduate Division, departmental need for the continued service in the department, and upon satisfactory teaching performance.

The combined teaching assignment and course work permitted during one semester is 15 units unless an excess of this amount is authorized by the Dean of the Graduate Division. Reappointment following an appointment of one semester or one year is dependent upon satisfactory performance in graduate studies, as prescribed by the Graduate Division, departmental need for the continued service in the department, and upon satisfactory teaching performance.

Information concerning an appointment as a graduate teaching assistant may be obtained from the head of the department, school, or college in which the applicant wishes to obtain the master's degree. A Handbook for Graduate Assistants and Graduate Teaching Assistants is published by the Graduate Division Office.

Graduate Assistantships

Graduate assistantships not involving teaching duties and requiring up to 20 hours of service per week for full-time appointment are available in several departments and schools. Applicants for graduate assistantships must be admitted to San Diego State University with classified graduate standing, and enroll in and complete at least six units each semester on the official program of study.

Appointment to a graduate assistantship is for a period of either one semester or the academic year. Reappointment following an appointment of one semester or one year is dependent upon satisfactory performance in graduate studies, as prescribed by the Graduate Division, departmental need for the continued service in the department, and upon satisfactory teaching performance.

Information concerning an appointment as a graduate assistant may be obtained from the head of the department, school, or college in which the applicant wishes to obtain the master's degree.

Graduate Teaching Associates

Some departments may offer to qualified graduate students appointments as graduate teaching associates. Graduate students appointed as teaching associates must be admitted to...
Scholarships/Financial Aid

a doctoral program or hold a doctorate and be pursuing further graduate study as a matriculated student. Doctoral students who do not hold a master's degree in the discipline of their appointment must have completed one academic year of doctoral study to be eligible for appointment as a graduate teaching associate.

Graduate teaching associates are appointed for a semester or an academic year. Reappointment is dependent upon satisfactory performance in graduate studies, as determined by the Graduate Division, departmental need for continued service in the department, and upon satisfactory teaching performance. Reappointment will also be governed by the departmental determination that the student is making satisfactory progress toward completion of the program in which the student is enrolled.

The combined teaching assignment and coursework permitted during one semester is 15 units unless an excess of this amount is authorized by the Dean of the Graduate Division. Information about appointment as a graduate teaching associate may be obtained from the head of the department, school, or college in which the applicant intends to pursue advanced study.

Graduate Scholarships and Awards

Graduate students interested in scholarships may obtain application forms and further information from the Scholarship Office, CLS-109.

Stipends for Social Work

Graduate students admitted to the School of Social Work and to the University may be considered for a stipend if they need financial help to undertake the program for the Master of Social Work degree. Eligibility for such stipends differs and it is, therefore, best if the student applying for admission to the School of Social Work indicates on his application whether he is in need of a stipend and the amount required. The School of Social Work will then initiate action necessary for consideration of the request as soon as appropriate.

Fellowships

The San Diego State University Scholarship Office receives the annual announcements on the Fulbright, Marshall, Kent, Rotary and other similar fellowship programs. Since limitations are placed on each college and university as to the number of applications it may endorse, students interested in fellowships of this type are encouraged to discuss their applications with the Scholarship Director and members of the University faculty who have themselves in the past received these fellowships. Since scores from the Graduate Record Examination Aptitude Test are required in applying for most fellowships, students should take this examination no later than the early fall of their senior year. The examination may be scheduled through the University Test Office.

California State Graduate Fellowship Program

California residents may apply for grants administered by the California Student Aid Commission, 1410 Fifth Street, Sacramento, California, 95814. Applications are available in the Financial Aid Office during the annual application period (December to early February). The deadline to submit applications for the 1984-85 academic year is February 9, 1984.

Financial Aid

San Diego State University makes every effort to advise students of all available financial aid programs. Financial Aid is available in the form of loans and part-time employment for eligible students. Since funds are limited and there are program deadlines, not all eligible applicants are awarded aid.

Information about all state, federal, and institutional aid programs is available from the Financial Aid Office, CL-122, (619) 265-6323. A financial aid brochure, which describes the available programs and the eligibility requirements, is available from the Financial Aid Office.

Applying for Aid

To be considered for first priority funding for the 1984-85 academic year, aid applicants must file a Student Aid Application for California (SAAC) by March 1, 1984 and submit all required supporting documents to the Financial Aid Office by April 15, 1984. SAACs may be obtained from high schools and any college financial aid office in California. A separate application is required for the Guaranteed Student Loan which is a student loan made available from participating lenders.

Graduate Study in the Summer Sessions

In San Diego State University summer sessions, a graduate student may earn credit in residence which may be used to satisfy the requirements for an advanced degree or for credentials. Students planning to offer work taken in a summer session only to satisfy the requirements for an advanced degree, must apply for admission to the University with classified graduate standing at the Office of Admissions.

Students planning to attend the University during the fall semester must be cleared for admission through the Office of Admissions.

The acceptance of courses taken in the summer sessions by other colleges or by a teacher's local school board for salary schedule purposes is entirely optional with the college or school board concerned.

A preliminary schedule of summer session terms and class offerings will be available before the spring semester begins. The regular Summer Sessions Bulletin, which includes the application form and all necessary information about the summer sessions, is available for distribution after April 1.

Graduate Study for Foreign Students

The facilities of San Diego State University for graduate study are available to qualified graduates of foreign universities on the same basis and under the same regulations as apply to graduates of colleges and universities in the United States.

Admission procedures for foreign graduate students are stated in the section on Admission of Graduate Students in this bulletin.

Veterans and Graduate Study

San Diego State University is approved to train veterans under the G.I. Bill. Veterans who are interested in graduate work should visit the campus Veterans Affairs Office located in Admissions and Records on the first floor of the Administration Building for information and counseling regarding veterans' benefits, prior to the date of registration.
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.

Importance of Filing Complete, Accurate, and Authentic Application for Admission Documents

The CSU advises prospective students that they must supply complete and accurate information on the application for admission, residence questionnaire, and financial aid forms. Further, applicants must submit authentic and official transcripts of all previous academic work attempted. Failure to file complete, accurate, and authentic application documents may result in denial of admission, cancellation of academic credit, suspension, or expulsion (Section 41301, Article 1.1, Title 5, California Administrative Code).

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 and disbursement and the repayment of financial aid and other debts payable to the institution.

Application Procedures

All applicants for any type of postbaccalaureate status (e.g., master's degree applicants, those seeking credentials or advanced certificates, 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 $35 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 separate applications (including fees) 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 college attended. Applicants who do not qualify, for admission under provisions (a) and (b) may be admitted by special action if the Dean of the Graduate Division determines that there is other academic or professional evidence sufficient 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 personal or professional reasons, 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.

Members of the faculty of San Diego State University holding appointments at or above the rank of instructor or lecturer may not be candidates for degrees at this University. Faculty may register for courses as unclassified students.

Special Action Admissions

Determination of the admissibility of students by special action shall be governed by the following guidelines when applicable. All applicants for admission by special action must submit at least two letters of recommendation from faculty at the baccalaureate degree granting institution.

1. Students holding baccalaureate degrees from accredited institutions that award credit based on a pass-fail basis may be admitted providing that:
   a. At least 60 semester units of letter-graded course work with a grade point average of 2.5 are included on the student transcripts.
   b. If the student transcripts include less than 60 semester units of letter-graded course work as described above, the applicant may be considered for admission on the basis of the following two criteria: A combined GRE General (Aptitude) Test score (verbal and quantitative) of not less than 1025 and a minimum mean score of not less than 30th percentile in each category, and determination by the appropriate faculty unit at San Diego State that any written documentation of classroom performance the student submits reflects academic achievement equivalent to at least a grade point average of 2.5. Such documentation should include written course work evaluations by the faculty of the institution awarding the degree and may include other documentation such as baccalaureate theses, etc.

   A relative weakness in one of these criteria may be offset by a strong performance in the other.

2. Students holding baccalaureate degrees from accredited institutions that award credit for prior experiential learning may be admitted providing that:
   a. The student meets the 60 unit requirement as described in 1 above when general admission requirements are not met.
   b. At least 24 semester units of credit in the major field are awarded for classroom and laboratory study during a period of matriculation at the degree-granting institution.
   c. The student provides from the institution granting the credit full documentation showing how the experiential learning was evaluated and the basis on which such credit was awarded.

3. Students holding a baccalaureate degree from an institution with limited accreditation (generally includes special purpose institutions) may be admitted to postbaccalaureate study provisionally for the purposes of validating the degree. At the determination of the Dean of the Graduate Division, the degree may be validated if the student completes or has completed a general education program comparable in scope to the general education requirements of San Diego State. Students who expect to enter an advanced degree program must have completed all the prerequisites prior to admission to the program. Students in this category may not enroll in 600- or 700-numbered courses; no units completed prior to validation of the baccalaureate degree may be included subsequently on an advanced degree program.
Postbaccalaureate Standing (Classified)

A student wishing to be admitted to a program leading to an advanced degree 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 who is 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 scores of the GRE General (Aptitude) Test must be on file at the University before continuing students may apply for graduate standing (classified).

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.

For additional information, including the names of those departments participating in the Second Bachelor's Degree program, contact the Division of Undergraduate Studies or the University Advising Center.

Required Official Form

The following official form must be submitted to the Admissions and Records Office: Application for Admission/Readmission, accompanied by a $35 nonrefundable application fee. Make check or money order payable to San Diego State University. Fees are waived for readmission application if the student has missed only one semester provided that he/she was enrolled as a graduate student, was not academically disqualified, and did not enroll elsewhere in his/her absence.

This form may be obtained from the Admissions and Records Office. Letters from applicants signifying intention to enroll will not be considered as applications for admission. The official form must be filed.

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

Filing of Records

The applicant must file promptly with the Admissions and Records Office official transcripts from each college attended (including all extension, correspondence, summer session, or evening courses). Graduate students must file transcripts in duplicate if they plan to enter an advanced degree program.

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. The applicant must request the school or college to send the transcript to the Admissions Office, San Diego State University. All records or transcripts received by the University become the property of the University and will not be released nor will copies be made.

Time delay in filing of official transcripts is absolutely essential. Failure to furnish such records will delay or preclude consideration for admission to postbaccalaureate and graduate study at the University.

Applications are advised to send additional copies of transcripts to the school or department in which they are seeking an advanced degree to facilitate early departmental consideration.

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 Admissions Application for Admission/Readmission, accompanied by a $35 nonrefundable application fee. Make check or money order payable to San Diego State University. Fees are waived for readmission application if the student has missed only one semester provided that he/she was enrolled as a graduate student, was not academically disqualified, and did not enroll elsewhere in his/her absence.

This form may be obtained from the Admissions and Records Office. Letters from applicants signifying intention to enroll will not be considered as applications for admission. The official form must be filed.

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

Filing of Records

The applicant must file promptly with the Admissions and Records Office official transcripts from each college attended (including all extension, correspondence, summer session, or evening courses). Graduate students must file transcripts in duplicate if they plan to enter an advanced degree program.

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. The applicant must request the school or college to send the transcript to the Admissions Office, San Diego State University. All records or transcripts received by the University become the property of the University and will not be released nor will copies be made.

Time delay in filing of official transcripts is absolutely essential. Failure to furnish such records will delay or preclude consideration for admission to postbaccalaureate and graduate study at the University.

Applications are advised to send additional copies of transcripts to the school or department in which they are seeking an advanced degree to facilitate early departmental consideration.

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 tuition purposes by the California State University is found in Education Code Sections 68000-68090, 68121, 68123, 68124, 68075-68077.5, and 90408, and in Title 5 of the California Administrative Code, Sections 41900-41912. A copy of the statutes and regulations is available for inspection at the admissions office.

Admissions Office.

Legal 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 residence determination date to show an intent to make California his or her permanent 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 returns on total income; ownership of residential property or continuous occupancy or renting of an apartment on a lease basis where one’s permanent 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. 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 qualify as a resident student 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 date for the first academic year is September 20, 1984 and January 25, 1985. Questions regarding residence determination dates should be directed to the legal residence office in the admissions office which can give you the residence determination date for the term for which you are registering.

There are 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 student.
2. Persons who have been 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 below the age of 19 who have lived with and been under the continuous direct care and control of an adult, not a parent, for the two years immediately preceding the residence determination date. Such adult must have been a California resident for the most recent year.
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 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. Certain credentialed, full-time employees of California school districts.
7. 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 one year.
8. Certain exchange students.

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 campuses. Health insurance coverage is mandatory for international (foreign) students. Present acceptable health insurance is available on campus at approximately $170 per year. Applicants for admission must either graduate or undergraduate whose education has been in a foreign country should file an application for admission, official credentials and detailed transcripts of record from each secondary school and collegiate institution attended several months in advance of the opening of the semester in which the applicant expects to attend. International students from outside the United States will be considered for admission only for the fall semester only. Canadian and Mexican citizens may qualify for exceptions. If certificates and transcripts are not in English, they should be accompanied by certified English translations. Credentials will be evaluated in accordance with the general regulations concerning admission to San Diego State University. All applicants whose major education has been in a language other than English must score 550 or more on the test of English as a Foreign Language (TOEFL). This test is administered in most foreign countries and test scores must be received by the university before admission to the university can be granted. Information as to the time and place at which this test is given may be obtained by writing to: Educational Testing Service (TOEFL), Princeton, New Jersey, 08540, U.S.A. Upon arrival at San Diego State University, further tests of English and listening skills necessary for university success may be given for the purpose of placing students in an English language program commensurate with their command of English or the required TOEFL (Test of English as a Foreign Language) score to qualify for admission to the University. After transcripts of their academic work have been
evaluated by SDSU staff, students may receive an official letter of conditional admission which states that the student has met all University requirements except English language proficiency and may enter the University after appropriate TOEFL scores and training at the American Language Institute.

Arrangements for housing should be completed well in advance of the student's arrival on the campus. Detailed information regarding housing may be obtained from the Housing and Residential Life Office, San Diego State University, Scholarship aid for entering students is limited; no scholarships are specifically reserved for students from another country. Further information regarding scholarships will be found in the section of this catalog on Financial Aid.

Upon arrival at San Diego State University the student should contact the Office of International Student Services.

Limitation of Enrollment
Admission to the University must be restricted in relation to the number of students for whom an adequate education can be provided by the staff and facilities available. Since spring 1976, San Diego State University has been limiting graduate enrolment on the basis of field and aptitude of the applicant.

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 as unclassified students.

Registration
San Diego State University students are afforded the opportunity to participate in an Advance Registration system. On-campus registration is also held just prior to the beginning of each semester. The Class Schedule and Student Information Handbook, issued each semester and obtainable at the University bookstore prior to the registration period, contains specific information on registration, the courses offered for the term, and a listing of the fees required for registration. Fees are due and 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.

Postbaccalaureate (Unclassified) Enrollment
A postbaccalaureate student (unclassified) is not eligible to enroll in 600- and 700-numbered courses. All credit earned by a postbaccalaureate student (unclassified) is subject to evaluation as to its acceptance for graduate credit in a master's degree curriculum.

Changes in Class Schedule
Students are responsible for any change in their semester's schedule of classes after the official study list has been filed. Forms for changes in the official study list may be obtained at the Office of Admissions and Records.

A change in schedule of classes includes the following: withdrawal from a class; adding a class; adding or reducing units to a class for which the student is already registered; changing sections of the same course. Consult the current Class Schedule for deadline dates for change of schedule.

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 and the student must have on file a current graduation application for the bachelor's degree. 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 and 15.
Regulations of the Graduate Division

Graduate students are individually responsible for complying with the procedures, regulations, and deadlines as set forth in the General Catalog of the University and in the Graduate Bulletin. All questions concerning graduate study at San Diego State University should be referred to the Graduate Division Office.

All students beginning graduate study at San Diego State University after August, 1984 will be required to follow the procedures and regulations stated in the 1984-85 edition of the Graduate Bulletin. A student who was admitted to a graduate degree curriculum at this university prior to that date and who has been enrolled in one or more courses during each consecutive semester since first enrolling as a graduate student, or whose attendance has not been interrupted by more than two consecutive semesters, will be held responsible for the regulations in effect at the time his official master's degree program was approved.

Student Responsibility for Catalog Information

Students are held individually responsible for the information contained in this bulletin. Although the Graduate Division attempts to preserve requirements for students subject to this bulletin, information contained herein is subject to change from year to year as university rules, policies, and curricula change. Failure to keep informed of such annual 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 are subject to change from time to time and that 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. Furthermore, it is not possible in a publication of this size to list 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 Course Schedule and Student Information Handbook outlines changes in Academic Policy and Procedure and current deadlines which are of importance to students.

Nothing in this bulletin shall be construed, operate as, or have the effect of an abridgment or a limitation of any rights, powers, or privileges of the Board of Trustees of The California State University, the Chancellor of The California State University or the President of the campus. The Trustees, the Chancellor, and the President are authorized by law to adopt, amend, or repeal rules and policies 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., have been designed to protect the privacy of students concerning their records maintained by the campus. Specifically, the statute and regulations govern access to student records maintained by the campus, and the release of such records. In brief, the law provides that the campus must provide students access to 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 Vice President of Student Affairs. Among the types of information included in the campus statement of policies and procedures are: (1) the types of student records and the information contained therein; (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) policies 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 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 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 are those who have responsibilities in connection with the campus' academic, administrative or service functions and who have reason for using student records connected with their campus or other related academic responsibilities.

Nondiscrimination 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 grounds 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.

Numbering of 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 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 strictly graduate courses, and those numbered 800 through 899 are doctoral courses. Courses numbered X-900 through X-999 are those offered only through Extension to meet specific academic needs of community groups, and are applicable as general elective credit toward an undergraduate degree at SDSU. Courses X-900 through X-949 are designated as lower division and X-950 through X-999 are designated as upper division. It is the prerogative of the academic department/college to determine if an X-900 level course is applicable to a major, a minor, or toward specified electives. The X-900 level courses are offered in conjunction with certificate programs only. Courses at the X-900 level are not acceptable on advanced degree programs.

Grading System

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 in reporting are as follows: Grade of A (outstanding achievement, available only for the highest accomplishment), 4 points; B (praiseworthy performance, definitely above 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; 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; AU (audit), no credit earned and not counted in the grade point average. I (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 '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 minus grades are utilized in the calculation of grade point averages as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A−</td>
<td>3.7</td>
</tr>
<tr>
<td>A+</td>
<td>4.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B−</td>
<td>2.7</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
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<tr>
<td>C−</td>
<td>1.7</td>
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<tr>
<td>D</td>
<td>1.3</td>
</tr>
<tr>
<td>D+</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
</tbody>
</table>

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 be completed within a stipulated time period not to exceed one calendar year except for calendar year except for courses 797, 798, 799A, and 799B. Failure to complete the assigned work within one calendar year results in the course being computed into grade point average as an ‘F’ (or a ‘NC’ if the course is taken for credit/no credit). Grades for which the ‘SP’ symbol is applicable are specifically designated in the departmental listings of this bulletin.

Candidates for graduation whose record carries a grade of 'SP' will be graduated provided they are otherwise eligible for graduation. However, the 'SP' cannot be made up after the degree is conferred and they must officially cancel their application for graduation.

Withdrawal Grade — ‘W’

The symbol ‘W’ indicates that the student was permitted to drop a course after the end of the term in which it was assigned. This limitation prevails not the student bring pertinent information to the instructor and after agreement on the means by which the remaining course requirements will be satisfied. The conditions for removal of the 'W' 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 be completed within a stipulated time period not to exceed one calendar year except for calendar year except for courses 797, 798, 799A, and 799B. Failure to complete the assigned work within one calendar year results in the course being computed into grade point average as an ‘F’ (or a ‘NC’ if the course is taken for credit/no credit). Grades for which the ‘SP’ symbol is applicable are specifically designated in the departmental listings of this bulletin. Candidates for graduation whose record carries a grade of 'SP' will be graduated provided they are otherwise eligible for graduation. However, the 'SP' cannot be made up after the degree is conferred and they must officially cancel their application for graduation.

The symbol ‘W’ indicates that the student was permitted to drop a course after the end of the term in which it was assigned. This limitation prevails not the student bring pertinent information to the instructor and after agreement on the means by which the remaining course requirements will be satisfied. The conditions for removal of the 'W' 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 be completed within a stipulated time period not to exceed one calendar year except for calendar year except for courses 797, 798, 799A, and 799B. Failure to complete the assigned work within one calendar year results in the course being computed into grade point average as an ‘F’ (or a ‘NC’ if the course is taken for credit/no credit). Grades for which the ‘SP’ symbol is applicable are specifically designated in the departmental listings of this bulletin. Candidates for graduation whose record carries a grade of 'SP' will be graduated provided they are otherwise eligible for graduation. However, the 'SP' cannot be made up after the degree is conferred and they must officially cancel their application for graduation.

Students desiring to have their names listed on the May Commencement Program must have removed all incomplete grades received in courses listed on official master’s degree programs before the deadline date listed in the Academic Calendar of this bulletin.
Unauthorized Incomplete Grade "U"

The symbol "U" indicates that an enrolled student did not withdraw from the course but failed to complete course requirements. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade point average computation, this symbol is equivalent to an "F." If a student attends a portion of a course and then, after receiving failing grades, withdraws without explanation, that student should normally receive a final grade of F.

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 may present his/her case to the appropriate campus entity, have it reviewed and, where justified, receive a grade correction.

Computation of Grade Point Averages

Grade point averages are determined by dividing the total number of grade points earned by the total number of units attempted in courses in which letter grades are assigned. Units earned with a Cr (credit) are not included in the computation. A grade of I (incomplete) is not counted in the grade point computation until one calendar year has expired, at which time it will count as an "F." For details see the section of this bulletin under Basic Requirements for the Master's Degree.

Uncompleted Theses

A student who registers for Course 799A, Thesis, but does not complete the thesis by the end of the semester or summer session in which the student registers for it, upon the recommendation of the Thesis Committee Chair, will receive an SP (satisfactory progress) grade. This grade symbol will remain on the student's record until the thesis is completed. A second registration in Course 799A, Thesis, is expressly prohibited.

A student who has been assigned the grade symbol SP for the thesis is required to register for Course 799B (0 units, Cr/NC) in any semester or term in which the student expects to use the facilities and resources of the university; also the student must be registered in the course when the completed thesis is granted final approval.

Withdrawals

A graduate student who has been admitted to a graduate degree curriculum but has completed no courses at this University in the last calendar year is considered to have withdrawn from the curriculum. The student may be required to file application for readmission to the Graduate Division upon resumption of graduate study. A student who withdraws from a graduate curriculum will be required to comply with regulations and requirements in effect at the time of readmission to the Graduate Division.

Any student who was not in attendance during the semester preceding the semester in which he/she wishes to enroll and was not granted a leave of absence for that period must apply for readmission to San Diego State University.

Official Withdrawal

Students who wish to withdraw from the University must initiate action formally through the Admissions and Records Office. Failure to file will result in a failing grade in all courses. Refunds are obtainable only for the first 14 days after the semester begins. In order to receive a refund, the student must withdraw and file refund papers at the Cashier's Office within the first 14 days of the term. A student withdrawing during the refund period is no longer considered a continuing student and is required to apply for readmission.

Withdrawal from the University is permitted without restriction or penalty before the end of the fifteenth day of classes. No courses will appear on the permanent record.

Dropping a course, or courses, after the end of the tenth day of classes and prior to the last three weeks of instruction is permissible only with the signature of each instructor, and the approval of the college dean or designee. Withdrawal from the University after the end of the fifteenth day of classes and prior to the last three weeks of instruction is permissible only with the signature of each instructor and the approval of the college dean or designee. The unauthorized registration of undergraduate students in all courses numbered in the 600 and 700 series, and the registration of graduate students who have not met the stated prerequisites for Course 799A, Thesis, at the time of registration, may be canceled.

Unofficial Withdrawal

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

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

Educational Leave of Absence

Students are permitted to take a total of two semesters of approved leave of absence during their matriculation at San Diego State University. However, students must apply for the particular semester they wish to be absent from school. If they wish to extend that leave for an additional semester, a separate application must be filed prior to the deadline for submitting leaves as specified in the Academic Calendar.

A student who wishes to apply for leave should contact the Dean of the Graduate Division and Research. Students wishing to cancel a leave must do so prior to the first day of classes. Consult the Class Schedule and Student Information Handbook for specific procedures and deadlines.

Approval for leaves of absence will not be granted to students who have been admitted but will not have completed at least one semester before the leave begins. A student whose registration is canceled while on leave is disqualified. To be eligible to leave a graduate student must be eligible to return as a graduate student; students qualifying for change in status from undergraduate to graduate are not eligible; or if the student was academically disqualified at the end of the last semester of attendance.

Readmission

A student who withdraws from the university must file application for readmission if at any time he/she wishes to re-enroll. A $35 application fee for readmission is required if the applicant was not regularly enrolled in either of the two semesters immediately preceding the semester for which the application is submitted, or if the student was enrolled at another institution subsequent to the last attendance at San Diego State University. SDSU students in good standing (not academically disqualified) retain their original catalog status if they are absent from the University for no more than one semester. Such students must, however, reapply for readmission to SDSU.

Repeated Courses

Ordinarily a graduate student may not repeat courses which have been taken as part of the official master's degree program. A graduate student may, with prior written permission of the graduate adviser, repeat one course on the official program of study in which a grade of C, D, F
Probation and Disqualification

or U has been received. When a graduate student in any category of admission repeats a course in which a C, D, or F has been earned, both grades will remain on the student's permanent record and both grades will be calculated in the grade point average. If a student repeats a course in which a U has been earned, the original U grade will remain on the permanent record, but only the second grade will be used in computation of the grade point average. A course in which a U has been earned may be repeated only once. Repeated courses may not be taken for credit/no credit. This policy applies only to course work taken in spring 1981 and after. Students who have successfully repeated a "U" graded course should notify the office of Admissions and Records if they wish immediate adjustment of their grade point average.

Scholastic Probation

A graduate student in any admission category shall be placed on academic probation if the student fails to maintain a cumulative grade point average of at least 2.5 in all units attempted subsequent to admission to the university.

A graduate student in any admission category shall be subject to disqualification if, while on probation, the student fails to earn sufficient grade points to remove himself or herself from probationary status.

Students in a graduate degree program in conditional or classified standing should consult the section of this bulletin entitled "General Requirements for Doctoral Programs" and "Basic Requirements for the Master's Degree" for grade point average requirements for degree-seeking students.

Scholastic Disqualification

Any postbaccalaureate student who has been admitted to a graduate degree curriculum and whose performance therein is judged to be unsatisfactory with respect to scholastic or professional standards as judged by the Graduate Council will be required to withdraw from all graduate degree curricula and his official status will be changed from classified graduate standing to unclassified postbaccalaureate standing.

Departments or Schools of the University may recommend that the Dean of the Graduate Division and Research dismiss from the University any graduate student whose performance in a degree, credential, or certificate program is judged unsatisfactory with respect to the academic or professional standards of the program.

Administrative-Academic Probation

A student may be placed on administrative-academic probation by action of appropriate campus officials for any of the following reasons:

1. Withdrawal from all or a substantial portion of a program of studies in two successive terms or in any three terms.
2. 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).
3. Failure to comply, after due notice, with an academic requirement or regulation which is routine for all students or a defined group of students (example: failure to take placement tests, failure to complete a required practicum).

Administrative-Academic Disqualification

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

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

(5) The term "hazing" means any method of initiation into a student organization or any pastime or amusement engaged in with regard to 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 participation in activities related to the individual or group deaths 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 designated representative, enter any campus of The California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

41304. Student Disciplinary Procedure 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 ground of discipline under Sections 41301 or 41302, and for qualified admission or denial of admission under Section 41303; the authority of the campus President in such matters; conduct related determinations on financial aid eligibility and termination; alternative kinds of proceedings, including proceedings conducted by a Hearing Officer; time limitations; notice, conduct of hearings, including provisions governing evidence, a record, and review, and such other related matters as may be appropriate. The Chancellor shall report to the Board his actions taken under this section.

Plagiarism

Plagiarism is formal work publicly misrepresented as original; it is any activity wherein one person knowingly, directly, and for lucre, status, recognition, or any public gain resorts to the published or unpublished work of another in order to represent it as one's own. Work shall be deemed plagiarism: (1) when prior work of another has been demonstrated as the accessible source; (2) when substantial or material parts of the source have been literally or evasively appropriated (substitute denoting quantity, matter denoting qualitative format or style); and (3) when the work lacks sufficient or unequivocal citation so as to indicate or imply that the work was neither a copy nor an imitation. This definition comprises oral, written, and crafted pieces. In short, if one purports to present an original piece but copies ideas word for word or by paraphrase, those ideas should be duly noted.

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 the complaint to the proper University authorities and official reviewing bodies by following the Procedures for Handling Student Grievances Against Members of the Faculty, adopted by the Faculty Senate. A copy of the procedures may be obtained from the Ombudsman's Office in Aztec Center.

Transcripts of Record

A student may obtain an official academic transcript by filing an application at the Admissions and Records Office. A fee 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.

Final Examinations

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.
Transfer or Extension Course Credit

Subject to lower limitations for individual programs, as indicated in Part Three of this bulletin, the maximum amount of transfer and San Diego State University extension course credit acceptable on master's degree programs is nine units. Exceptions are the Master of Science degree in Nursing, which permits 12 units (including a maximum of twelve units of extension credit), Master of City Planning degree, which permits 27 units (including a maximum of nine units of extension credit), the Master of Fine Arts in Drama, which permits 30 units (including a maximum of nine units of extension credit), the Master of Social Work which permits 32 units (including a maximum of nine units of extension credit) and the Master of Science in Rehabilitation Counseling which permits 30 units (including a maximum of nine units of extension credit). All credit earned in other colleges or in San Diego State University extension courses is subject to approval by the appropriate graduate adviser and the Dean of the Graduate Division and Research. Credit earned by correspondence, by examination, or by extension at other institutions is not accepted as satisfying advanced degree requirements.

Credit earned by first-time students through one semester of enrollment in Open University may be considered residence credit for the master's degree. Such enrollment allows nonmatriculated students who have completed individual course prerequisites and who meet the standards for regular enrollment to enroll in regular campus classes on a space available basis with the approval of the course instructor and department chair. Enrollment in 500-, 600-, and 700-numbered courses also requires approval of the departmental graduate adviser. Matriculated students are ineligible for enrollment in Open University.

Study List Limits in the Graduate Division

A "full-time enrollment" means that a student is enrolled for not less than 12 units per semester. For purposes of computing units for graduate level courses taken by graduate students, a weighting factor of 1.5 shall be applied to each unit. Enrollment in Thesis (799A) or Doctoral Dissertation (899) is also considered full-time enrollment.

Graduate students are advised that 12 units of 600-800 numbered courses or 15 units of a combination of 500-, 600-, 700-, 800-numbered courses are the recommended maximum for one semester. Graduate students who are employed full time should not attempt to earn more than six units per semester.

Graduate students who are employed as graduate teaching assistants or associates at San Diego State University are limited to 15 units of combined teaching assignments and course work. For purposes of computing units for excess load, a request for excess load is approved by the Dean of the Graduate Division and Research. Graduate teaching assistants who enroll for more units than authorized will not receive credit on their official degree programs for the excess number of units completed.

Graduate students employed as graduate assistants are limited to 20 hours of work per week combined with a maximum of eight units of course work. Any excess load must be approved by the department chair and the Dean of the Graduate Division. Graduate assistants who enroll for more units than authorized will not receive credit on their official programs for the excess number of units completed.

Graduate teaching assistants and graduate assistants are advised to consult the Graduate Teaching Assistant's Handbook for further information on unit limitations.

General Requirements for Doctoral Degrees

The degree Doctor of Philosophy (Ph.D.) is offered jointly by San Diego State University and cooperating universities in chemistry with the University of California, San Diego; in ecology with the University of California, Davis; in education with Claremont Graduate School and in genetics with the University of California, Berkeley. The general requirements in these programs are identical; however, each program has some specific requirements which will be found in Part Three of this bulletin under Chemistry, Ecology, Education, and Genetics.

Students who wish to become candidates for the degree Doctor of Philosophy in Chemistry, Ecology, Education or Genetics should realize that the degree is granted for original, independent, imaginative, and self-critical research rather than for the fulfillment of residence or course requirements alone. For those candidates who wish to prepare for a career in an academic institution the degree is also oriented toward excellence and enthusiasm in teaching. Students with acceptable baccalaureate degrees will normally spend at least three years of full-time study in earning the degree.

Admission to Graduate Study

An applicant for admission to a doctoral program must first be admitted to regular graduate standing in the appropriate campus of the University of California or the Claremont Graduate School, and to San Diego State University. Fees and regulations governing the doctoral programs are found in the Graduate Division Bulletin of San Diego State University and in the Graduate Studies Bulletins of each of the cooperating campuses of the University of California or of Claremont Graduate School.

Admission to the Programs

After formal admission to the two universities with appropriate graduate standing, the student must declare an intention to enter the doctoral program by filing an application with the graduate adviser. The application must be approved and signed by the graduate adviser on each campus and forwarded to the graduate deans for formal certification of admission to the doctoral program. Entry occurs when the student is formally accepted by the graduate deans of each of the two universities. The graduate adviser on each cooperating campus is the person consulted by the student for assessment of background and research interests and for planning of the program of study.

Residency Requirements

After formal admission to a doctoral program, the student must spend at least one year in full-time residence on each of the two campuses. The definition of residence must be in accord with the regulations of the university cooperating with SDSU. At San Diego State University the minimum of one year of full-time residence consists of registration in and completion of at least seven semester units each semester of the required year's residence.

Foreign Language Requirements

Candidates for the Doctor of Philosophy degree in Ecology must demonstrate a reading knowledge of at least one foreign language. This requirement must be satisfied before the student takes the qualifying examination. In genetics, foreign language preparation will usually be required for students whose area of research necessitates extensive reading of foreign language papers.

Qualifying Examinations, Advancement to Candidacy and the Dissertation

Although the procedural details of each doctoral program vary somewhat within the different programs, the general requirements are:

1. The student is examined by a committee representing the faculty of the cooperating institutions for knowledge of the field of study. This examination, called a Qualifying Examination, ordinarily consists of written and oral parts. The faculty of the cooperating
degrees must be satisfied that the student is prepared in the field by passing this examination.

2. After passing the Qualifying Examination the student must apply to the graduate dean at the cooperating campus with which the student is associated for advancement to candidacy. After approval by both graduate deans, the student will be notified of advancement to candidacy by the graduate dean, University of California campus or Claremont Graduate School.

3. A dissertation (or thesis) on a subject chosen by the candidate and approved by a committee chosen by the Graduate Councils of the cooperating institutions is required of every candidate. Approval of the dissertation by the committee implies that the candidate has conducted an organized, independent investigation which has added significantly to the body of knowledge in the particular field and which has been reported in a satisfactory manner. Upon completion of the dissertation, the candidate must pass an oral examination conducted by a joint committee in which the student is required to show the relationship of the dissertation to the general field in which the subject lies and to answer specific questions concerning the investigations. Doctoral students are required to provide one bound copy of the dissertation for deposit in the San Diego State University library. Binding must meet the ALA library standard. Doctoral students must maintain a 3.0 grade point average in all course work attempted to remain in good standing.

**Award of Degree**

The degree Doctor of Philosophy in Chemistry, Ecology, Education, or Genetics will be awarded jointly by the Regents or Trustees of the cooperating institution and the Trustees of The California State University in the names of San Diego State University and the appropriate cooperating university campus. Students may participate in the commencement ceremonies of both institutions providing they have completed all degree requirements, including the submission of copies of the approved dissertation to the two graduate offices, by the deadlines of the respective institutions. The deadline dates of the cooperating institutions will vary. Students who intend to participate in the commencement ceremonies at San Diego State University should consult the academic calendar for the last date to submit an approved copy of the dissertation to the Graduate Division Office.

**Procedures**

The time required for a student to complete the requirements for the degree is not expressed as units of credit or number of semesters completed but will ultimately depend upon the amount of time required to master the subject matter field and to complete a satisfactory dissertation. Information on records, transcripts, fees, details of registration, petitions, and rules and regulations governing graduate students enrolled in the doctoral program is available from the Graduate Dean at each of the two cooperating institutions for each degree program.

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**Basic Requirements for the Master's Degrees**

To receive the master's degree at San Diego State University, the candidate must have completed the following general requirements of the Graduate Division and the specific requirements listed in the appropriate sections of Part Three of this bulletin.

**Examinations**

As part of the admission procedure, all students desiring an advanced degree must take the Graduate Record Examination General (Aptitude) Test or the GMAT, for applicants to the College of Business Administration. Students holding a master's or higher degree from an institution which is a member of the Council of Graduate Schools of the United States are exempt from this requirement.

Examinations required in the various subject matter fields of study are listed in the appropriate sections of Part Three, Courses and Curricula under Specific Requirements for the Master's Degree. (See below for the foreign language examinations and for the comprehensive examination required in lieu of thesis under Plan B.)

**Official Programs of Study**

Official programs of study are to be submitted to the Office of the Graduate Division and Research for approval after the student has been granted full classified graduate standing. The program must be submitted prior to the time the student wishes to be considered for advancement to candidacy. The bulletin governing the official program will be the bulletin in effect at the time the program is submitted to the Office of the Graduate Division and Research for approval.

Official master's degree programs of study, as signed or revised by the graduate adviser and approved by the Graduate Council, are binding unless the student withdraws from the University. Withdrawal is defined as having taken no courses during a calendar year.

A student who withdraws from the University and is later readmitted with classified graduate standing may, with the consent of the graduate adviser and the Graduate Council, continue his/her original official program of study or may be required to submit a new program which complies with the requirements of the current Graduate Bulletin.

When courses listed on an official master's degree program deviate from the prescribed requirements as stated in the Graduate Bulletin or indicate justification for approval must be submitted to the Dean of the Graduate Division and Research by the department concerned.

It is the student's responsibility to complete the specific courses listed on the official program of study. No changes will be permitted unless approved by the graduate adviser and the Dean of the Graduate Division and Research. No course can be deleted from an official program of study after the course has been completed. This includes a course for which a student has registered and received an "Incomplete" or "SP" grade.

**Foreign Language Requirement**

When required to satisfy this requirement by passing the Graduate School Foreign Language Test in French, German, Russian, or Spanish, the student should make arrangements with the Test Office to take the appropriate test developed by the Educational Testing Service. Passing scores on these examinations are established by the Graduate Council.

**Advancement to Candidacy**

A student who holds classified graduate standing at San Diego State University and who meets its scholastic, professional, and personal standards may be considered for advancement to candidacy for the master's degree provided an official program of study has been filed and approved by the graduate adviser and the Dean of the Graduate Division. For the Master of Arts, the Master of Science, the Master of Business Administration, the Master of Public Health, and the Master of Public Administration degrees, a student may be advanced to candidacy after completing at least 12 units of postbaccalaureate study with a minimum grade point average of 3.0 (B); for the Master of City Planning degree, the student must have earned at least 24 units of postbaccalaureate study with a minimum grade point average of 3.0 (B); for
the Master of Fine Arts in Drama degree, the student must have earned at least 30 units of postbaccalaureate study with a minimum grade point average of 3.0 (B); for the Master of Science in Rehabilitation Counseling degree, the student must have earned at least 24 units of postbaccalaureate study with a minimum grade point average of 3.0 (B); and for the Master of Social Work degree, the student must have earned at least 24 units of postbaccalaureate study with a minimum grade point average of 3.0 (B).

In addition to having classified graduate standing and the grade point averages specified above, the student must (1) have maintained the grade point averages listed above in this section; (2) have completed all the undergraduate deficiencies and the special requirements of the department or school concerned; (3) have passed the foreign language examination if required; (4) have been recommended for advancement to candidacy by the department or school concerned; and (5) have been approved for advancement by the Graduate Council. Written notification of advancement to candidacy will be sent to the student from the Office of the Graduate Division.

A minimum of nine units of courses listed on the official program of study must be enrolled in and completed concurrent with or after advancement to candidacy for the Master of Arts, the Master of Science, the Master of Public Administration, and the Master of Business Administration degrees. A minimum of 24 units on programs of study for the Master of City Planning, the Master of Fine Arts in Drama, and the Master of Social Work degrees must be enrolled in and completed concurrent with or after advancement to candidacy. Removal of incomplete grades does not meet this requirement.

Unit Requirements

Credit earned by correspondence or by examination is not acceptable on advanced degree programs. Courses applied toward one advanced degree may not be applied toward another advanced degree.

Master of Arts, Master of Science, and Master of Public Administration Degrees

Thirty units (36 units for the Master of Science in Counseling degree, the Master of Public Administration, and the Master of Science degree in Psychology with a concentration in clinical psychology, 42 units for the Master of Science in Nursing) of approved 500-, 600- and 700-numbered courses earned in graduate standing, at least 21 of which must be completed in residence. At least 15 units must be in 600- and 700-numbered courses. Not more than a total of nine units in approved extension and transfer courses may be used to satisfy the minimum units required for the degree. Courses required to remove undergraduate deficiencies are in addition to the minimum 30 units required for the degree. Not more than a total of six units in courses numbered 797 and 798 will be accepted for credit toward the degree.

Master of Business Administration Degree

Between 30 and 60 units (depending upon the student's background) of 600- and 700-numbered courses specified by the College of Business Administration at least 21 of which are acceptable for this degree. Not more than a total of six units in courses numbered 797 and 798 will be accepted for credit toward the degree.

Master of City Planning Degree

Fifty-seven units of approved 500-, 600- and 700-numbered courses earned in graduate standing, at least 30 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 57 units for the degree. Not more than a total of nine units in courses numbered 797 and 798 will be accepted for credit toward the degree.

Master of Fine Arts in Drama Degree

Sixty units of 500-, 600- and 700-numbered courses specified by the Department of Drama, at least 30 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 60 units for this degree. Not more than a total of six units in course 798 will be accepted for credit toward the degree.

Master of Public Health Degree

Forty-eight units (55 units for Health Services Administration) of approved 500-, 600- and 700-numbered courses earned in graduate standing, at least 39 of which must be earned in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 48 units required for the degree. Not more than a total of six units in courses numbered 797 and 798 will be accepted for degree credit.

Master of Science in Rehabilitation Counseling Degree

Sixty units of 600- and 700-numbered courses specified by the Rehabilitation Counseling Program, at least 55 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 60 units for the degree. Not more than a total of nine units in courses numbered 740 and 750 will be accepted; not more than a total of nine units in courses numbered 720 and 730 will be accepted.

Master of Social Work Degree

Fifty-six units of 600-, 600- and 700-numbered courses specified by the School of Social Work at least 24 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 56 units for the degree.

Degree Time Limitations

In all advanced degree curricula offered at San Diego State University, any course completed more than seven years prior to the date on which all requirements for the degree are completed cannot be used to satisfy unit requirements of the official program of study. This includes courses for which a student has registered and received an "Incomplete" or "SP" grade. The Graduate Council, on recommendation of the department or school concerned, may extend the time for students who pass a comprehensive examination in the relevant course or courses: With the approval of the graduate adviser and the Dean of the Graduate Division, an out-of-date course may be repeated, a more recently completed course substituted, or additional course work of equal unit values assigned. Specifically required courses must either be repeated or validated by examination. In some instances, the graduate adviser and the Graduate Council may authorize students in Plan A to validate out-of-date courses by passing a comprehensive examination over the entire subject field of the degree.

Students validated by examination either individual courses or an entire program will be required to do so by a date certain by which all requirements for the degree will be completed. Only in exceptional circumstances will this time limit exceed one calendar year from the date of validation. A course or program may be validated by examination only once.

A course completed prior to seven years of the date that the official master's degree program is approved cannot be listed on this program.


Plan A, requiring a thesis, may be selected by a student seeking the master's degree provided the department or school concerned approves the listing of Course 799A. Thesis. On the official program of study. Three units of "Cr" are granted for the satisfactory completion of the thesis or project following its acceptance by the student’s thesis committee, the department or school concerned, and the Graduate Council. Assigning of "Cr" grade for the thesis is the responsibility of the Graduate Division Office. Registration in Course 799A, Thesis, is required; however, students will not be permitted to register for this course until they have received official notification of advancement to candidacy from the Graduate Division Office and have an official appointment to an appropriate graduate project committee on file in the Graduate Division office. Clearance for registration in Thesis must be obtained by the student from the Graduate Division office.

Two microfiche copies and one bound copy of all master's theses or projects are accessioned by the library of San Diego State University and are subject to the regulations of the library with respect to the circulation or duplication of its cataloged materials. Students are advised to purchase a current edition of the Manual of Instruction for the Preparation and Submission of the Master's Thesis or Master's Project at the Aztec Shops.

Plan B, requiring a comprehensive examination in lieu of a thesis, may be followed in certain graduate degree curricula as indicated in Part Three of this bulletin. Dates on which comprehensive examinations in lieu of theses are given are determined by the department or school concerned. Results of comprehensive examinations must be reported to the Graduate
Degree Requirements

Division Office by the department or school. Refer to the calendar in Part One of this bulletin for
deadline dates.

Satisfactory completion of a thesis, project, or comprehensive examination, is defined as
follows:

(a) A thesis is the written product of a systematic study of a significant problem. It identifies
the problem, states the major assumptions, explains the significance of the undertaking, sets
forth the sources for and the methods of gathering information, analyzes the data, and offers a
conclusion or recommendation. The finished product evidences originality, critical and inde-
dendent thinking, appropriate organization and format, and thorough documentation. Normally,
an oral defense of the thesis is required.

(b) A project is a significant undertaking appropriate to the fine and applied arts or to
professional fields. It evidences originality and independent thinking, appropriate form and
organization, and a rationale. It is described and summarized in a written abstract that includes
the project's significance, objectives, methodology, and a conclusion or recommendation. An
oral defense of the project may be required.

(c) A comprehensive examination is an assessment of the student's ability to integrate the
knowledge of the area, show critical and independent thinking and demonstrate mastery of the
subject matter. The results of the examination evidences independent thinking, appropriate
organization, critical analysis, and accuracy of documentation. A record of the examination
questions and responses shall be maintained in accordance with the records retention policy of
The California State University.

Thesis Research Involving Human Subjects

Students conducting thesis research involving human subjects must submit a protocol to the
departmental human subjects committee (where applicable) and then to the University's
Committee on Protection of Human Subjects (CPHS). Students should allow two weeks for
CPHS review. Certain categories of research with human subjects may qualify for exemption
from full CPHS review. Guidelines and forms for protocols or claims of exemptions can be
obtained from the CPHS Office, Physics 343B, 265-6622.

Upon written CPHS approval or certification of exemption from CPHS review, students can
register for thesis and initiate the activity with human subjects. (Literature review and other work
not involving human subjects may be conducted prior to CPHS review.)

Theses in Foreign Languages

As presentations of original research to the academic community, theses are ordinarily
prepared for the University in the English language. In certain cases, however, a student's
thesis in the history and literary analysis of non-English languages and literatures may be
presented in the subject language. When this is deemed academically appropriate for the
specific research topic by the departmental graduate advisor and the proposed thesis
committee, the appointment of the student's thesis committee and authorization of the thesis
research by the Graduate Dean shall be based on the provisions that (1) an abstract of the thesis
shall be presented in English; (2) all members of the thesis committee shall be fluent in
the subject language; and (3) student competency in standard written English shall be
demonstrated through satisfactory completion of graduate courses in research methodology
and bibliography.

Submission of Theses

Completion of the academic process for final acceptance of a thesis requires that the thesis
be approved by a formally appointed committee of the faculty, that the thesis conform to the
format and presentation requirements stipulated by the sponsoring department and approved
conformity with this policy, the following procedures shall apply to the submission of theses:

The University requires that the student be enrolled in 799A, Thesis, or 799B, Thesis
Extension, in the term in which the thesis is granted final approval. Students will not be
required to reregister for Thesis in any subsequent term if the thesis is approved and
signed by all members of the thesis committee, cleared by the Graduate Division, and
submitted to the Thesis Review Service by the end of the last day of the semester or
summer session in which the student is enrolled in 799A or 799B. A "credit" grade will not
be recorded or the degree awarded, however, unless the thesis has been approved by
the Thesis Review Service and arrangements made to deposit the required copies in the
University Library (this can be done most conveniently through the Copy Center of the
Aztec Shops). If this final process is not completed by noon of the day preceding the last
day of the term, the student will be required to reapply for graduation in any subsequent
term in which he or she expects to graduate.

Grade Point Averages

Grade point averages of at least 3.0 (B) must be maintained in:
1. All programmed courses required for the removal of undergraduate deficiencies.
2. All programmed courses including courses accepted for transfer credit and courses
taken concurrently with or subsequently to courses accepted for transfer.
3. All courses, 300-level and above, taken at San Diego State University concurrently with
or subsequent to the earliest course listed on the official master's degree program.

No transfer or extension credit may be used to improve the grade point average of units
completed at San Diego State University.

Grade Restrictions for Master's Degree Programs

No course in which a final grade below "C" (2.0) was earned may be used to satisfy the
requirements for an advanced degree. No 500-numbered courses graded Credit/No Credit are
acceptable on a master's degree program. No undergraduate courses graded Credit/No Credit
may be assigned to the deficiencies and/or foreign language option(s) of a master's degree
program. At least 70 percent of the units used to fulfill the minimum requirements on a master's
degree program shall be graded on an A, B, C, D, F basis.

Final Approval

The student's official program of study as approved by the graduate adviser and the
Graduate Council and all required examinations must be completed in a satisfactory manner in
order for the student to be recommended for the degree by the Graduate Council.

Writing Competency

The University requires that all candidates for an advanced degree demonstrate writing
competency in the English language. This requirement may be met by successful completion of
the written comprehensive examination in Plan B or final approval of a thesis or project in Plan
A.

In cases of organic disorder that make it impossible for the student to fulfill the ordinary
obligations of writing competency, alternative modes will be used (Sec. 504 of the Rehabilitation
Act).

Application for Graduation

Graduation is not automatic on the completion of degree requirements. An application must
be filed in the Graduate Division Office during the semester or term in which the student
expects to be graduated. Refer to the calendar preceding Part One of this bulletin for deadline
dates.

There is a $9 graduation fee and a $10 evaluation and diploma fee. Students who do not
graduate in the semester or term for which they have applied must reapply (and pay the $10
evaluation fee) in the subsequent semester or term in which they expect to be graduated.

Award of Degrees

The Board of Trustees of The California State University, upon recommendation of the faculty
of San Diego State University awards the appropriate degree to a student who has completed
the prescribed course of study.

Diploma

The Graduate Division Office will mail the appropriate diploma to the student approximately
eight to ten weeks after the date of graduation.
PART THREE

Courses and Curricula
Courses and Curricula

This section contains the specific requirements for all graduate degrees authorized at San Diego State University by the Board of Trustees of The California State University. These specific requirements of departments or school's supplement and are in addition to the basic requirements for the master's degree as stated in Part Two of this bulletin. All official master's degree programs must be prepared in conformity with the basic and specific requirements for the degree in question.

In addition, courses acceptable for credit toward an advanced degree are listed under major fields and areas of concentration. Each course is listed by department number, title, and units. Not all courses are offered every semester or every year. Ordinarily each listed course will be offered not less than once during a two-year period. For courses offered in a semester, together with the time and place of meeting, consult the semester Class Schedule, which is available at the Aztec Shops prior to the date of registration of each semester, or the Summer Session Bulletin, which is available prior to the opening of summer session.

San Diego State University reserves the right to withdraw any course listed in the class schedule for which the enrollment is not sufficient to warrant the organization of a class.

Prerequisites for graduate courses

Graduate level (600-, 700- and 800-numbered) courses require, as general prerequisites, graduate standing, and competence in the specified field as indicated by a substantial amount of upper division study in the field or in a closely related field. Unless otherwise specified in the course description, graduate level courses are open to classified graduate students with the permission of the instructor. Undergraduate students are not permitted to enroll in 600-, 700- and 800-numbered courses except under special circumstances (see section "Concurrent Master's Degree Credit"). Unauthorized enrollment of undergraduate students in 600-, 700- and 800-numbered courses may be canceled or, if the course is completed before graduate standing is attained, only undergraduate credit will be earned for the course.

Prerequisites for each course are stated in the course description. 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.

Registration in Course 798, Special Study, must be arranged by the student through the instructor, the major adviser, and the chair of the department concerned. Forms for this purpose are available in the departmental offices.

Only those students who have been advanced to candidacy and who have an officially appointed thesis committee are permitted to register for Course 799A, Thesis. Clearance for registration in this course must be obtained by the student from the Office of the Graduate Division and Research.

Thesis Extension (799B)

This course is intended solely for those graduate students who have had prior registration in Thes 799A, with an assigned grade symbol of SP. Students are required to register in 799B (0 units, Cr/NC) in any semester or term following assignment of SP in Course 799A in which they expect to use the facilities and resources of the University; also they must be registered in the course when the completed thesis is granted final approval.

Unit or Credit Hour

In the listing of courses that follows, 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 of 15 weeks.

American Studies

Faculty

Faculty members participating in the degree program are listed in the American Studies Handbook, available from the C A L. Student Advising Center, SS-132.

Committee on American Studies

Denise E. Berge, Ph.D., Professor of History
Lawrence R. Ford, Ph.D., Professor of Geography
Kar1 Keller, Ph.D., Professor of English and Comparative Literature
Howard I. Kushner, Ph.D., Professor of History
Gennaro A. Santangelo, Ph.D., Professor of English and Comparative Literature
Pershing Vartanian, Ph.D., Professor of History, Graduate Coordinator
Harlan J. Lewin, Ph.D., Associate Professor of Political Science
Carey G. Wall, Ph.D., Associate Professor of English and Comparative Literature
Stephen A. Colston, Academic Specialist, Center for Regional History

General Information

The American Studies program at San Diego State University is one of thirty-three in the nation and one of six in California that offer an advanced degree. The Master of Arts degree in American Studies is an interdisciplinary degree administered by the American Studies Committee. Even though the American Studies idea is nearly fifty years old, its interdisciplinary approach has kept it flexible. Students are encouraged to accentuate courses which develop their experiences and their interests. While there are specific degree requirements, diversity characterizes the program and no one pattern or approach exists to which students are expected to conform.

The program is designed to offer systematic training for students desiring an interdisciplinary study of American Civilization. It is intended to meet the needs of students who (1) plan to continue their study in doctoral or other advanced programs in American Studies or in disciplines emphasizing areas of American orientation, (2) plan a career in secondary or junior college teaching, or (3) are seeking a broad background for professional degrees, or business or government service.

The student body is drawn from many states outside of California and lends the program a cosmopolitan atmosphere. An active student association publishes its own newsletter, provides its own activities, and participates in the administrative functions of the American Studies Committee. As a result, students in the academic program share a significant sense of identity and community.

Admission to Graduate Study

In addition to meeting the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must present a Bachelor of Arts degree with a major in American Studies, or a Bachelor of Arts degree which includes a minimum of 24 upper division units in American culture. In addition, the American Studies program requires a GPA of 3.0 in the last 60 undergraduate units attempted. A student whose preparation is deemed insufficient by his graduate adviser or by the American Studies Committee will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, students will be required to pass a written examination, details of which are available from the graduate adviser.
Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Two of this bulletin, the student must complete a minimum of 30 units, at least 24 of them from courses listed below as acceptable on master’s degree programs. At least 18 units must be in 600- and 700-numbered courses. Required courses are 501, Study of American Culture, at least two seminars, as well as methodological courses in one or more disciplines related to the study of American culture, as recommended by the American Studies Committee. The program must include a concentration of at least 12 (but not more than 15) units, excluding Thesis 799A, in one of the following fields:

American Literature and Philosophy  
Social Sciences and Education  
American History  
Fine Arts  

The remaining units must be chosen from the other fields, with approval of the adviser.

In addition, students will be required to (1) demonstrate a reading knowledge of language other than English, or (2) complete six units in linguistics, chosen from American English courses (Linguistics 410, 520, 524, 551 or 552), or (3) complete six units in quantitative techniques selected from Economics 201*; 347; Geography 585; Management 301, 302, 356; Political Science 515A-515B; Psychology 342; Sociology 201*; 460, 464, 464.

To complete the requirements for the M.A. degree in American Studies, students may select either Plan A or Plan B. Plan A requires the writing of a thesis, for which the student will be registered in American Studies 799A. The American Studies thesis will employ an interdisciplinary approach in addressing an aspect of American culture. Plan B requires the submission of three "starred" research papers; these will be papers originally completed for courses and rewritten under the supervision of the graduate adviser. A comprehensive oral examination on the subjects of these papers will be required; the questions will emphasize method and theory of the cross-disciplinary approach to American Studies. For more specific details, students should consult the American Studies Graduate-Faculty Handbook and should confer with their American Studies adviser.

Courses Acceptable on Master's Degree Programs in American Studies

UPPER DIVISION COURSES IN AMERICAN STUDIES

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 countercultures. 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.

Literature and Philosophy:  
American Studies Course

580. Topics in American Studies (3)  

English Courses

521. Early American Literature (3)  
522. American Literature, 1800 until 1860 (3)  
523. American Literature, 1860 until 1920 (3)  
524. American Literature, 1920 until 1950 (3)  
525. American Literature, 1950 until Present (3)  
526. Topics in American Literature (3)  
527. Genre Studies in American Literature (3)  
530. Colonial America (3)  
531. The American Revolution (3)  
532. The Early Republic (3)  
533A. The Jacksonian Era (3)  
533B. Civil War and Reconstruction (3)  
534. The Rise of Modern America, 1868-1900 (3)  
535A. The Age of Reform (3)  
535B. The Age of Roosevelt (3)  
536. The United States since World War II (3)  
537A-537B. The Westward Movement (3-3)  
540. Environmental History of the United States (3)  
541A-541B. California (3-3)  
543A-543B. The City in American History (3-3)  
545A-545B. Constitutional History of the United States (3-3)  
546A-546B. Development of American Capitalism (3-3)  
547A-547B. Intellectual History of the American People (3-3)  
548A-548B. Social History of the United States (3-3)  
596. Selected Studies in History (when content relates to American Studies) (1-4)  

Social Sciences and Education:  
Anthropology Course

520. Ethnological Field Methods (3)  

Geography Courses

570. Land Use Analysis (3)  
573. Geography as Human Ecology (3)  
575. Geography of Recreational Land Use (3)  

Journalism Courses

500. Current Problems in Mass Communication (3)  
503. History of Mass Communication (3)  

Political Science Courses

522. Urban Politics (3)  
531. Interest Groups and Political Movements (3)  

Religious Studies Course

522. Religion in America (3)  

Sociology Courses

545. Sociology of Mass Communication (3)  
546. Collective Behavior (3)  
547. Protests, Reforms and Revolutions (3)  
557. Urban Sociology (3)
Fine Arts:

Art Course

560. History of American Art (3)

GRADUATE COURSES IN AMERICAN STUDIES

799A. Thesis (3) Cr/NC
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis, 799A, with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in
which the student expects to use the facilities and resources of the University; also student
must be registered in the course when the completed thesis is granted final approval.

Literature and Philosophy:

English Courses
(The English courses listed are acceptable when content relates to American Studies.)

620. Twentieth Century Literature (3)
625. American Literature (3)
700. Seminar: A Major Author (3)
710. Seminar: A Cultural Period (3)
720. Seminar: Special Topics (3)
730. Seminar: A Literary Type (3)

American History:

History Courses

630. Directed Reading in United States History (3)
635. Seminar in United States History (3)

Social Sciences and Education:

Education Courses

682. Social Foundations (2 or 3)
686. Educational Sociology (3)

Geography Courses
(The geography seminars listed are acceptable when content relates to American Studies.)

620. Seminar in Regional Geography (3)
654. Seminar in Urban and Settlement Geography (3)

Political Science Course

620. Seminar in American National Government (3)

Sociology Courses

700. Seminar in Social Theory (3)
730. Seminar in Social Institutions
(when relevant to American Studies) (3)

Fine Arts:

Art Courses
(The art seminars listed are acceptable when content relates to American Studies)

760. Seminar in Modern Art (3)
761. Seminar in American Art (3)
767. Advanced Topics: Art of Native America, Africa and Oceania (3)
Faculty

Joseph W. Ball, Ph.D., Professor of Anthropology
Bradley N. Bartel, Ph.D., Professor of Anthropology, Associate Dean, Graduate Division and Research
Victor Goldkind, Ph.D., Professor of Anthropology
Edward O. Henry, Ph.D., Professor of Anthropology
Larry L. Leach, Ph.D., Professor of Anthropology, Chair of Department
Lois K. Lippold, Ph.D., Professor of Anthropology
Wade C. Pendleton, Ph.D., Professor of Anthropology
Vivian J. Rohr, Ph.D., Professor of Anthropology
Lawrence C. Watson, Ph.D., Professor of Anthropology
Daniel D. Whitney, Ph.D., Professor of Anthropology
Philip J. Greenfield, Ph.D., Associate Professor of Anthropology
Ronald S. Himes, Ph.D., Associate Professor of Anthropology, Graduate Coordinator
Mary Jane Moore, Ph.D., Associate Professor of Anthropology
Alexander Sonek, Ph.D., Assistant Professor of Anthropology
Larry L. Leach, Ph.D., Professor of Anthropology, Chair of Department

Admission to Graduate Standing

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in Anthropology must have completed or completed at least 15 upper division units including Anthropology 301, Principles of Physical Anthropology; Anthropology 302, Principles of Archaeology; Anthropology 304, Principles of Anthropological Linguistics; and Anthropology 305, History of Anthropological Theory, or the equivalent to those required for an undergraduate major in anthropology at San Diego State University. The student must have an overall 3.0 (B) grade point average in undergraduate courses of consent of the department.

Copies of transcripts and GRE General (Aptitude) Test scores are to be sent to the Admissions Office. In addition to these and the University admission forms, students applying to the department are asked to submit (1) at least three letters of recommendation from persons in a position to judge academic ability, and (2) at least one typewritten example of their previous work (e.g., a term paper or an original experiment). Materials should be submitted by December 1 for admission for spring semester and May 1 for the fall semester.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, the students must: (1) satisfactorily complete all four core seminars (601, 602, 603, and 604) with a minimum grade point average of 3.0, and no less than a B- grade in each of the 4 core seminars; (2) have a thesis proposal which has received the approval of the departmental graduate advisory committee, and (3) according to the specific recommendation of the Department of Anthropology, pass either an examination demonstrating working knowledge of an appropriate foreign language, or complete a sequence of at least one lower division and one upper division course (with a grade point average of 2.0 or better) in either:

(a) foreign language recommended by the department, or
(b) one of the following sequences in statistics as demonstrated by Sociology 201 and 460 or 464; Psychology 270 and 570; Biology 215 and 519, Mathematics 250 and 350A.

Specific Requirements for the Master of Arts Degree

In addition to meeting the basic requirements for the Master of Arts degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units of which at least 24 units must be in 600- and 700-numbered courses in anthropology, to include:

1. Anthropology 601, 602, 603, and 604 (with a minimum grade point average of 3.0, and no less than a B- grade in each of these core seminars);
2. Anthropology 797, Research (3) (to be taken after advancement to candidacy);

A final oral examination on the general field of the thesis must be passed as a requirement for the degree. Only Plan A, requiring the thesis, is permitted for the Master of Arts degree in Anthropology.

Courses Acceptable on Master's Degree

Programs in Anthropology

UPPER DIVISION COURSES

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. Paleontology (3)
Prerequisite: Anthropology 101. Recommended: Anthropology 301.
Fossil evidence for human evolution. Comparative and functional anatomy of fossil human and infrahuman primates, geochronology, paleoecology, and cultural associations; taxonomic implications.

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 oto-otology of primates.
505. Human Osteology (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101. Recommended: Anthropology 301 and/or Zoology 108.
Identification of individual bones and teeth; sex, age, and racial variation; stature reconstruction; continuous and discontinuous morphological variations; paleopathology. Training in observations, measurements, and analyses.

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 population. 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)
Prerequisites: Anthropology 101 or 102.
Two different cultures age at different rates. Theories of biological aging, genetics of longevity and cultural influences on biological aging. Process of aging and roles 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.
Application of anthropological concepts to solution of practical problems of culture change in community development, complex organizations, and interdisciplinary and cross-national programs.

532. Culture and Personality (3)
Prerequisite: Anthropology 102.
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.
Advanced applications of materials from 561A. Individual laboratory research project required.

562. Ethnography (3)
Prerequisite: Anthropology 302.
Theoretical perspective and method for analyzing contemporary societies in order to acquire archaeological insight of behavioral patterning. 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

600. Seminar (3)
An intensive study in advanced anthropology topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

601. Seminar in Physical Anthropology (3)
Prerequisite: Twelve upper division units in anthropology.
History and theory in physical anthropology stressing the significant literature on such topics as functional anatomy, human paleontology, population genetics, and primatology.

602. Seminar in Archaeology (3)
Prerequisite: Twelve upper division units in anthropology.
History and theory in archaeological data collection, analysis, and interpretation.

603. Seminar in Ethnology (3)
Prerequisite: Twelve upper division units in anthropology.
History and theory in ethnology stressing the significant literature on such topics as cross-cultural comparison, structural-functional analysis and description, personality and culture, and sociocultural change.

604. Seminar in Linguistics (3)
Prerequisite: Twelve upper division units in anthropology.
History and theory of linguistics stressing the significant literature on such topics as cultural cognition, descriptive linguistics, lexical statistics, and transformational analysis.

620. Seminar in Regional Anthropology (3)
Prerequisite: Twelve upper division units in anthropology.
Study of a major world region such as Africa, the Arctic, East Asia, Europe, Latin America, the Middle East, North America, Oceania, or South Asia. Maximum credit six units applicable on a master's degree. May be repeated with new content. See Class Schedule for specific content.

621. Seminar in Topical Anthropology (3)
Prerequisite: Twelve upper division units in anthropology.
Study of a major subdiscipline such as Political Anthropology, Economic Anthropology, Social Anthropology, Psychological Anthropology, Cultural Ecology, Applied Anthropology, Race and Year, or Environmental Archaeology. Maximum credit six units applicable on a master's degree. May be repeated with new content. See Class Schedule for specific content.

795. Internship in Anthropology (3-9) Cr/NC
Prerequisite: Classified graduate standing and/or consent of staff.
Students will be assigned to various government and private agencies in which anthropological theory can be applied. Supervision will be shared by departmental graduate advisory committee and on-the-job supervisor. Maximum credit nine units; three units applicable on a master's degree.

797. Research (3) Cr/NC/SP
Prerequisite: Advancement to candidacy.
Independent investigation in the general field of the thesis.
798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff to be arranged with department chair and instructor.
Individual study directed toward the preparation of a paper on a specific problem. May be repeated with variable topic, with a maximum credit of three units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis, 799A, with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis is granted final approval.

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Art

Faculty
Joan F. Austin, M.F.A., Professor of Art
Keefe L. Baker, M.F.A., Professor of Art
Robert V. Berg, M.F.A., Professor of Art
Donald P. Covington, M.A., Professor of Art
Janet Brody Esser, Ph.D., Professor of Art
Arlene M. Fisch, M.A., Professor of Art
Darryl G. Groover, M.F.A., Professor of Art
Jack R. Hopkins, M.F.A., Professor of Art
Lawrence B. Hunter, M.A., Professor of Art, Graduate Coordinator
Paul A. Lingren, M.A. Professor of Art
Allan W. Miller, M.F.A., Professor of Art
Fredrick J. Ord, M.F.A., Professor of Art, Chair of Department
Eugene Ray, M.F.A., Professor of Art
John J. Rogers, M.S., Professor of Art
Helen Z. Shirk, M.F.A., Professor of Art
JoAnn L. Tanzer, Ed.D., Professor of Art
Robert D. Wallace, D.Litt., Professor of Art
Walter E. Cotten, M.F.A., Associate Professor of Art
Jesus Y. Dominguez, M.F.A., Associate Professor of Art
Gerald C. Dumlao, M.F.A., Associate Professor of Art
Gay A. Frick, Ph.D., Associate Professor of Art
Robert A. Mansfield, M.F.A., Associate Professor of Art
Frank R. Papworth, M.A., Associate Professor of Art
Csilla F. Perczel, Ph.D., Associate Professor of Art
Ida K. Rigby, Ph.D., Associate Professor of Art
Richard J. Baker, M.F.A., Assistant Professor of Art
Stuart Flaxman, M.S., Assistant Professor of Art
Eric R. Mooney, M.F.A., Assistant Professor of Art
Thomas T. Yasuda, M.F.A., Assistant Professor of Art

Assistantships
Graduate teaching assistantships in art are available to a limited number of qualified students. Application blanks and additional information may be secured from the chair of the department.

General Information
The Department of Art, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Fine Arts degree in Art and Master of Arts degree in Art. The Art Department is prepared to offer advanced study to graduate students in the fields of applied design, painting, environmental design, graphic design, sculpture, printmaking, and the history of art. A new art building incorporating the existing facilities offers the student excellent studio space and equipment. In addition, the San Diego Museum of Art, the Putnam Foundation collection in the Timken Gallery, and the Museum of Man in Balboa Park, and the La Jolla Museum of Contemporary Art in La Jolla offer valuable original materials as well as specialized libraries for research. In addition, there are numerous private galleries with a wide variety of offerings.
Master of Fine Arts Degree in Art

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with a classified graduate standing, as described in Part Two of this bulletin. In general, the student must have completed a bachelor's degree in studio art or the equivalent from an accredited institution, including twelve units of art history, six units of which comprise a survey of the history of Western art. A grade point average of 3.25 or better in upper division art courses is required. Students must also be able to show that they are adequately advanced to carry out projects which measure up to graduate standards. This requirement will be measured by a formal presentation of a portfolio of work to the graduate faculty in the area of emphasis.

Advancement to Candidacy

In addition to meeting the requirements for advancement to candidacy as described in Part Two of this bulletin, all students must have (1) completed a minimum of 30 units on the official program with a minimum grade point average of 3.0 [B], and (2) been reviewed by the graduate faculty of the area of emphasis. Students must also be able to show that they are adequately advanced to carry out projects which measure up to graduate standards. This requirement will be measured by a formal presentation of a portfolio of work to the graduate faculty in the area of emphasis.

Specific Requirements for the Master of Fine Arts Degree

Candidates for the M.F.A., in addition to meeting the requirements for classified graduate standing, must complete a 60-unit graduate program which includes a minimum of 45 units at the 600- and 700-level. Art 694, 760, 791, and 792 are required. Normally, a student will focus on one of the studio art fields (applied design, painting, environmental design, graphic design, sculpture, and printmaking). With approval of the Chair and Graduate Coordinator, a student may focus on a program of study combining two studio art fields. Six units must be included in art history, art criticism, and aesthetics courses. Nine units must be included on the program from studio electives outside the area of emphasis or electives in other departments. Art 799A. Thesis must be included on the program. In addition, there will be an oral examination of each candidate by the graduate faculty of the Department of Art. This examination will occur at the time of the candidate's Master's exhibition, and will encompass an in-depth discussion of the candidate's thesis project.

No more than 15 units of graduate work may be transferred from another institution. Requests for more than six units must be approved by a committee of representatives from the areas of emphasis. Applicants holding an M.A. degree in Studio Art from an accredited institution may transfer up to 30 units upon review and recommendation of the faculty in the area of emphasis, and approval of the Graduate Coordinator of the Art Department. Candidates must be prepared to spend at least two semesters (24 units) in residence as full-time students.

Course work taken as a graduate student to fulfill undergraduate deficiencies may not be used to satisfy any unit requirement for the M.F.A. degree program. A 3.0 grade point average must be maintained at all times. Continuation in the program will be determined by a review of each candidate by the graduate faculty in the area of emphasis. This review will be held upon completion of 30 units in the M.F.A. program, or at any time upon request of the Graduate Coordinator.

Master of Arts Degree in Art

Admission to Graduate Study

Studio Arts

All students must satisfy the general requirements for admission to the University with a classified graduate standing, as described in Part Two of this bulletin. In general, students must have completed an undergraduate major in art with a minimum of 24 units in upper division units, including two semesters' work in the general history of art, before they will be permitted to enter the graduate program. Students must also be able to show that they are adequately advanced to carry out projects which measure up to graduate standards. In studio areas this requirement will be measured by a formal presentation (the Graduate Review) to the Emphasis Area Faculty of a portfolio of examples of the candidate's undergraduate or postbaccalaureate work. The range should be great enough to give the committee a knowledge of the candidate's strengths and weaknesses. A statement of the candidate's objectives in the graduate program should accompany this presentation. If it is determined that the student is capable of doing graduate art work, he/she may be permitted to begin such work even though he/she has not completed an appropriate undergraduate major in art. Those students whose work is insufficiently advanced for classified graduate standing may enroll for courses with postbaccalaureate unclassified standing, under guidance from the department, in order to meet the standard requirements. Applications for the Review may be obtained from the graduate coordinator of the department and should be returned by March 23 for the fall semester, and by October 23 for the spring semester. The portfolios must be submitted by April 1 and November 1.

Art History

In addition to meeting the requirements for admission to the University, students wishing to be admitted to the art history graduate program with a classified graduate standing must complete the equivalent of the graduate requirements as specified in the current General Catalog (a minimum of 39 units of art history), a GPA of 3.0 on a 4.0 scale in the last 60 units attempted.

Students who do not meet the requirements for admission to the graduate program in art history but meet the requirements for graduate admission to the University, may, at the discretion of the art history faculty, be accepted as postbaccalaureate students.

Catalog (a minimum of 39 units of art history), a GPA of 3.0 on a 4.0 scale in the last 60 units attempted.

Art History

In addition to meeting the requirements for advancement to candidacy as described in Part Two of this bulletin, all students will be required to pass a comprehensive examination covering the fields of history of art of western civilization, the principles of art appreciation, and the techniques and materials of the artist, or to have completed a year course in the history of art of western civilization and six undergraduate units of art history.

Students with an emphasis in studio arts must have (1) completed at least 12 units listed on his/her official program with a minimum grade point of 3.0 (B), and (2) been reviewed by the tenured and tenure-track faculty of the emphasis area and received approval of an acceptable body of graduate work completed since classified standing fulfilling the requirements of the area of specialization.

Art History

In addition to meeting the requirements for advancement to candidacy as described in Part Two of this bulletin, all students will be required to pass a comprehensive examination covering the fields of history of art of western civilization, the principles of art appreciation, and the techniques and materials of the artist, or to have completed a year course in the history of art of western civilization and six undergraduate units of art history.

Students with an emphasis in studio arts must have (1) completed at least 12 units listed on his/her official program with a minimum grade point of 3.0 (B), and (2) been reviewed by the tenured and tenure-track faculty of the emphasis area and received approval of an acceptable body of graduate work completed since classified standing fulfilling the requirements of the area of specialization.
Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, all students must complete a graduate program of a minimum of 30 units which includes at least 24 units in art from courses listed below as acceptable on master's degree programs in art, of which at least 16 units must be in 600- and 700-numbered courses.

Studio Arts

Those electing studio arts must complete a minimum of 18 units in the area of specialization. One course in the Art 760 or 770 series, Art 694, and Art 799A are required. Not more than a total of six units in Art 790 will be accepted. A creative project accompanied by a written report is required as fulfillment of Art 799A. In conjunction with this project, each candidate for the degree must present an exhibition of representative graduate work.

Art History

Those electing art history must complete at least 17 units from the 600- and 700-numbered courses in art history, and thirteen units of 500-numbered courses of which nine units must be in art history and the remaining units may be electives. Art 790 and 799A are required. A written thesis is required as fulfillment of Art 799A. Master's candidates in art history will also be required to give an open lecture on their thesis subject, to be scheduled with the approval of the thesis chair.

Thesis and Projects in Art

The thesis required for the Master of Arts degree in Art is a written document; the project is an original work of creative art, accompanied by a written report. All theses and written reports accepted in satisfaction of a requirement for the master's degree are cataloged and accessioned in the library. Color slides of the project must be provided by the candidates and are retained in the slide library. One copy of the thesis must be given to the Department of Art.

Courses Acceptable on Master's Degree Programs in Art

UPPER DIVISION COURSES

500. Advanced Drawing (3) I, II
Six hours.
Prerequisite: 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 203.
Drawing and painting from nude and costumed models. Maximum credit six units.

504. Advanced Painting (3) I, II
Six hours.
Prerequisite: Art 404.
Pictorial composition and painterly process. Maximum credit six units.

505. Advanced Waterbase Media (3) I, II
Six hours.
Prerequisite: Art 405.
Composition in watercolor and related media.

506. Design and Composition (3) I, II
Six hours.
Prerequisite: Art 406.
Structure in picture making.

509. Relief Printmaking (3) I, II
Six hours.
Prerequisites: Art 203, 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.
Individual investigations into sculpture ideas, methods and materials. Individual development in sculpture. Maximum credit six units.
A. Ceramic sculpture
B. Plastic sculpture
C. Foundrymetal sculpture
D. Cellulose sculpture (handmade paper/wood/fiber)

517. Advanced Figurative Sculpture (3) I, II
Six hours.
Prerequisites: Art 216 and 217.
Figurative study with emphasis on individual exploration. Maximum credit six units.

522. Design Crafts (3) Irregular
Six hours.
Prerequisite: Art 220.
Exploration of a variety of materials and techniques. Development of the aesthetic and technical abilities of the artist craftsman. Maximum credit six units.

523. Advanced Furniture Design (3) I, II
Six hours.
Total credit in Art 323, 423 and 523 limited to twelve units.
Prerequisite: Art 423.
Advanced individual design; exploration of materials, process and function. Maximum credit six units.
525. Ceramics (3) I, II
   Six hours.
   Prerequisite: Art 425.
   Study of ceramic design through creative projects of clay forms. Maximum credit six units.

526. Clay and Glaze Technology in Ceramic Design (3)
   Six hours.
   Prerequisite: Art 425.
   Experimentation and application of research concerning the use of ceramic materials and techniques as an integral part of the design process. Maximum credit six units.

529. Design in Enamels (3) I, II
   Six hours.
   Prerequisite: Art 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; specialized techniques such as phototetching and electroforming. 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 436.
   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.

536. Advanced Textile Design (3) I, II
   Six hours.
   Prerequisite: Art 436.
   Application of design for the textile surface, appropriate for both the individual designer and commercial reproduction. 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 Design (3)
   Six hours.
   Prerequisite: Art 441 or 541, or consent of instructor by portfolio review.
   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)
   Six hours.
   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.

552. Interior Design IV (3) I, II
   Six hours.
   Prerequisites: Art 451 and 453.
   Projects in architectural interiors involving the use and perception of enclosed spaces. Space planning systems analysis. Maximum credit six units. (Formerly numbered Art 554.)

553. Interior Design V (3) I
   Six hours.
   Prerequisite: Art 552.
   Projects in interiors involving space planning analysis, specification writing, materials selection and furnishing design appropriate to commercial needs. Maximum credit six units.

557. Art of the Nineteenth Century (3) I, II
   Six hours.
   Prerequisites: Art 258 and 259.
   Development of painting, sculpture, and architecture from the French Revolution to 1900. Major movements in sculpture, painting, graphics and architecture from the beginning of this century to the present.

559. Art Since 1945 (3) I, II
   Six hours.
   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 and architecture of Latin America from the colonial period to the present. Field trips included.

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.

571. 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.

572. Renaissance Art in Italy (3) I
Prerequisites: Art 258 and 259.
Architecture, sculpture, and painting of the Renaissance period in Italy.

573. Northern Renaissance Art (3) II
Prerequisites: Art 258 and 259.
Architecture, sculpture, and painting of the Renaissance period in Italy.

574. Baroque and Rococo Art (3) II
Prerequisites: Art 258 and 259.
Architecture, sculpture, and painting of the Baroque and Rococo periods.

575. Art of Native North America (3) Irregular
Prerequisite: Upper division standing.
Form and content of the art of North American Indians viewed within a cultural context.

576. History of Architecture (3) Irregular
Prerequisites: Art 157, 258, and 259.
Architecture from primitive times to the present.

577. History and Theory of Environmental Design (3) II
Prerequisites: Art 258 and 259.
Environmental arts in the 19th and 20th centuries.

578. 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.

579. 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.

580. 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.

581. 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.

582. Gallery Exhibition Design (3) I, II
Six hours.
Prerequisite: Art 591.
Advanced problems in the theories and techniques of gallery exhibition design.

583. Advanced Studies in Art and Art History (1-4)
Prerequisites: Twelve units of art and art history and consent of instructor.
Advanced topics in art and art history. 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

590. Drawing (3)
Six hours.
Prerequisite: Art 500
Projects synthesizing process and concept in visual field ordering. Maximum credit six units applicable on a master's degree; nine units applicable on a master of fine arts degree.

591. Painting (3)
Six hours.
Prerequisites: Art 405, 504 and 506
Organization with visual subject matter. Maximum credit six units applicable on a master's degree; nine units applicable on a master of fine arts degree.

592. Printmaking (1-3)
Two hours for each unit of credit.
Advanced creative work in selected printmaking media based upon the analysis of the history and philosophies of printmaking from its inception through contemporary concepts. Maximum credit six units applicable on a master's degree; nine units applicable on a master of fine arts degree.

593. Sculpture (3)
Six hours.
Prerequisite: Art 516
Aesthetic organization of selected subject matter in the media of sculpture. Maximum credit six units applicable on a master's degree; nine units applicable on a master of fine arts degree.

600. Advanced Furniture Design (3)
Six hours.
Prerequisite: Art 523
Projects determined by the individual student in conference with the instructor. Maximum credit six units applicable on a master's degree; nine units applicable on a master of fine arts degree.

601. Advanced Clay and Glaze Technology in Ceramic Design (3)
Six hours.
Prerequisite: Six units completed in upper division courses in sculpture or ceramics or printmaking or a combination of these courses.
Advanced creative work in selected craft media. Maximum credit six units applicable on a master's degree; nine units applicable on a master of fine arts degree.

602. Advanced Clay and Glaze Technology in Ceramic Design (3)
Six hours.
Prerequisite: Art 529
Workshop in enamelling technology and its application to the craft. Maximum credit six units applicable on a master's degree; nine units applicable on a master of fine arts degree. (Formerly numbered Art 628.)
631. Seminar in Jewelry and Metalwork (3)
Prerequisite: Art 331. Problems in the design and execution of works in precious metals. Projects will be determined by the individual student in consultation with the instructor. Maximum credit six units applicable on a master’s degree; nine units applicable on a master of fine arts degree.

634. Seminar in Textile Design (3)
Prerequisite: Art 334. Problems in textile design and technology. Projects will be determined by the individual student in consultation with the instructor. Maximum credit six units applicable on a master’s degree; nine units applicable on a master of fine arts degree.

641. Graphic Communication (1-3)
Two hours for each unit of credit.
Prerequisite: Art 541. Advanced individual study in graphic design. Maximum credit six units applicable on a master’s degree; nine units applicable on a master of fine arts degree.

650. Creative Environmental Design (1-3)
Prerequisite: Six upper division units in interior design, architecture or city planning. Creative work in interior design, architecture and civic design. Maximum credit six units applicable on a master’s degree; nine units applicable on a master of fine arts degree.

694. Seminar in the Principles of Design in the Space Arts (3)
Prerequisite: A semester course in art appreciation. An intensive study of the activity of creative expression and aesthetic appreciation in the area of visual experience. The aesthetic analysis of original works of art. Maximum credit six units applicable on a master’s degree.

700. Studio Art Experience (3)
Six hours.
Independent research in specified areas, which may require the presentation of a paper with its oral defense. Each course may be taken to a maximum of six units. Maximum credit six units of 700 applicable on a master’s degree; nine units of 700 applicable on a master of fine arts degree.
A. Studio Art in Painting
B. Studio Art in Sculpture
C. Studio Art in Printmaking
D. Studio Art in Ceramics
E. Studio Art in Crafts
F. Studio Art in Graphic Communication
G. Studio Art in Environmental Design

716. Individual Research Problems in Sculpture (3)
Prerequisite: Art 616 (six units). Graduate research problems including independent research in sculpture. Projects will be determined by the individual student in conference with the instructor. Maximum credit six units applicable on a master’s degree; nine units applicable on a master of fine arts degree.

760. Seminar in Modern Art (3)
Prerequisite: Art 557. Studies in problems of the development of art styles or important artists within broad limits of modern art.

761. Seminar in American Art (3)
Prerequisite: Art 560. Problems in the development of art styles or important artists in America.

767. Advanced Topics: Art of Native America, Africa and Oceania (3)
Studies in problems of the development of art styles, concepts, imagery, and artists within one of the following areas: African, African, or Oceania.

771. Seminar in Medieval Art (3)
Prerequisites: Art 258 and 259. Studies in problems of the development of art styles or important artists within broad limits of medieval art.

773. Seminar in Renaissance Art (3)
Prerequisites: Art 258 and 259. Studies in problems of the development of art styles or important artists within broad limits of renaissance art.

775. Seminar in Baroque and Rococo Art (3)
Prerequisites: Art 258 and 259. Studies in problems of the development of art styles or important artists within broad limits of baroque and rococo art.

790. Seminar in Bibliography and Research Methods (2)
Research methods and materials, compiling of a specialized bibliography preparatory to writing a master’s thesis.

791. Seminar in Professional Practices (3)
Reading and discussion about subjects of direct concern to the professional artist. Open only to classified graduate students in studio art. This is an Art Forum for the practicing artist.

792. Seminar in Professional Problems (3)
An intensive study of the activity of creative expression and aesthetic appreciation in the area of visual experience. The aesthetic analysis of original works of art. Maximum credit six units applicable on a master’s degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of the staff. To be arranged with department chair and the instructor. Individual study. Maximum credit six units applicable on a master’s degree; nine units applicable on a master of fine arts degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval.
Asian Studies

Faculty Members of the Center for Asian Studies

Alian W. Anderson, Ph.D., Professor of Religious Studies
Paochin Chu, Ph.D., Professor of History, Director of Program
Alvin D. Cox, Ph.D., Professor of History
Ann B. Cotrell, Ph.D., Professor of Sociology
Thomas R. Cox, Ph.D., Professor of History
Richard C. Gripp, Ph.D., Professor of Political Science
Edward O. Henry, Ph.D., Professor of Anthropology
Ray G. Jordan Jr., Ph.D., Professor of Religious Studies
Tae jun Kang, Ph.D., Professor of Political Science
Elmer A. Koen, Ph.D., Professor of Geography
Murugappa C. Madhavan, Ph.D., Professor of Economics
Dan D. McLeod, Ph.D., Professor of English and Comparative Literature
Woo Hyun Nam, Ph.D., Professor of Economics
William N. Rogers II, Ph.D., Professor of English and Comparative Literature (Graduate Adviser)
Larry J. Shaw, Ed.D., Professor of Secondary Education
Ray T. Smith Jr., Ph.D., Professor of History
William S. Snyder, Ph.D., Professor of Philosophy
Robert D. Wallace, D.Litt. Professor of Art
Daniel D. Whitney, Ph.D., Professor of Anthropology
Catherine C. Woo, Ed.D., Professor of Classical and Oriental Languages and Literatures
Charles C. Yahr, Ph.D., Professor of Geography
David V. DuFaut, Ph.D., Associate Professor of History
Fay A. Frick, Ph.D., Associate Professor of Art
Yoshiko Higurashi, Ph.D., Associate Professor of Japanese
Ronald S. Hines, Ph.D., Associate Professor of Anthropology
Keny Imai, Ph.D., Associate Professor of Sociology
Rizalino A. Oades, Ph.D., Associate Professor of History
David L. Preston, Ph.D., Associate Professor of Sociology
W. David Frick, PhD, Associate Professor of Art
Yoshiko Higurashi, PhD., Associate Professor of Japanese
Ronald S. Hines, Ph.D., Associate Professor of Anthropology
Keny Imai, Ph.D., Associate Professor of Sociology
Rizalino A. Oades, Ph.D., Associate Professor of History
David L. Preston, Ph.D., Associate Professor of Sociology

General Information

The Master of Arts degree in Asian Studies is an interdisciplinary degree offered by designated faculty members in the Departments of Anthropology, Art, Business Administration, Classical and Oriental Languages and Literatures, Comparative Literature, Economics, Education, English, Geography, History, Linguistics, Philosophy, Political Science, Religious Studies, and Sociology. It is administered by the Center for Asian Studies through a Graduate Committee consisting of the Graduate Adviser and representatives from the several departments.

The program is designed to offer systematic advanced training in (a) those planning to enter educational, business, government, or community service involving Asian Studies, and (b) those in a specific academic discipline who have regional interest in Asian Studies and wish to promote more effective understanding of the cultures, societies, peoples, and social forces at work in the Asian/Pacific world. The program is also designed for those who plan to pursue further graduate study in Asian Studies beyond the Master of Arts degree.

Admission to Graduate Study

In addition to meeting the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must present a Bachelor of Arts degree with a major in Asian Studies or its equivalent, as approved by the Graduate Committee of the Center for Asian Studies. A student whose preparation is deemed inadequate by the Graduate Committee will be required to complete specific courses in addition to the minimum of thirty (30) units required for the degree.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, all students must demonstrate a reading knowledge, at least at the intermediate level, of a relevant foreign language approved by the Graduate Committee of the Center for Asian Studies. If Chinese or Japanese is required, the requirement may be fulfilled by completing 16 units of course work in the particular language, the last four units with a grade of C (2.0) or better.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Two of this bulletin, the student must complete a minimum of 30 units from courses acceptable on master's degree programs, including Asian Studies 601 and 799A, with not less than 24 units in courses of Asian content, distributed as shown below:

<table>
<thead>
<tr>
<th>500- and 600-level Courses</th>
<th>700-level Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Studies</td>
<td>6 units</td>
</tr>
<tr>
<td>Department A</td>
<td>6 units</td>
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<tr>
<td>Department B</td>
<td>3 units</td>
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<td></td>
<td>15 units</td>
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</table>

The remaining six of the total of 30 units will be elective, subject to Graduate Committee approval. The total program may not include more than nine units in 500-level courses.

Only Plan A, requiring the thesis, is offered for the Master of Arts degree in Asian Studies. A final oral examination on the general field of the thesis must be passed as a requirement for the degree.

All programs will be approved by the Graduate Committee of the Center for Asian Studies.

Courses Acceptable on Master's Degree Programs in Asian Studies

UPPER DIVISION COURSES

Asian Studies Course

596. Selected Studies in Asian Cultures (3)

Topics on various aspects of Asian 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.

Geography Course

540. Advanced Regional Geography (3)*

History Courses

561A-561B. Asia and the West (3-3)
562. Civilization of India. The Great Traditions (3)
563. Modern India and its Neighbors (5)
564A-564B. Southeast Asia (3-3)
565. Revolution and Social Change in Asia (3)
566. Chinese Civilization. The Great Traditions (3)
567. China's Century of Modernization (3)
568. Communist Party and the Chinese Revolution (3)
569. Japanese Civilization (3)
570. Modern Japan (3)
596. Selected Studies in History (1-4)*

* Acceptable when of relevant content.
GRADUATE COURSES IN ASIAN STUDIES

Philosophy Course
575. A Major Philosopher (3)*

Religious Studies Courses
506. Spiritual Traditions of India (3)
508. Spiritual Traditions of East Asia (3)
580. A Major Figure (3)
581. A Metaphysical Doctrine (3)

Sociology Course
519. Topics in Comparative Societies (3)*

601. Seminar in Interdisciplinary Methods (3)
Introduction to graduate research methods and presentation of findings.

690. Seminar in Asian Studies (3)
Intensive study of an aspect of Asian studies. Maximum credit six units applicable on a master's degree.

797. Research (1-3) Cr/NC
Research in one of the aspects of Asian studies. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.

Anthropology Courses
600. Seminar (3)*
620. Seminar in Regional Anthropology (3)*

Art Course
609. Printmaking (1-3)*

Economics Courses
635. Seminar in Economic History (3)*
660. Seminar in International Economics (3)*
661. Seminar in the Economics of Underdeveloped Countries (3)*
728. Seminar in Development Planning (3)*

Education Course
683. Comparative Education (3)*

Finance Course
654. Seminar in International Business Finance (3)*

Geography Courses
610. Seminar in History of Geography (3)*
620. Seminar in Regional Geography (3)*
650. Seminar in Systematic Geography (3)*

History Courses
601. Seminar in Historical Method (3)**
650. Directed Reading in Asian History (3)
655. Seminar in Asian History (3)

Linguistics Course
795. Seminar in Linguistics (3)*

Management Courses
723. Seminar in International Strategic Management (3)*
728. Seminar in Business Planning (3)

Marketing Courses
765. Seminar in Marketing Channels and Physical Distribution (3)*
769. Seminar in International Marketing (3)*

Philosophy Courses
635. Seminar in Philosophy of Religion (3)*
795. Seminar in Selected Topics (3)*

Political Sciences Courses
655. Seminar in General Comparative Political Systems (3)*
658. Seminar in Communist Political Systems (3)*
661. Seminar in the Political Systems of the Developing Nations (3)*
675. Seminar in International Relations (3)*

Sociology Course
770. Seminar in Population and Demography (3)*

* Acceptable when of relevant content.
** Required of all students who offer history as Department A, except that Asian Studies 601 is an acceptable substitute.
Astronomy

Faculty
Ronald J. Angione, Ph.D., Professor of Astronomy
C. T. Daub, Ph.D., Professor of Astronomy, Chair of Department
Burt Nelson, Ph.D., Professor of Astronomy, Director of Mount Laguna Observatory
John D. Schopp, Ph.D., Professor of Astronomy (Graduate Adviser), Associate Dean of the College of Sciences
Arthur Young, Ph.D., Professor of Astronomy
Thomas L. May, Ph.D., Associate Professor of Natural Science
F. D. Talbert, Ph.D., Associate Professor of Astronomy
William S. Kovach, Ph.D., Adjunct Professor
Andrew T. Young, Ph.D., Adjunct Professor
Louise G. Young, Ph.D., Adjunct Professor

Assistantships
Graduate teaching assistantships in astronomy are available to a few qualified students. Application blanks and additional information may be secured from the chair of the department.

General Information
The Department of Astronomy in the College of Sciences offers graduate study leading to the Master of Science degree in Astronomy.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. In addition, the student must have an overall grade point average of at least 2.75 in the last 60 units of his/her undergraduate work and must have preparation in astronomy and related sciences substantially equivalent to that required for the bachelor's degree in astronomy at San Diego State University. Applicants transferring to San Diego State University must submit two letters of recommendation.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as specified in Part Two of this bulletin. In addition, students may be required to take a qualifying examination during their first semester of residence.

Specific Requirements for the Master of Science Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must also satisfy the following departmental requirements in his/her 30-unit program:
1. Complete at least 15 units of 600- and 700-numbered courses in astronomy not including 799A.
2. Complete at least nine units of graduate level or approved upper division courses in astronomy or related fields as approved by his/her departmental committee.

3. If a student elects Plan A, he/she must enroll in Astronomy 799A. Thesis. If a student with the approval of the department elects Plan B, he/she must complete at least three additional units of graduate level or approved upper division courses in astronomy or related fields and pass a final comprehensive examination in lieu of the thesis.

4. Complete six units of electives selected with approval of the adviser.

5. A reading knowledge of scientific French, German, or Russian is recommended. Facility with a scientific computing language is desirable.

Courses Acceptable on Master's Degree Programs in Astronomy

UPPER DIVISION COURSES

520. Solar System Astronomy (3)
Prerequisites: Astronomy 101 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

600. Seminar (2 or 3)
Prerequisite: Consent of instructor.
An intensive study of advanced astronomy. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

610. Binary Stars (3)
Prerequisite: Astronomy 312B.
An intensive study of visual, spectroscopic, and eclipsing binaries, including the determination of orbits. Process of mass transfer.

617. Astronomical Photometry (3)
Prerequisites: Astronomy 304B and 312B.
Theory and techniques of photographic and photoelectric photometry in ground-based astronomy. Emphasis on problems of precise measurement and use of modern high speed equipment in photon counting and data acquisition systems.

620. Galactic Structure (3)
Prerequisite: Astronomy 312B.
Survey of basic observational data for determining the structure of the Milky Way Galaxy; luminosity functions, stellar distributions in and near the galactic plane, solar motion, kinematics and dynamics of stellar motions, and galactic rotation; introduction to stellar dynamics.

630. Stellar Interiors (3)
Prerequisite: Astronomy 312B.
Structure of the interior of stars including the details of the reactions by which energy is obtained and the evolution of stars.

640. Interstellar Matter (3)
Prerequisites: Astronomy 312B and Mathematics 530.
Interstellar absorption and polarization, theory of interstellar grains, physics of a low density gas in a dilute radiation field, nebulae, interstellar absorption lines, dynamics of the interstellar medium, and radio observations of the interstellar medium.

650. Stellar Atmospheres (3)
Prerequisite: Astronomy 312A.
Emission and absorption of radiation, continuous spectra, spectral lines, model stellar atmosphere calculations, and non-L.T.E. problems.
660. Extragalactic Structure (3)
Prerequisite: Astronomy 312B.
The individual and collective properties of normal and peculiar galaxies. Topics include classification, spectra, masses, luminosity distributions, distance indicators, clustering, and redshifts.

670. Astrophysical Spectroscopy (3)
Prerequisites: Mathematics 152 and credit or concurrent registration in Astronomy 312A. Interpretation of astronomical spectra in terms of atomic theory and radiative transfer. Optics of spectrograph design, line identification, spectral classification, radial velocity measurement, and line profile analysis.

797. Research (1-3) Cr/NC/SP
Prerequisite: Classified graduate standing. Research in one of the fields of astronomy. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisite: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.

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**Biological Sciences**

**Assistantships**
Graduate teaching assistantships and graduate nonteaching assistantships in biology, botany, and zoology are available to a limited number of qualified students. Application blanks and additional information may be secured from the Coordinator of the Biology Graduate Program.

**General Information**
The departments of Biology, Botany, and Zoology, in the College of Sciences, offer graduate study leading to the degrees of Master of Arts and Master of Science in Biology. In addition, the ecology group offers a joint doctoral program with the Graduate Group in Ecology at the University of California, Davis, and the genetics group offers a joint doctoral program with the University of California, Berkeley.

A modern Life Science building provides facilities for graduate study in the biological sciences. Additional facilities available in the community include the San Diego Zoo Hospital, the United States Department of Agriculture, Fish and Game Commission, the Hubbs-Sea World Research Institute, the San Diego Natural History Museum, and the Naval Undersea Center. San Diego State University also operates a marine laboratory on Mission Bay and has access to research sites in the Chihuahua Valley, Fortuna Mountain, and Temecula (Riverside County).

**Section I: Master's Degree Programs**
The Master of Arts degree is considered to be essentially an academic degree which is planned to serve as a stepping stone to a higher degree, if the student so desires. The Master of Science degree is an applied or more technical degree, but is also acceptable as preparatory to many more advanced degree programs. Study concentration for either of these degrees must be completed in one of the following seven program areas: Botany, Ecology, Genetics and Developmental Biology, Invertebrate Zoology, Molecular Biology, Physiology, and Vertebrate Zoology.

**Admission to Graduate Study**
In addition to the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, a student must satisfy the following requirements before he will be recommended for admission to a program with classified standing:

1. Meet the requirements of an undergraduate major in a biological sciences department at San Diego State University in which graduate work is contemplated.
2. Have a grade point average of 2.75 or better on work taken for the baccalaureate degree.
3. Have a grade point average of 3.0 or better in upper division courses (at least 24 units) in the biological sciences.
4. Have a score of 1100 or better on the GRE General (Aptitude) Test (Quantitative plus Verbal).
5. Have a score above the 60th percentile rank on the GRE Subject (Advanced) Test in Biology. The student should take this test during the last semester in his undergraduate major in biological sciences.
6. Be considered as capable of graduate work in the biological sciences by two references submitted to the Biology Coordinator of Master's Degree Programs.
7. Be accepted by a program area and be sponsored by a faculty member of the area.

**NOTE:** Admission to a program area within the biology graduate program will be limited to the number of students for which adequate facilities and faculty sponsorship are available. Students should therefore be as specific as possible in their indication of research interests and career goals. Individual program areas will admit students solely on the basis of merit in relation to space and faculty availability.
Students who do not meet all of the above requirements for admission with classified graduate standing may be admitted with conditionally classified graduate standing upon the recommendation of the program area. Students so admitted will be advised as to the nature of their deficiency and the time to be allowed to achieve full classified graduate standing.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, including the foreign language requirement for the master of arts degree, as stated in Part Two of this bulletin. Satisfactory progress on the thesis research will be prerequisite to obtaining departmental approval for advancement.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units of upper division and graduate courses selected, with the approval of the graduate adviser, from the biological sciences as listed below or from closely related fields. At least 15 of the units selected must be in 600- and 700-numbered courses including course 799A. Thesis. A maximum of six units of the required 30 units may be selected from acceptable courses offered in the College of Education. A reading knowledge of scientific French, German, Russian, or Spanish, and a final oral examination on the field of the thesis and its implications in the broad fields of biology is also required.

Specific Requirements for the Master of Science Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units of upper division and graduate courses selected, with the approval of the graduate adviser, from the biological sciences as listed below or from closely related fields. At least 15 of the units selected must be in 600- and 700-numbered courses including course 799A. Thesis. A maximum of six units of the required 30 units may be selected from acceptable courses offered in the College of Education. A final oral examination on the field of the thesis and its implication in the broad fields of biology is also required.

Master's Degree Program Areas

Botany: The areas of emphasis for graduate study in the botany program include plant morphology, plant physiology, mycology, plant pathology, physiology, plant evolution, and plant systematics.

Ecology: The overall program emphasizes quantitative approaches to ecological research and the framing of problems within the general context of ecological theory. Faculty and student research currently falls into the areas of limnology, marine ecology, plant community ecology, physiological plant ecology, marine aquaculture and fisheries ecology, animal population ecology, population dynamics, ecosystems management, and systems ecology.

Genetics and Developmental Biology: The genetics program offers an opportunity for genetics, developmental biology, and molecular genetics, developmental biology, and biological function.

Invertebrate Zoology: The emphasis of this program area is focused on invertebrates as whole organisms. Faculty and graduate student research interests are diverse and include a wide range of topics such as functional morphology and evolution of marine invertebrates, symbiosis, and parasitology.

Molecular Biology: The program area is concerned with approaches which aim to explain the molecular basis of cellular architecture, cell movement, bioenergetics and membrane function.

Physiology: The major subareas of interest represented by the faculty in the physiology program area include comparative cell and tissue physiology, and sensory reception, radiation biology and radiobiology techniques, and biochemistry.

Vertebrate Zoology: The emphasis of the vertebrate program area is to provide students with a broad background in all areas of vertebrate biology. The major subareas for graduate study include the general biology and natural history of vertebrates, vertebrate ecology, systematics, morphology, paleontology and evolution, vertebrate physiology, and vertebrate behavior.

Section II: Joint Doctoral Programs

Ecology

The ecologists at SDSU and UCD are involved in a wide spectrum of research including terrestrial, freshwater, and marine ecosystems, at the individual, population, community, and ecosystem levels. At SDSU, the major areas of research and participating faculty members include:

2. Physiological ecology of plants, particularly of the Mediterranean zone, desert, and Arctic tundra: A. Johnson, W. Oechel.
4. Coastal marine systems and species, including aquaculture and thermal effluent studies: D. Dexter, T. Ebert, R. Ford, W. Hazen, J. Zedler.
5. Relations between ecological processes and the sociological, social, and economic factors affecting environmental quality: C. Cooper.

At UCD the Graduate Group in Ecology includes several dozen faculty members whose research interests go beyond those areas listed above. Students interested in seeking a dissertation adviser at UCD should write to the Chair of the Graduate Group at UC Davis, 95616, for information.

Any member of the Ecology faculty at SDSU and UCD is eligible to serve as dissertation adviser in the Ecology Doctoral Program. Faculty members participating will be those with interests of the students involved in the joint program.

Prerequisite

Normally a candidate for the Doctor of Philosophy degree in Ecology will be expected to have a bachelor's degree from an accredited institution with a major in the biological sciences. Courses taken should include one year of chemistry and of physics, introductory statistics, computer programming, and an advanced course in three of the following five categories: genetics, advanced basic biology, biology of species groups, ecology, and numerical techniques. An undergraduate grade point average of at least 3.2 is required, and acceptance to both UCD and SDSU and agreement by a faculty member at either campus to act as a dissertation adviser upon admission to the program; the student is guided by the requirements for the doctoral program given in Part Two of this bulletin. The student will spend at least one year at each campus and may elect to develop a research program with an adviser at either campus.

Staff

San Diego State University:
Coordinator: W. Hazen (Write for further information)
Ecology Program Area Chair: W. Hazen

University of California, Davis:
Chair, Graduate Group in Ecology: R. Merton Love
Coordinator, Joint Doctoral Program: S. Jain
Both San Diego State University and the University of California, Berkeley, cover a wide range of specialized fields in genetics in which the student may prepare himself for his qualifying examination or, in greater depth, for his research. At San Diego, the specific fields best represented are population genetics, ecological genetics, human genetics, biochemical genetics, and genetic regulation. At Berkeley, the fields are population genetics, evolution, biochemical and developmental genetics, human genetics, and cytogenetics.

An undergraduate major in genetics or its equivalent in biological sciences can be considered as standard preparation for admission to the doctoral program in genetics, although completion of additional courses in mathematics and statistics, language, physical chemistry and biochemistry, and in biology generally are helpful and will often reduce the time required for the doctoral program. Other majors in related fields may be considered for admission to the doctoral degree program in genetics.

On admission to the program, the student is guided by the requirements for the doctoral degree program given in Part Two of this bulletin. The student will normally spend his first year in the program completing his year of residency at the University of California, Berkeley. It is desirable for the student to complete his foreign language requirement, if any, and his qualifying examination during this year and to be advanced to candidacy.

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

Staff

The following faculty members of the genetics groups of the cooperating institutions will act as principals in the doctoral program, being available for direction of research and as members of doctoral committees.

**University of California, Berkeley:**
Graduate Adviser: Freeling
Principals: Freeiling, Fogel, Fristrom, Libby, Paigen, St. Lawrence, Spieth, Sung, Taylor, Thomson

**San Diego State University:**
Graduate Adviser: C. Barnett

Courses Acceptable on Master's Degree Programs

**UPPER DIVISION COURSES IN BIOLOGY**

**501. Population Biology (4)**
Two lectures and six hours of laboratory.
Prerequisites: Biology 411 and 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 field 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.

526. Ecology of Renewable Resources (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 411, 420.
Ecological principles in exploitation and management of forest, range, watershed, and recreation lands for sustained human benefit.

530. Limnology (4)
Three lectures and three 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 (3) I, II
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.
Theory underlying microbial genetics.

548. Behavioral Genetics (3)
Prerequisite: Biology 503.
The genetic involvement of single and multiple gene systems in animal behavior.

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)
Prerequisites: Biology 502 or Chemistry 361A-361B or Chemistry 560A-560B.
Topics selected from chromat in 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.
The 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 100 or Zoology 200. Recommended: Biology 430 or 502.
Principles underlying radiological reactions of ionizing radiations. Effects of ionizing radiations on the biochemical, cellular, and organism levels.

570L. Radiation Biology Laboratory (2)
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Biology 570.
The laboratory determination of the effects of ionizing radiation on biological systems.

571. Radiosotope Techniques in Biology (4)
Two lectures and six hours of laboratory.
Prerequisites: Physics 180B and 182B. Biology 100 or Zoology 200. Recommended: Biology 430 or 502.
The principles and application of radioisotopes in biology. Radionuclide measurement, safe handling, tracer and radioautogrophy techniques.

572. Physiology of Human Systems (4)
Three lectures and one hour of discussion.
Human physiology presented at cellular and organ system levels: membrane transport, nerve excitation, muscle contraction, cardiovascular physiology, kidney function, hormone function, reproduction and digestion. For students majoring in a natural science or engineering.
580. Regional Field Studies in Biology (1-3)
One-to-three-week periods during vacations and summer sessions; may be combined with
class meetings during academic year. Prerequisite: At least twelve units in the biological sciences, including Zoology 200, and
consent of instructor. When needed, application for collecting permit must be made at least six
weeks before class begins at the Center for Marine Studies (PS-103).
Extended field studies of the flora, fauna, and biotic communities of major natural regions of
western North America. May be repeated with new content. Maximum credit six units.

590. Recombinant DNA (3) I, II
Prerequisites: Chemistry 361A; Biology 502, 503, 591; Microbiology 310.
Theory and practice of recombinant DNA technologies.

590L. Recombinant DNA Laboratory (2) I, II
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Biology 590.
A laboratory course in recombinant DNA techniques.

591. Prokaryotic and Eukaryotic Molecular Biology (3) I, II
Prerequisites: Chemistry 361A; Biology 502, 503, 591; Microbiology 310.
Gene structure, organization and regulation in prokaryotes and eukaryotes. Mechanisms of
RNA and protein synthesis. Dynamic aspects of the genome.

596. Special Topics in Biology (1-3)
Prerequisite: Consent of instructor.
Advanced selected topics in modern biology. 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 on a bachelor's degree. Maximum credit six units with three units applicable on a
master's degree.

600. Seminar (2-3)
Prerequisite: Consent of instructor.
An intensive study in advanced biology. May be repeated with new content. Topic to be
announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

620. Population and Community Ecology (3)
Two lectures and three hours of laboratory.
Prerequisites: Biology 411.
Formulation, analysis and experimental testing of the theories of the structure and dynamics
of ecological systems at the population and community level.

621. Physiological Ecology (3)
Two lectures and three hours of laboratory.
Prerequisites: Biology 411 and consent of instructor.
The comparative physiological characteristics of natural plant and animal populations in
relation to their habitats and environments.

622. Behavioral Ecology (3)
Two lectures and three hours of laboratory.
Prerequisites: Biology 411 and consent of instructor. Recommended: Zoology 570.
Behavioral mechanisms relating animals to their physical and biotic environment.

626. Aquatic Ecology (3)
Two lectures and three hours of laboratory.
Prerequisites: Biology 411 and consent of instructor. Application for collecting permit must
be made at least six weeks before class begins at the Center for Marine Studies (AS-111).
Ecological concepts as applied to benthic and pelagic populations and communities in
fresh water and marine environments.

GRADUATE COURSES IN BIOLOGY

628. Advanced Topics in Ecology (2-4)
Prerequisites: Biology 411 and consent of instructor.
Selected topics in ecology. May be repeated with new content and consent of the graduate
advisor in ecology. Maximum credit six units applicable on a master's degree.

630. Seminar in Terrestrial Ecology (2)
Prerequisite: Biology 411.
Ecological concepts as applied to the terrestrial environment. May be repeated with new
content. Maximum credit six units applicable on a master's degree.

631. Seminar in Aquatic Ecology (2)
Prerequisite: Biology 411.
Ecological concepts as applied to the fresh water and marine environment. May be
repeated with new content. Maximum credit four units applicable on a master's degree.

635. Ecological Genetics (3)
Prerequisite: Biology 501 or 549.
Contemporary research dealing with ecology and evolutionary biology.

640. Seminar in Genetics (2)
Prerequisite: Biology 503.
Maximum credit four units applicable on a master's degree.

649. Speciation (3)
Prerequisites: Biology 411 and 503, or 549.
Concepts and principles of the origin of species.

660. Seminar in Cellular Physiology (2)
Prerequisite: Biology 502.
Maximum credit four units applicable on a master's degree.

661. Seminar in General Physiology (2)
Prerequisite: Biology 502.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

671. Methods in Physiology (3)
One lecture and six hours of laboratory.
Prerequisite: Biology 502.
Current methods employed in physiological research. Topics include nucleic acid isolation
and in vitro production, activity of membrane transport proteins, microelectrode recording from
single cells, and computer-assisted experiment control and data analysis.

672. Molecular Biophysics (3)
Prerequisites: Biology 502 and Mathematics 122.
The description and analysis of biological processes and systems in terms of the properties
of molecules and of basic principles.

697. Investigation and Report (3)
Analysis and research techniques in biology.

700. Bibliography (1)
Exercises in the use of basic reference books, journals, and specialized bibliographies,
preparatory to the writing of a master's project or thesis.

707. Research (1-3) Cr/NC/SP
Research in one of the fields of biology. Maximum credit six units applicable on a master's
degree.

786. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.
799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in
which the student expects to use the facilities and resources of the university, also student must
be registered in the course when the completed thesis or project is granted final approval.

897. Doctoral Research (3-6) Cr/NC/SP
Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.

899. Doctoral Dissertation (3-6) Cr/NC/SP
Prerequisite: An officially constituted dissertation committee and advancement to
candidacy.
Preparation of the dissertation for the doctoral degree. Enrollment is required during the
term in which the dissertation is approved.

Courses Acceptable on Master's Degree Programs

Upper Division Courses in Botany

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.
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.
GRADUATE COURSES IN BOTANY

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.

600. Seminar (2-3)
Prerequisite: Consent of instructor.
An intensive study in advanced botany. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

601. Seminar in Phycology (2)
Prerequisite: Botany 501.
Recent developments in phycology. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable on a master's degree.

602. Seminar in Mycology (2)
Prerequisite: Botany 502.
Current problems in the taxonomy, morphology or physiology of the fungi. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable on a master's degree.

614. Seminar in Systematic Botany (2)
Prerequisite: Botany 514.
Current problems in the systematics of vascular plants. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable on a master's degree.

630. Seminar in Plant Physiology (2)
Prerequisite: Botany 530.
Current investigations in one of the areas in plant physiology. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable on a master's degree.

797. Research (1-3) Cr/NC/SP
Research in one of the fields of botany. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for a master's degree.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis or project is granted final approval.

GENERAL INFORMATION

The Molecular Biology Institute administers the graduate program in Molecular Biology as a separate emphasis in the Biological Sciences. The Molecular Biology Institute is currently composed of members from the Departments of Biology, Botany and Chemistry and is designed to serve these departments in the coordination, support and enhancement of research and training in the molecular biological sciences.

Candidates for admission should refer to the general information section under the Biological Sciences.

Graduate teaching assistantships in biology and chemistry are available to qualified graduate students. Application blanks and additional information may be obtained from the Coordinator of the Biological Sciences Graduate Program.

ADMISSION TO GRADUATE STUDY

Candidates for admission may come from a variety of disciplines in the biological and physical sciences. Ultimately, the research program of individuals wishing to pursue master's degree work in Molecular Biology will be carried out under the supervision of MBI members drawn from the Biology, Botany or Chemistry Departments.

In addition to the general requirements for admission to the University with classified graduate standing as described in Part Two of this bulletin, a student must satisfy the following admission requirements before being recommended for admission with classified standing.

1) Possess a bachelor's degree with a major in a biological or physical science equivalent to that offered at San Diego State University.

2) Have a grade point average of 2.75 or better in work taken for the baccalaureate degree.

3) Supply three letters of reference that describe the applicants potential for graduate work and research capabilities.

Students who do not meet all of the above requirements for admission with classified graduate standing may be admitted with conditionally classified graduate standing upon the recommendation of the MBI faculty. Students so admitted will be advised as to the nature of their deficiency and the time allowed to achieve full classified graduate standing.
Specific Requirements for the Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units of upper division and the graduate courses selected, with the approval of the MBI graduate adviser, from the courses listed below. At least 15 units of the courses selected must be in 600- and 700-numbered courses including 799A, Thesis. The student must complete at least four units of Molecular Biology 600, three units of Molecular Biology 601 and at least two units of Molecular Biology 610. A final oral examination on the thesis will be administered by the thesis committee; in addition, a formal public presentation of the thesis will be required.

Emphasis in Molecular Biology

Courses Acceptable for the Emphasis in Molecular Biology

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<td>503. Genetics</td>
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<td>519. Statistical Methods</td>
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<td>541. Developmental Biology</td>
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<td>544. Human Genetics</td>
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<td>547. Microbial Genetics</td>
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<td>559. Advanced Genetics</td>
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<td>561. Topics in Cellular Physiology</td>
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<td>568. Immunochemistry (3)</td>
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<td>570. Radiation Biology</td>
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<td>571. Radiosotope Techniques in Biology</td>
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<td>572. Physiology of Human Systems</td>
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<td>590L. Recombinant DNA Laboratory</td>
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<tr>
<td>591. Prokaryotic and Eukaryotic Molecular Biology</td>
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<td>510. Advanced Physical Chemistry</td>
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<td>550. Instrumental Methods of Chemical Analysis</td>
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<td>560A-560B. General Biochemistry</td>
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<td>567. Biochemistry Laboratory</td>
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<td>515. Bacterial and Viral Genetics</td>
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<td>515L. Bacterial and Viral Virology Laboratory</td>
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<td>535. General Virology</td>
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<td>535L. General Virology Laboratory</td>
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<td>540. Immunology and Serology</td>
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<td>540L. Immunology and Serology Laboratory</td>
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<td>580. Animal Viruses</td>
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<td>580. Electron Microscopy</td>
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<td>630. Seminar in Plant Physiology</td>
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<th>Chemistry</th>
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<td>711. Chemical Thermodynamics</td>
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<td>712. Chemical Kinetics</td>
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<td>760. Advanced Topics in Biochemistry</td>
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<td>762. Enzymology</td>
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<td>763. Cellular Regulation</td>
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<td>764. Membrane Biochemistry</td>
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<td>767. Advanced Biochemical Techniques</td>
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<td>790. Seminar (1-3)</td>
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<td>792. Bibliography</td>
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<td>797. Research (1-3) Cr/NC/SP</td>
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<td>600. Seminar in Molecular Biology</td>
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<tr>
<th>GRADUATE COURSES IN MOLECULAR BIOLOGY</th>
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<tr>
<td>600. Seminar in Molecular Biology</td>
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<tr>
<td>Prerequisite: Consent of instructor.</td>
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<tr>
<td>Evaluation of current literature in molecular biology. May be repeated with new content.</td>
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<td>Maximum credit six units applicable on a master's degree.</td>
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601. Colloquium in Molecular Biology Research (1) Cr/NC/SP
Prerequisite: Consent of instructor.
Recent research advances in selected areas of modern molecular biology presented by faculty of the Molecular Biology Institute and established outside investigators. May be repeated with new content. Maximum credit: six units, three of which are applicable on a master's degree.

610. Advanced Topics in Molecular Biology (2-4)
Prerequisite: Graduate standing in a life or physical science.
Topics in molecular biology. See Class Schedule for specific content. May be repeated with new content. Maximum credit: six units applicable on a master's degree.

Zoology

Faculty
Michael D. Atkins, Ph.D., Professor of Zoology
Roger E. Carpenter, Ph.D., Professor of Zoology
Lo-chai Chen, Ph.D., Professor of Zoology (Graduate Adviser)
Theodore J. Cohn, Ph.D., Professor of Zoology
Gerald Coller, Ph.D., Professor of Zoology
Deborah M. Dexter, Ph.D., Professor of Zoology
Richard D. Estes, Ph.D., Professor of Zoology, Chair of Department
Richard E. Etheridge, Ph.D., Professor of Zoology
Don Hunsaker II, Ph.D., Professor of Zoology
Neil Krakorian, Ph.D., Professor of Zoology
Norman McLean, Ph.D., Professor of Zoology (Graduate Adviser)
Ronald E. Monroe, Ph.D., Professor of Zoology
Wilfred J. Wilson, Ph.D., Professor of Zoology
J. David Archibald, Ph.D., Associate Professor of Zoology
Vernon L. Avila, Ph.D., Associate Professor of Zoology
Harry H. Plymale, D.V.M., Associate Professor of Zoology
Shaleen Metten, Ph.D., Assistant Professor of Zoology

Courses Acceptable on Master's Degree Programs

UPPER DIVISION COURSES IN ZOOLOGY

503. Embryology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Studies in comparative gametogenesis, morphogenesis, and reproductive physiology.

506. Comparative Anatomy of the Vertebrates (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Dissection, study and comparison of organ systems of representative vertebrates.

507. Advanced Human Anatomy (4) I, II
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.

508. Histology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200. Recommended: Microbiology 310 or Zoology 108.
Descriptive microscopic anatomy of cells, tissues and organs of mammals, with special emphasis on humans.

510. Marine Invertebrate Zoology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 200.
Structure and function, ecology, behavior, physiology and phylectic relationships of marine invertebrate animals.

512. Special Topics in Marine Invertebrates (3-4)
Prerequisites: Zoology 510 and consent of instructor.
Treatment of some aspect of marine invertebrate zoology such as invertebrate embryology, intertidal ecology, or special 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.  
Prerequisites: Zoology 200.  
Description, taxonomy, systematics, evolution, structure, physiology, behavior and ecology of fishes.

516. Herpetology (4)  
Three lectures and three hours of laboratory.  
Prerequisites: 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.  
Prerequisites: Zoology 200 and consent of instructor.  
The study and identification of birds, especially those of the Pacific Coast and the San Diego region.

518. Mammalogy (4)  
Two lectures and six hours of laboratory.  
Prerequisites: 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.  
Format of course to vary according to the nature of the selected topic.  
A. Lecture course  
B. Lecture and laboratory course. See Class Schedule for lecture/lab format.

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 or 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.  
Prerequisite: Zoology 200. Recommended: At least one course in college algebra, chemistry and physics.  
Study of the evolution and adaptive significance of animal behavior.

580. Aquaculture (3)  
Prerequisite: Zoology 200.  
Principles and practices of the farming of aquatic organisms.
675. Advanced Higher Vertebrate Zoology (2-4)  
Prerequisite: Either Zoology 517 or 518, depending on specific topic announced in Class Schedule.
Advanced treatment of ornithology or mammalogy. May be taken twice with new content for a maximum of eight units. Maximum credit eight units applicable on a master’s degree.

690. Bibliography (1)  
The use of basic reference books, journals, pertinent bibliographies preparatory to the writing of a master’s thesis.

791. Research Techniques (3)  
Prerequisite: Consent of graduate adviser.  
Analysis of research techniques in zoology.

797. Research (1-3) Cr/NC/SP  
Research in one of the fields of zoology. Maximum credit six units applicable on a master’s degree.

798. Special Study (1-3) Cr/NC/SP  
Prerequisite: Consent of department chair and instructor.  
Individual study. Maximum credit six units applicable on a master’s degree.

799A. Thesis or Project (3) Cr/NC/SP  
Prerequisite: Consent of staff; to be arranged with department chair and instructor.  
Preparation of a project or thesis for the master’s degree.

799B. Thesis or Project Extension (0) Cr/NC  
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.  
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval.

Business Administration

Assistantships
Graduate teaching assistantships and graduate nonteaching assistantships in business administration are available to a limited number of qualified students. Application blanks and additional information may be secured from the Dean of the College of Business Administration.

General Information
The College of Business Administration offers graduate study leading to the Master of Business Administration degree, Master of Science degree in Business Administration and the Master of Science degree in Accountancy. The major goals in the master’s degree curriculum are to educate the students for general management positions, for management of the functional areas of business, and for executive responsibilities in organizations having close relationships with business activities. The College of Business Administration is a member of the American Assembly of Collegiate Schools of Business.

The Master of Business Administration degree is designed to provide a broad education in business for the student with either a business or a nonbusiness undergraduate degree. The Master of Science degree in Business Administration is designed to provide additional education and specialization in business subjects for the student who has an undergraduate degree in one of the business subject fields.

The objective of the Master of Science degree in Accountancy is to prepare students for careers as professional accountants in financial institutions, government, industry, nonprofit organizations, and public practice. The basic conceptual knowledge of accounting and business can be obtained through an undergraduate degree or by otherwise meeting the prerequisites for the M.S. degree in Accountancy. The program offers the opportunity for greater depth of education by allowing the students to concentrate their education in courses of specialized study in accounting. The master’s degree programs have been accredited by the American Assembly of Collegiate Schools of Business.

Entrance requirements for any master’s degree curricula are the same, except that minimum GMAT scores may differ from program to program. Any degree is available to any student regardless of previous education, provided the requirements of the degree are met.

All students considering graduate work in business are advised to seek further details from the Associate Dean for Graduate Studies in the College of Business Administration prior to applying for admission.

Close contacts with large and small firms, both local and national, enhance the business student’s education. The generous cooperation of local business and government organizations provides opportunities for research and observation for graduate students. The continued professionalization of the business executive’s responsibilities has created many opportunities for the student with an advanced degree in business administration.

Bureau of Business and Economic Research

The Bureau of Business and Economic Research is an organized research activity serving the needs of the College of Business Administration and the Department of Economics. Operationally, it is a part of the College of Business Administration, with a director and a policy committee. The principal objectives of the Bureau are to (1) conduct research in the areas of economics and business, with special reference to local and regional problems; (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) compile local and regional data; (5) publish the results of Bureau research investigations and aid the faculty in publication of research. Graduate students are encouraged to make use of Bureau facilities.

Admission to the Graduate Program in the College of Business Administration

A student seeking admission to any of the master’s degree curricula offered in the College of Business Administration should make application in the manner set forth in Part Two of this bulletin.
Admission will be based upon the applicant's ranking based on the formula: 200 times the overall GPA as an undergraduate plus the Graduate Management Admission Test (GMAT) score.

Minimum GMAT scores, which may vary from semester to semester, have been established. In addition, the student must meet minimum University grade point requirements. Transcripts and test scores must be on file at San Diego State University sufficiently in advance of the expected date of registration for a decision to be made. For fall admission the GMAT must be taken prior to April 1 and for spring admission, prior to August 1. Details concerning the GMAT may be obtained from the Test Office, San Diego State University, or by writing to the Educational Testing Service, Box 966, Princeton NJ 08541.

Master of Business Administration Degree

Admission to the Degree Curriculum

Regulations governing admission to the University and to the College of Business Administration are outlined above and in Part Two of this bulletin. For admission to the curriculum for the Master of Business Administration degree there are no specific prerequisite courses.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin.

Specific Requirements for the Master of Business Administration Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete an approved program of studies containing between 30 and 60 units of 600- and 700-numbered courses. The exact number of units for each student will depend on the extent of his previous work in business administration. Students with no previous course work in business administration or related fields will normally be expected to complete 60 units. Students with an undergraduate degree in business administration from a professionally accredited school will normally be expected to complete 30 units. Up to nine units of course work may be accepted for transfer. Transfer courses must be strictly graduate courses taken in a professionally accredited graduate program.

At least 21 of the total units required must be completed in residence at San Diego State University, and at least nine units of program courses must be completed after advancement to candidacy.

The requirements for the degree are as follows:

Complete each of the following core of twelve courses for which an equivalent has not been satisfactorily completed.

a. Common body of knowledge.
   Accountancy 600 Financial Accounting (3)
   Economics 603 Economic Analysis (3)
   Finance 604 Law for Business Executives (3)
   Finance 615 Financial Principles and Policies (3)
   Information Systems 609 Computer Programming and Systems Analysis (3)
   Management 601 Management of Organizations (3)
   Management 602 Quantitative Methods I (3)
   Management 612 Quantitative Methods II (3)
   Marketing 605 Marketing (3)

b. Advanced core.
   Accountancy 610 Managerial Accounting (3)
   Finance 616 Managerial Economics (3)
   Management 611 Organizational Behavior and Human Resources (3)

Satisfactory completion means that the student's grade in each equivalent course must be "B" (3.0) or better and that the course must have been completed within ten years prior to the first course completed on his master's degree program.

1. Complete Business Administration 620, Research and Reporting (3) or three units of a research course approved by the Associate Dean for Graduate Studies in Business Administration.

2. Complete Management 726, Seminar in Policy Formulation (3).

3. Complete Management 726, Seminar in Policy Formulation (3).

4. Complete 24 units in the following two categories of specialization and electives. For students that would be required to complete more than sixty units for the degree because of this requirement, up to six units of course work will be waived. This will assure a maximum of 60 semester units for the degree.

   a. Specialization: No more than 15 units in one of the specializations listed below: three units of which must include Business Administration 799A, Thesis (Plan A), or Business Administration 790, Directed Readings in Business Administration. Students choosing the Directed Readings option must then pass a comprehensive examination in their last semester of course work in lieu of the thesis (Plan B).

5. At least 15 units must be in subjects outside the common body of knowledge (section la), Management 726 (section 3) and the specialization (section 4a).

6. Electives, if needed, to total at least 30 units.

7. Not more than a total of six units in courses 797, Research, and 798, Special Study, combined, will be accepted for credit toward the degree.

8. For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, see the section entitled "Basic Requirements for the Master's Degree," in Part Two of this bulletin.

Specializations available:

- Finance
- Information Systems
- International Business
- Management
- Management Science
- Marketing
- Personnel and Industrial Relations
- Production and Operations Management
- Real Estate

b. At least nine units in course work outside the specialization.

5. At least 15 units must be in subjects outside the common body of knowledge (section la), Management 726 (section 3) and the specialization (section 4a).

6. Electives, if needed, to total at least 30 units.

7. Not more than a total of six units in courses 797, Research, and 798, Special Study, combined, will be accepted for credit toward the degree.

8. For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, see the section entitled "Basic Requirements for the Master's Degree," in Part Two of this bulletin.

Master of Science Degree in Business Administration

Admission to the Degree Curriculum

In addition to meeting the requirements for classified graduate standing in the University and admission to the College of Business Administration, as described above, and in Part Two of this bulletin, the student must have satisfactorily completed the following courses or their equivalents before enrolling in 600- and 700-numbered courses listed on the official master's degree program:

Accountancy 212 Accounting Fundamentals I, II (4)
Economics 101-102 Principles of Economics (6)
Economics 201 Statistical Methods (3) or
Mathematics 119 Elementary Statistics for Business (3)
Finance 140 Business Law (3)
Finance 323 Fundamentals of Finance (3)
Information Systems 180 Principles of Information Systems (3)
Management 301 Statistical Analysis for Business (3) or
Management 302 Quantitative Methods (3)
Management 350 Management and Organization (3)
Marketing 370 Marketing (3)
Mathematics 120 Mathematics for Business Analysis (3)
Satisfactory completion means that the student's grade in each course must be "B" (3.0) or better and that the course must have been completed within ten years prior to the first course completed on his master's degree program. In addition, the student's adviser may request satisfactory completion of additional prerequisite courses in the student's proposed field of specialization.

Notice of admission to a curriculum with classified graduate standing will be sent to the student by the Graduate Division Office only upon the recommendation of the College of Business Administration.

### Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin.

### Specific Requirements for the Master of Science Degree

In addition to meeting the requirements for classified graduate standing as described above and the general requirements for master's degrees as described in Part Two of this bulletin, the student must complete a graduate program of 30 approved units including at least 21 units in 600- and 700-numbered courses. Business Administration 799A, Thesis, required. Finance 616, Managerial Economics, is required unless the student has completed sufficient advanced economics courses as a part of his/her undergraduate preparation. Management 726, Seminar in Policy Formulation, is required unless the student has completed Management 405, Business Strategy and Integration, as part of his/her undergraduate degree. At least 24 units must be in business administration and economics. Not more than a total of six units in courses 797, Research, and 798, Special Study, may be accepted for credit toward the degree.

The following concentrations are available:

1. Finance
2. Financial Services
3. Information Systems
4. International Business
5. Management
6. Management Science
7. Marketing
8. Personnel and Industrial Relations
9. Production and Operations
10. Real Estate

For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, see the section entitled "Basic Requirements for the Master's Degree," in Part Two of this bulletin.

* The following additional courses or their equivalents must have been satisfactorily completed for a Financial Services Concentration before enrolling in 600- and 700-numbered courses listed on the official master's degree program: Management 405, Finance 321 and two of the following: Accountancy 410, Finance 325, 326, 327, 331, 342

### Courses Acceptable on Master's Degree Programs in Business Administration

#### GRADUATE COURSES

Classified graduate standing is a prerequisite for all 600- and 700-numbered courses.

#### GENERAL

**620. Research and Reporting (3)**

Prerequisite: Management 612.

Principles of research design and data accumulation. The analysis and effective presentation of data related to business and industry.

**790. Directed Readings in Business Administration (3)**

Prerequisite: Advancement to candidacy.

Preparation for the comprehensive examination for those students in the M.B.A. program under Plan B.

**797. Research (3) Cr/NC/SP**

Prerequisite: Advancement to candidacy.

Research in one of the fields of business administration. Maximum credit six units applicable on a master's degree.

**799A. Thesis (3) Cr/NC/SP**

Prerequisites: An officially appointed thesis committee and advancement to candidacy.

Preparation of a project or thesis for the master's degree.

**799B. Thesis Extension (0) Cr/NC**

Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.

Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis is granted final approval.
Accountancy

Faculty

Allan R. Bailey, Ph.D., Professor of Accounting, Dean of the College of Business Administration
Andrew H. Barnett, D.B.A., Professor of Accounting
Arthur Brodershatzer, D.B.A., Professor of Accounting
David H. Butler, Ph.D., Professor of Accounting
Charles W. Lamden, Ph.D., Professor of Accounting
Kevin M. Lightner, Ph.D., Professor of Accounting
Robert A. Meier, Ph.D., Professor of Accounting
Robert F. Meigs, Ph.D., Professor of Accounting
Richard A. Samuelson, Ph.D., Professor of Accounting, Director of Department
Leslie W. Snudden, D.B.A., Professor of Accounting
Howard R. Toole, Ph.D., Professor of Accounting (Graduate Adviser)
Gerald E. Whittenburg, Ph.D., Professor of Accounting (Graduate Adviser)
R. Ray Whittington, Ph.D., Professor of Accounting (Graduate Adviser)
James E. Williamson, Ph.D., Professor of Accounting
Van B. Ballie, Ph.D., Associate Professor of Accounting
Byron M. Knutsen, M.B.A., Associate Professor of Accounting
Sharon M. Lightner, Ph.D., Associate Professor of Accounting
Lewis Buller, Ph.D., Visiting Lecturer in Accounting
H. Charles Griffin, Visiting Lecturer in Accounting

Master of Science Degree in Accountancy

General Information

The objective of the Master of Science degree program in Accountancy is to provide students with greater breadth and depth in accounting education than is possible in the baccalaureate degree. The program allows students to focus their accounting studies in an area of specialization within the field of accounting and to gain a greater breadth in their knowledge of business and accounting. In order to provide the opportunity for specializing one's accounting knowledge, the M.S. program provides three areas of specialization: financial accounting, managerial accounting and taxation. Each area consists of a series of selected courses which students take upon the recommendation of their advisor. Specialization within the M.S. degree is intended to give students the necessary academic background and research experience to advance their careers in public accounting, private accounting or government.

Admission to the Degree Curriculum

In addition to meeting the requirements for classified graduate standing in the University and admission to the College of Business Administration, as described above, and in Part Two of this bulletin, the student must have satisfactorily completed the following courses or their equivalents before enrolling in 600- and 700-numbered courses listed on the official master's degree program:

- Accountancy 212: Accounting Fundamentals I, II (4)
- Finance 140: Business Law (3)
- Information Systems 180: Principles of Information Systems (3)
- Economics 101-102: Principles of Economics (6)
- Economics 201: Statistical Methods, or

Notice of admission to a curriculum with classified graduate standing will be sent to the student by the Graduate Division Office only upon the recommendation of the College of Business Administration.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin.

Specific Requirements for the Master of Science Degree in Accountancy

In addition to meeting the requirements for classified graduate standing as described above and the general requirements for masters' degrees as described in Part Two of this bulletin, the student must complete a graduate program of 30 approved units including at least 21 units in 600- and 700-numbered courses, of which at least 15 units must be in accounting courses at San Diego State University. The accounting courses must include at least 12 units in accountancy courses numbered 635 and above. Under Plan A, Business Administration 799A, Thesis, is required. Under the optional Plan B, a comprehensive examination and three units of additional coursework may be substituted for the thesis requirement.

In the graduate and undergraduate program the student must complete at least 30 semester units beyond principles of accounting in the accounting discipline. In Accounting 634, Auditing, is required unless the student has completed Accounting 414, Auditing, as part of his/her undergraduate preparation. Accountancy 634, Auditing, is required unless the student has completed Accounting 414, Auditing, as part of his/her undergraduate preparation. Accountancy 634, Auditing, is required unless the student has completed Information Systems 380, Information Systems Analysis and Design, as part of his/her undergraduate preparation.

The program must include at least 24 units in business administration and economics. Not more than a total of six units in courses 797, Research, and 798, Special Study, may be accepted for credit toward the degree.

The following specializations are available for the Master of Science degree in Accountancy:

- Financial Accounting
- Managerial Accounting
- Taxation

For regulations concerning grade point average, final approval for the granting of the degree, award of the degree, and diplomas, see the section entitled "Basic Requirements for the Master's Degree," in Part Two of this bulletin.
Courses Acceptable on Master's Degree Program in Accountancy

UPPER DIVISION COURSES IN ACCOUNTANCY

511. Federal Income Tax II (3) I, II
Prerequisite: Accountancy 410.
Taxation of corporations, partnerships, estates, and trusts. Gift and estate tax. (Formerly numbered Business Administration 411.)

512. Advanced Managerial Accounting (3) I, II
Prerequisites: Accountancy 310 and Management 302.
Use of accounting information systems for managerial decision making. Introduction to decision-making situations which use accounting information for full or partial resolution. Consideration of uncertainty, decision theory and specific decision contexts. (Formerly numbered Business Administration 412.)

515. Accounting for Not-For-Profit Organizations (3) I, II
Prerequisite: Accountancy 310.
Principles of fund accounting useful in state and local governmental units, hospitals, colleges, and universities. Comparisons with commercial accounting emphasized. Includes study of budgetary accounting, appropriations, encumbrances, internal checks and auditing procedures. (Formerly numbered Business Administration 415.)

GRADUATE COURSES IN ACCOUNTANCY

600. Financial Accounting (3)
Basic concepts and principles of financial accounting; accounting as a data processing system; measurement of business income; financial statements.

610. Managerial Accounting (3)
Prerequisite: Accountancy 600.
Accounting in relation to the decision-making process; various cost systems; relevancy of various cost concepts, direct costing, flexible budgets, distribution costing; break-even analysis; capital budgeting; and other techniques of management planning and control.

630. Accounting Theory and Analysis of Financial Statements (3)
Prerequisite: Accountancy 600.
The theories, principles and concepts underlying financial statements, measurement and presentation of enterprise resources, liabilities and income in accordance with generally accepted accounting principles.

Prerequisite: Accountancy 630.
Special problem areas in the reporting of corporate assets and equities: emphasis upon pronouncements of regulatory bodies such as the Financial Accounting Standards Board and the Securities and Exchange Commission.

632. Advanced Accounting (3)
Prerequisite: Accountancy 630.
Principles and concepts related to the measurement, determination, and presentation of resources, equities, and income of parent and affiliated companies; concepts of fund accounting; specialized reporting for partnership formation, income distribution, and liquidation.

633. Federal Income Tax (3)
Prerequisite: Accountancy 630.
Individual federal income tax, including deductions, credits, social security taxes, and property transactions.

634. Auditing (3)
Prerequisite: Accountancy 632.
Application of auditing principles in verification of financial statements; internal control systems and operational auditing; review of AICPA and SEC bulletins and regulations; professional ethics, audit standards, procedures, sampling techniques, and reporting writing; trends and developments in auditing profession.

635. Seminar in Taxation Topics (3)
Prerequisite: Credit or concurrent registration in Accountancy 511.
Theoretical treatment of selected topics in taxation. May be repeated with new content. Maximum credit six units applicable on a master's degree. See Class Schedule for specific content.

636. Seminar in Corporate Tax (3)
Prerequisite: Credit or concurrent registration in Accountancy 511.
Corporate tax problems involving distributions, liquidations, reorganizations, redemptions, personal holding companies, accumulated earnings tax, and thin capitalization.

637. Seminar in Accounting Information Systems (3)
Prerequisites: Accountancy 610 and Management 612.
Design of accounting systems. Current trends as discussed in the literature. Computerized procedures for internal and external reporting.

638. Seminar in Managerial Accounting (3)
Prerequisite: Accountancy 610.
Managerial cost accounting concepts and procedures, including budgetary planning, cost control, advisory functions, measurement of divisional profitability, product pricing, and investment decisions.

639. Seminar in Accounting Theory (3)
Prerequisite: Accountancy 632.
Historical development of accounting principles and theory; problems in valuation, income determination, and statement presentation.

640. Seminar in Tax Research and Planning (3)
Prerequisite: Credit or concurrent registration in Accountancy 511.
Tax research with emphasis on solving tax planning problems. Introduction to statutory, administrative, and judicial sources of tax law.

641. Seminar in International Accounting Standards (3)
Prerequisite: Accountancy 630.
Theories, practices, and concepts which underlie development of standards of financial reporting for enterprises engaged in international trade and business.

642. Seminar in Auditing (3)
Prerequisite: Accountancy 634.
Selected conceptual issues in auditing.

643. Seminar in Financial Accounting and Auditing Problems (3)
Prerequisites: Accountancy 631 and 634.
Current problems in financial reporting and auditing. Case analysis and recent and proposed official pronouncements.

644. Seminar in Federal Estate and Gift Tax (3)
Prerequisite: Credit or concurrent registration in Accountancy 511.
Estate and Gift Tax problems; Income Taxation of Trust and Estates.

645. Seminar in Tax Practice (3)
Prerequisite: Credit or concurrent registration in Accountancy 511.
Tax practice procedures as they affect the practitioners' dealing with the IRS; statute of limitations, ethical problems, penalties, interest, tax fraud.

646. Seminar in Partnership Taxation (3) I, II
Prerequisite: Accountancy 511.
Partnership tax problems involving partnership formation, operations, distributions and liquidations.

795. Seminar in Selected Topics (3)
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Selected areas of concern in accounting. May be repeated with new content. Topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.
Finance

Faculty
William H. Hippaka, J.D., Professor of Finance
Robert P. Hungate, Ph.D., Professor of Finance
Robert C. Hutchins, D.B.A., Professor of Finance (Graduate Adviser)
Brian M. Neuberger, D.B.A., Professor of Finance
William A. Nye, Ph.D., Professor of Finance
William W. Rentis, Ph.D., Professor of Finance (Graduate Adviser)
James L. Short, Ph.D., Professor of Finance (Graduate Adviser)
Peter A. Vandenberg, D.B.A., Professor of Finance, Chair of Department
Thomas M.D. Warschauer, D.B.A., Professor of Finance (Graduate Adviser), Financial Services, Associate Dean for Academic Affairs, College of Business Administration
Russell L. Block, J.D., Associate Professor of Finance
Keith C. Brown, Ph.D., Associate Professor of Finance
Antony Cherin, D.B.A., Associate Professor of Finance
Robert T. Fisher, Ed.D., J.D., Associate Professor of Finance
Kamal M. Haddad, Ph.D., Associate Professor of Finance
Kanwal S. Sachdeva, D.B.A., Associate Professor of Finance
Mehdi Saehezadeh, Ph.D., Associate Professor of Finance
William Sterk, Ph.D., Associate Professor of Finance (Graduate Adviser)
John C. Bost, J.D., Assistant Professor of Finance
Robert W. Wilbur, Ph.D., Assistant Professor of Finance

Courses Acceptable on Master's Degree Programs in Business Administration

UPPER DIVISION COURSES IN FINANCE

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

604. Law for Business Executives (3)
Prerequisite: Finance 342
Development, significance, and interrelationships of law and business. Analysis of essential aspects of law pertaining to business including materials from the law of contracts, sales, agency; business organizations, property, negotiable instruments, secured transactions; Effects of government regulation of labor and business.

615. Financial Principles and Policies (3)
Prerequisite: Accounting 600
Finance and financial institutions as they relate to the firm and the flow of funds. Emphasis on the supply of and demand for capital, principles and tools of business finance, money and capital markets.

616. Managerial Economics (3)
Prerequisite: Economics 603
Role of economic theory in management analysis and decision. Study of demand, cost, and supply theories from a business viewpoint.

650. Seminar in Business Finance (3)
Prerequisite: Finance 615
Application of principles of finance to current problems in financial management, with emphasis on planning and development of tools for use in decision making. Consideration of case materials, study of the literature, and development of individual student reports.

651. Seminar in Investments (3)
Prerequisite: Finance 342
Examination of firms from an investment point of view, historical and current developments affecting investment values; sources of information; techniques of analysis; measurement of risks, returns, and investment values.

652. Seminar in Security Analysis and Portfolio Management (3)
Prerequisites: Finance 651 and Information Systems 609

653. Seminar in Quantitative Analysis for Financial Decisions (3)
Prerequisites: Finance 650, Information Systems 609 and Management 612
Quantitative techniques and the computer as employed to optimize financial decisions.

654. Seminar in International Business Finance (3)
Prerequisite: Finance 615
International finance applied to the business firm.

655. Seminar in Financial Markets (3)
Prerequisite: Finance 615
Analysis of money and capital markets. Emphasis on factors of influence and sources and uses of data. Survey of literature in the field.

656. Seminar in Financial Institutions (3)
Prerequisite: Finance 615
Change in financial institution management thought. Trends in asset management theory and liability management theory. Current events in financial institutions, changes likely to occur and proposed changes in laws and regulations.

657. Seminar in Financial Counseling (3)
Prerequisites: Advancement to Candidacy and Finance 651
Financial needs of the individual. The decision-making process and theory relative to those needs. Planning and implementation of programs that will aid in growth, accumulation and distribution of family assets.

705. Seminar in Estate Planning (3)
Prerequisite: Finance 615
The scope and nature of estate planning; Identification and analysis of the environmental factors and those aspects of federal and state law affecting estate planning and taxation. Estate taxation and social policy.

760. Seminar in Real Estate and Urban Development (3)
Prerequisite: Finance 616 or Economics 603
Real estate market functions and operations. Real estate finance and appraisal theories and approaches. Models of urban land use and urban development. Issues in real estate decision making.

783. Seminar in Real Estate Finance and Investment (3)
Prerequisite: Finance 780
Theories and factors governing the financial functions of lenders, business and governmental agencies in real estate lending operations. Analysis of real estate investment by financial institutions; corporations; individuals and government.

784. Seminar in Real Property Valuation (3)
Prerequisite: Finance 780
785. Seminar in Urban Land Policy (3)
Prerequisite: Finance 780 or City Planning 610 or Economics 758 or Geography 570.
Relationship between private and public role players in urban land allocation and utilization.
Problems arising from private market land use decisions. Current and future policy alternatives
such as land use controls, urban growth policies and housing programs.
795. Seminar in Selected Topics (3)
Selected areas of concern in finance. May be repeated with a new content. Topic to be
announced in the class schedule. Maximum credit six units applicable on a master's degree.
798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

Information Systems

Faculty
Maurice L. Crawford, Ed.D., Professor of Information Systems
Norman E. Sondak, D. Eng., Professor of Information Systems, Chair of Department
William E. Spaulding Jr., Ph.D., Professor of Information Systems (Graduate Adviser)
William E. Peck, Ph.D., Associate Professor of Information Systems
Marie E. Pitney, Ph.D., Associate Professor of Information Systems
Richard A. Hatch, Ph.D., Associate Professor of Information Systems
James T. Perry, Ph.D., Associate Professor of Information Systems
Satya P. Saraswat, Ph.D., Associate Professor of Information Systems (Graduate Adviser)
Gretchen N. Vix, Ph.D., Associate Professor of Information Systems

Courses Acceptable on Master's Degree Programs in Business Administration

GRADUATE COURSES IN INFORMATION SYSTEMS

609. Computer Programming and Systems Analysis (3)
Prerequisite: Management 602.
Fundamentals of computer, problem-oriented computer language, flow-charting logic and
methods, analysis of the synthesis of computer-based systems.

680. Computer Hardware and Software Systems (3)
Prerequisite: Information Systems 609.
Computer architecture, programming languages, programming systems, and operating
systems.

681. Data Organization and Processing (3)
Prerequisite: Information Systems 680.
Information and file handling, storage devices and use of secondary index organizations.
Logical and physical data structures. Commercially available generalized data base
management systems.

682. Structured Design Methodologies in Business Systems (3)
Prerequisite: Information Systems 680.
Structured analysis and design applied to the development of business information
systems. Strategies to develop systems and program designs. Problem definition, objectives
and estimates. Logical construction of programs. Systems life cycle support and management
issues in business applications.

684. Small Computer Systems for Business (3)
Prerequisite: Information Systems 609.
Features of small computer systems, microcomputers, minicomputers, peripheral devices
for small systems. Programming languages, operating systems, and software packages for
small systems.

685. Seminar in Information Systems Applications (3)
Prerequisite: Information Systems 609.
Information systems applications in a particular field. Emphasis on hardware/software/processing interrelationships and analysis techniques that are unique to that specialty.
Current and future information systems potential and trends. See class schedule for specific
content.

687. Distributed Data Processing Systems (3)
Prerequisite: Information Systems 680.
Data communications fundamentals; survey of hardware and software support for
commercial applications of data communications; multi-mini computer system hardware to
implement distributed processing; message communication; electronic mail; network
configurations; fully interconnected, distributed systems; application examples of distributed
processing systems for business.
689. Seminar in Advanced Systems Analysis and Design (3)
Prerequisite: Information Systems 680
Examination of traditional systems projects, structured systems analysis and other applications to developing business applications on a computer.

690. Computers in Administrative Systems (3)
Prerequisite: Information Systems 690
Technical foundations of computerized administrative systems and organizational applications. Design and implementation of such systems and organizational consequences.

698. Seminar in Management and Control of Information Systems (3)
Prerequisite: Information Systems 680
Identification, evaluation, and application of management and control techniques in an information processing environment stressing student investigation of current topics. (Formerly numbered Information Systems 688.)

699. Seminar in Advanced Information Systems Topics (3)
Prerequisites: Information Systems 680 and advancement to candidacy
Advanced topics in information systems. May be repeated once with approval of adviser. See class schedule for specific content. Maximum credit six units applicable on a master’s degree. (Formerly numbered Information Systems 688.)

795. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master’s degree.

Management

Faculty
Thomas J. Atchison, Ph.D., Professor of Management (Graduate Adviser)
James R. Beatty, Ph.D., Professor of Management, Chair of Department
James A. Belasco, Ph.D., Professor of Management
David W. Belcher, Ph.D., Professor of Management (Graduate Adviser)
Milton M. Chen, Ph.D., Professor of Management (Graduate Adviser)
Herman Gadon, Ph.D., Professor of Management
Oliver Galbraith III, Ph.D., Professor of Management
Jaisingh V. Ghorpade, Ph.D., Professor of Management
David R. Hampton, Ph.D., Professor of Management
Daryl G. Mitton, Ph.D., Professor of Management
Lynn H. Peters, Ph.D., Professor of Management
Stephen P. Robbins, Ph.D., Professor of Management
William R. Sherrard, Ph.D., Professor of Management (Graduate Adviser)
Israel Unterman, D.B.A., Professor of Management
Stephen R. Jenner, Ph.D., Associate Professor of Management
James R. Lackritz, Ph.D., Associate Professor of Management
Debort M. Nebeker, Ph.D., Associate Professor of Management
Penny L. Wright, Ph.D., Associate Professor of Management (Graduate Adviser)
F. Neil Brady, Ph.D., Assistant Professor of Management
Richard M. Castaldi, Ph.D., Assistant Professor of Management
Alex F. De Noble, Ph.D., Assistant Professor of Management

Courses Acceptable on Master’s Degree Programs in Business Administration

GRADUATE COURSES IN MANAGEMENT

601. Management of Organizations (3)
Role of manager in organizations including strategic management of resources and environment. Implementation of strategy through organization design and process.

602. Quantitative Methods I (3)
Measure of central tendency and variation; sampling and various statistical tests such as analysis of variance, F, t, and X^2 tests. Simple and multiple correlation.

611. Organizational Behavior and Human Resources Management (3)
Prerequisite: Management 601.
Theories, practice, and legal considerations of dealing with people in organizations. Analysis of organizational systems and managerial actions for accomplishing work through individuals and groups.

612. Quantitative Methods II (3)
Prerequisite: Management 602.
The design of statistical experiments and various operations research techniques such as simulation, linear programming, queuing theory, and Markov chain analysis.

670. Seminar in Personnel Planning and Staffing (3)
Prerequisites recommended: Management 601, 602 and 611 or equivalent course in the behavioral sciences.
Theories and models of manpower planning; inventorying and forecasting of manpower needs and requirements; labor force analysis; recruitment; the staffing process; measurement tools and techniques.
671. Seminar in Union-Management Relations (3)  
Prerequisites recommended: Management 601, 602 and 611 or equivalent course in the behavioral sciences.  
Interaction of unions and business organizations with emphasis on collective bargaining. Effects on management and society. Trends in collective bargaining and in the organization of employees.

672. Seminar in Compensation (3)  
Prerequisites recommended: Management 601, 602 and 611 or equivalent course in the behavioral sciences.  
The organizational process of compensating employees. Compensation theory from economics, psychology, and sociology. Compensation systems and their effects on organizations and individuals.

673. Seminar in Organizational Development (3)  
Prerequisite: Management 611.  
The process of developing human resources and organizations. Theories of organizational development; tools and techniques; analysis of manpower and organizational development programs.

679. Seminar in Personnel and Industrial Relations (3)  
Prerequisites: Management 601, 611 and at least one of Management 670, 671, or 672.  
Analysis of issues and application of behavioral science theory in acquiring, developing, rewarding, and utilizing human resources.

710. Seminar in World Business Environment (3)  
Prerequisite: Economics 603.  
The nature, dimensions and motives of International Business. Impact of environmental factors. The nature of the multinational corporation; the importance of national and multilateral controls and policies for International Business management.

720. Seminar in Behavioral Sciences for Management (3)  
Prerequisite: Management 611.  
Applications of findings from behavioral sciences to management problems and decisions. Study of organization cultures and subcultures; impact of human behavior on the enterprise.

721. Seminar in Group Processes and Leadership (3)  
Prerequisite: Management 611.  
Perceptions and processes in work groups. Experience in interpersonal networks; influence and rewards; stereotypes; managing differences and conflicts.

722. Seminar in Organizations and the Social Environment (3)  
Prerequisite: Management 611.  
Societal forces underlying the American industrial system; modern corporations and their historical antecedents; the organization man; the role of technology and the political economy in industrial society.

723. Seminar in International Strategic Management (3)  
Prerequisite: Management 611.  
Strategic decision making in managing international enterprises; general management problems in directing and controlling transnational companies, including entry acquisitions and joint ventures. Cases and readings to acquaint students with worldwide business practices.

724. Seminar in the Entrepreneur (3)  
Prerequisite: Management 611.  
Examination of the entrepreneurial approach: concepts, theory and techniques of managerial innovation and implementation; analysis of entrepreneurial skills.

726. Seminar in Policy Formulation (3)  
Prerequisites: Advancement to candidacy and consent of instructor.  
Building and maintaining enterprises in our society; determining objectives; developing policies and plans for achievement; measuring and controlling organizational activities; reappraising objectives and policies on the basis of new developments.

728. Seminar in Business Planning (3)  
Prerequisites: Finance 615, Management 601 and Marketing 605, and nine units in Business Administration courses numbered 630 or above.  
Strategic decision making, long-range forecasting, and corporate planning with major emphasis on product-market relationships.

729. Seminar in Organization Theory (3)  
Prerequisite: Management 611.  
Nature of organizations in modern society; their characteristics, design and processes.  
Environment of organizations and its impact on design and operations.

740. Seminar in Operations Research: Deterministic Systems (3)  
Prerequisites: Information Systems 609 and Management 612.  
Mathematical optimization techniques for deterministic systems. Advanced topics in linear programming; nonlinear, dynamic, and integer programming; selected examples of application.

Prerequisite: Management 602.  
Use of probability and statistical decision theory for decision making under conditions of uncertainty. Markov processes, queuing theory, and the theory of games.

742. Seminar in Computer Applications in Operations Research (3)  
Prerequisites: Information Systems 609 and Management 612.  
Computer simulation techniques for analysis of complex decision problems. Implementation of optimization algorithms through use of the digital computer.

743. Seminar in Management Science: Theory (3)  
Prerequisite: Management 740 or 741.  
Examination of recent developments in management science/operations research theory and methodology.

744. Seminar in Management Science: Application (3)  
Prerequisite: Management 612.  
Quantitative techniques for managerial planning and decision making. Applications of operations research and other concepts to industrial situations.

745. Seminar in Quantitative Forecasting and Planning (3)  
Prerequisite: Management 612.  
Mathematical approach to intermediate and long-range forecasting of economic and technological variables which affect the firm. Development of solution algorithms and heuristic procedures for solution of dynamic planning problems.

748. Seminar in Applied Multivariate Statistics for Business (3)  
Prerequisite: Management 612.  
Applications of various multivariate techniques such as factor analysis, multiple regression, judgment analysis, hierarchical grouping, multiple discriminant analysis, multivariate analysis variance, canonical correlation.

749. Seminar in Applied Behavioral Measurement (3)  
Prerequisites: Management 602 and 611.  
Measurement procedures useful in analyzing such areas as leadership, job satisfaction, attitudes, motivation, etc. Development and use of scaling strategies including Thurstone, Thurstone, Guttman, paired-comparison, forced-choice, semantic-differential, and review of existing instruments used in business-related settings.

750. Production and Operations Management (3)  
Prerequisite: Management 612.  
Theory, concepts and decision analysis related to effective utilization of major factors of production in manufacturing and service industries. Utilizes the systems approach. Includes forecasting, planning, and effects of safety regulations.

751. Seminar in Methods Engineering and Job Design (3)  
Prerequisite: Management 750.  
Use of industrial engineering for management decisions—job simplification and motion economy; micromotion analysis, time standards and determination, performance rating, allowances, statistical work measurement, learning curves, formula construction, machine interference and the establishment of production times from standard data.
752. Seminar in Materials Requirement Planning (3)  
Prerequisite: Management 750.  
Product structure, master scheduling and materials requirement planning (MRP).

754. Seminar in Production and Operations Management (3)  
Prerequisite: Management 750.  
Case studies of selected industries, emphasizing integration of the manufacturing and operations functions with the major goals of the organization.

795. Seminar in Selected Topics (3)  
Selected areas of concern in management. May be repeated with new content. Topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP  
Prerequisite: Consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master's degree.

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Marketing

Faculty

William F. Barber, Ph.D., Professor of Marketing, Associate Dean for Graduate Studies, College of Business Administration
Michael A. Belch, Ph.D., Professor of Marketing
Robert W. Haas, D.B.A., Professor of Marketing
E. Alan Hale, Ph.D., Professor of Marketing (Graduate Adviser)
Donald A. Lindgren, Ph.D., Professor of Marketing
John B. McFall, Ph.D., Professor of Marketing
Donald Sciglimpaglia, D.B.A., Professor of Marketing
Robert B. Settle, Ph.D., Professor of Marketing
Dinoo T. Vanier, Ph.D., Professor of Marketing, Chair of Department
Thomas R. Woetuba, Ph.D., Professor of Marketing
George E. Belch, Ph.D., Associate Professor of Marketing
M. Jeffery Kallis, Associate Professor of Marketing
Praeep K. Tyagi, Ph.D., Associate Professor of Marketing
Kathleen A. Krentler, D.B.A., Assistant Professor of Marketing (Graduate Adviser)
Angelina Villarreal-Carracho, Ph.D., Assistant Professor of Marketing
Farouk I. Heiba, Ph.D., Visiting Professor of Marketing

Courses Acceptable on Master's Degree Programs in Business Administration

GRADUATE COURSES IN MARKETING

605. Marketing (3)  
The marketing activities of a firm in relation to management and society. Application of economic theory to marketing institutions and functions. Not open to students with credit for Marketing 370.

760. Seminar in Consumer Behavior (3)  
Prerequisite: Marketing 605.  
The study of consumer behavior in relation to marketing strategy and the changing environment of business.

761. Seminar in New Products Marketing (3)  
Prerequisite: Marketing 605.  
The study of new products management in relation to planning and implementation of marketing strategy.

762. Seminar in Advertising Management (3)  
Prerequisite: Marketing 605.  
Advertising and sales promotion in relation to the planning and implementation of marketing strategy.

763. Seminar in Sales Management (3)  
Prerequisite: Marketing 605.  
Sales management and personal selling decisions and strategies in business organizations.

764. Seminar in Marketing Price Policy (3)  
Prerequisite: Marketing 605.  
Study of pricing strategy and price determination in business organizations.

765. Seminar in Marketing Channels and Physical Distribution (3)  
Prerequisite: Marketing 605.  
Analysis of marketing channels and physical distribution systems in domestic and international trade.
766. Seminar in Market Analysis and Research (3)
Prerequisites: Management 612 and Marketing 605.
Application of statistical and mathematical methods to market problems, consumer research, and product analysis.

767. Seminar in Industrial Marketing Management (3)
Prerequisite: Marketing 605.
The management of marketing decisions and strategies peculiar to the industrial market.

768. Seminar in Industrial and Government Procurement Management (3)
Prerequisites: Management 601 and Marketing 605.
Procurement methods used in industry and government; internal departmental operations, interrelationships with other departments; supplier selection, pricing/cost analysis, contract negotiations, special characteristics of government procurement.

769. Seminar in International Marketing (3)
Prerequisite: Marketing 605.
The impact of cultural, social, political, economic, and other environmental variables on international marketing systems and the decision-making process of multinational marketing operations.

770. Seminar in Selected Topics (3)
Selected areas of concern in marketing. May be repeated with new content. Topic to be announced in the class schedule. Maximum credit six units applicable on a master’s degree.

795. Seminar in Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor. Individual study.Maximum credit six units applicable on a master’s degree.
Chromatograph, Princeton Applied Research Polarographic Analyzers, high temperature calorimeters, pulsed Nd:glass laser system and optical multichannel analyzer (for use in picosecond spectroscopic studies), ultra and refrigerated centrifuges, fraction collectors, cold rooms, electrophoresis and chromatographic equipment. Durum: Stopped-flow Spectrophotometer System: a variety of radiation counters including liquid scintillation and gas flow spectrometers and a Perkin-Elmer MPF-3-Fluorescence Spectrophotometer. Two Motorola 6800 Microprocessors and a Varian 620 computer for real-time data acquisition are available. A High Temperature Laboratory and a Pulse NMR Laboratory are available.

Areas of research under active investigation and available for student participation include analytical chemistry, biochemical, inorganic chemistry, organic chemistry and physical chemistry.

Section I. Master's Degree Programs

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, classified standing may be subject to satisfactory performance on orientation examinations which are administered by the Department of Chemistry. The student with a major in chemistry from another accredited institution should have met all requirements for certification of the baccalaureate degree by the American Chemical Society (statement available on request).

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as stated in Part Two of this bulletin. In addition, the student must pass orientation examinations in chemistry. These examinations should be taken during the first semester in residence.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program which includes a major consisting of at least 24 units in chemistry from courses listed below as acceptable on master's degree programs. At least 15 of these units must be in 600- and 700-numbered courses, excluding Chemistry 792, 797 and 798. Chemistry 711 and 791 are required. Subject to departmental approval, the student may elect Plan A with the thesis (in which case the program must include Chemistry 792 and 799A), or Plan B with the comprehensive examination in lieu of the thesis. A student electing Plan A must pass a final oral examination on his thesis.

Specific Requirements for the Master of Science Degree

In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master's degree as described in Part Two of this bulletin. He must also complete a graduate program which includes a major consisting of at least 24 units in chemistry from courses listed below as acceptable on master's degree programs. At least 15 of these units must be in 600- and 700-numbered courses, excluding Chemistry 792, 797 and 798. Chemistry 711, 791, 792 and 799A are required. A student must pass a final oral examination on his thesis.

Section II. Joint Doctoral Program

The cooperating faculties of the Departments of Chemistry at the University of California, San Diego and at San Diego State University possess complementary specialties that enable the doctoral student to gain familiarity with most areas in chemistry and to find research activity and direction in a very large variety of specific problems. In order that he may participate effectively in this program, the entering student will be required to have a mastery of the subjects usually presented in the undergraduate curriculum: physical, organic and inorganic chemistry. All applicants will be expected to present the equivalent of one year of physics and of mathematics at least through integral calculus.

Students should be prepared to take placement examinations which will be administered by a joint committee and will cover the fields of inorganic, organic and physical chemistry.

On admission to the program, the student is guided by Requirements for the Doctoral Degree Program given in Part Two of this bulletin. The student will normally spend his first year in the program completing his year of residency at the University of California, San Diego. It is desirable for the student to complete his qualifying examination by the end of his fifth semester and to be advanced to candidacy.

Staff

The following faculty members of the Departments of Chemistry of the cooperating institutions participate in the joint doctoral program, being available for direction of research and as departmental members of Joint Doctoral Committees:

**University of California, San Diego:**
- Graduate Adviser: J. R. Arnold; Alternate: R. Linck
- Staff: Arnold, Dodd, Kraut, Miller, Schrauzer, Taylor, Vold, Zimm

**San Diego State University:**
- Graduate Adviser: C. J. Stewart; Alternate: S. B. W. Roeder
- Staff: Abbott, Bennett, Chatfield, Cobb, Coffey, Dahms, Grubbs, Hellberg, Jensen, Jones, Laub, Leberherz, Malley, O'Neal, Richardson, Ring, Roeder, Sharts, Stewart, Stumpf

Courses Acceptable on Advanced Degree Programs in Chemistry

**UPPER DIVISION COURSES**

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.
Theoretical bases for separation techniques important in analytical chemistry. Principles and techniques 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.

555. 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

710. Advanced Topics in Physical Chemistry (1-3)
Prerequisite: Chemistry 410B.
Selected topics in physical chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

711. Chemical Thermodynamics (3)
Prerequisite: Chemistry 410B.
Chemical thermodynamics and an introduction to statistical thermodynamics.

712. Chemical Kinetics (3)
Prerequisite: Chemistry 410B.
Theory of rate processes; applications of kinetics to the study of reaction mechanisms.

713. Quantum Chemistry (3)
Prerequisite: Chemistry 410B.
Quantum mechanics of atomic and molecular systems; applications to chemical bonding theory.

720. Advanced Topics in Inorganic Chemistry (1-3)
Prerequisite: Chemistry 520A.
Selected topics in inorganic chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

721. Mechanisms of Inorganic Reactions (3)
Prerequisite: Chemistry 520A.
Mechanisms in inorganic reactions with an emphasis on coordination chemistry.

722. Chemistry of the Nonmetals (3)
Prerequisite: Chemistry 520A.
An advanced systematic study of the nonmetallic elements and their compounds.

730. Advanced Topics in Organic Chemistry (1-3)
Prerequisite: Chemistry 431.
Selected topics in organic chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

731. Mechanisms of Organic Reaction (3)
Prerequisites: Chemistry 310B or 410B and 431. Recommended: Chemistry 530.
Reactivity and mechanism in organic reactions.

732. Advanced Organic Chemistry (3)
Prerequisite: Chemistry 431.
Applications and limitations of organic reactions from the viewpoint of synthesis.

750. Advanced Topics in Analytical Chemistry (1-3)
Prerequisite: Chemistry 550.
Selected topics from the field of analytical chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

751. Separations Science (3)
Prerequisites: Chemistry 550 and 711.
Theoretical bases for separation techniques important in analytical chemistry. Chemical and physical interactions between components of different classes of separation systems, including selection and optimization of operational parameters.

752. Micronalytical Chemistry (3)
Prerequisite: Chemistry 550.
Determination of impurity or essential component composition of materials and systems at trace and ultratrace levels—Sampling, storage, concentration and purification, techniques for quantitation. Problems associated with interferences, standardization and interpretation of data.

760. Advanced Topics in Biochemistry (1-3)
Prerequisite: Chemistry 560B.
Selected topics in biochemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

762. Enzymology (2)
Prerequisite: Credit or concurrent registration in Chemistry 310B or 410B.
Theory and techniques used in the study of the mechanism of action of enzymes.

763. Cellular Regulation (2)
Prerequisites: Chemistry 361A-361B or 560A-560B.
The biochemistry of cellular regulatory mechanisms in eucaryotic cells. The regulation of gene transcription, in mRNA translation and post-translational processes, including the mechanism and regulation of intracellular protein turnover.

764. Membrane Biochemistry (3)
Prerequisites: Chemistry 361A-361B or 560A-560B.
Membrane structure and function. Biophysical and biochemical properties of membranes from procaryotic and eucaryotic cells and animal cell viruses; biosynthesis and assembly of membrane components; molecular basis of solute transport, energy coupling, cell surface transformation, and cellular recognition, adhesion and fusion.
Admission to Graduate Standing

Admission to classified graduate standing is generally required for admission to the University with the exception of candidates who have already received a master's degree from a regionally accredited institution. Consideration is also given to those who have completed the requirements for a bachelor's degree other than a bachelor of arts or bachelor of science degree with a major in a non-traditional field of study. Such candidates may be admitted conditionally if they submit a statement of purpose and demonstrate potential for graduate study. Candidates with a grade point average of 3.00 overall or 3.50 during the last 60 units of college or university study will be admitted. Those with a grade point average of 2.50 or above may be admitted conditionally if the 90th percentile of the GRE is not met. In such cases, the condition of admission is conditional and the candidate must pass the GRE with a score of 590 or above during the first semester of residence. Admission to the Department of Communicative Disorders in the College of Human Services is contingent upon fulfilling this condition.

To initiate this review, a candidate for admission to classified graduate standing must complete the following steps:

1. Complete a statement of purpose, including an explanation of the candidate's high potential for graduate study.
2. Submit three letters of recommendation from appropriate persons who can and do attest to the candidate's qualifications.
3. Achieve a grade point average of 3.00 overall or 3.50 during the last 60 units of college or university study.
4. Pass the Graduate Record Examination with a minimum score of 590 or above during the first semester of residence.

Candidates who do not meet the above criteria may be admitted conditionally if the 90th percentile of the GRE is not met. In such cases, the condition of admission is conditional and the candidate must pass the GRE with a score of 590 or above during the first semester of residence. Admission to the Department of Communicative Disorders in the College of Human Services is contingent upon fulfilling this condition.

For more information, contact the Department of Communicative Disorders at 503-768-7200.
A postbaccalaureate level credential candidate must be reviewed for classified or conditionally classified postbaccalaureate standing prior to enrollment in clinical practicum. The following courses are controlled for this purpose: Communicative Disorders 526, 545, 546, 556.

All transfer students planning a program to include clinical practice must enroll in the appropriate undergraduate practicum as specified for their field of interest (Communicative Disorders 357, 526, 528, 545, 546, 556) prior to enrollment in graduate practica.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in Communicative Disorders are required to have completed Communicative Disorders 600.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete at least 30 units. A student must complete Communicative Disorders 799A. Thesis for Plan A. If Plan B is elected, the student must complete a research project as approved by the department; complete two units of Communicative Disorders 797, Research, and pass a comprehensive examination (which may be repeated only once). Students enrolled in Communicative Disorders 797 or 799A must participate in the Department's Professional Development Seminar unless excused by the Coordinator of the Graduate Program. No more than six units of coursework outside the Department acceptable on the graduate level may be applied to the master's degree.

The Department of Communicative Disorders offers four concentrations leading to the Master of Arts degree. Each concentration requires completion of a specific pattern of graduate units.

A. Concentration in Speech-Language Pathology. This concentration has a clinical focus and may be used to satisfy some of the academic preparation for the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language-Hearing Association and for licensure from the State of California.

Undergraduate Preparation. Communication Disorders 106, 205, 320, 321, 322, 340, 341, 401, 423, 524, 527, 528, 528L, 531, 539, 551, 552, 553, Physics 201, Psychology 260, 270.

Graduate Program. Required courses (20-21 units) to include: Communicative Disorders 600, 601 or 654, 657, 658 and Plan A (Communicative Disorders 799A-3 units), or Plan B (Communicative Disorders 797-2 units and 798-1 unit).

Electives (15 units) selected from 500, 600 and 700 level courses selected with consent of the student's adviser. Recommended options include Communicative Disorders 543, 602, 603, 604, 605, 606, 644, 649, 657, 798. Up to six units from 600, 600 and 700 numbered courses from psychology, physics or linguistics may be applied to the master's degree.

B. Concentration in Audiology. This concentration has a research environment requiring a strong scientific foundation may avail themselves of theoretical focus in the area of communicative disorders. Students interested in study with a research environment requiring a strong scientific foundation may avail themselves of

Undergraduate Preparation. Communication Disorders 106, 205, 320, 321, 322, 340, 341, 401, 423, 524, 527, 528, 528L, 531, 539, 551, 552, 553; Physics 201, Psychology 260, 270.

Graduate Program. Required courses (15 units minimum) to include Communicative Disorders 600, 601, 640, 654, Plan A (Communicative Disorders 799A-3 units) or Plan B (Communicative Disorders 797-2 units and 798-1 unit).

Electives (15 units) selected from 500, 600 and 700 level courses with consent of the student's adviser. Recommended options include Communicative Disorders 543, 602, 603, 604, 605, 606, 644, 649, 657, 798. Up to six units from 600, 600 and 700 numbered courses from psychology, physics or linguistics may be applied to the master's degree.

C. Concentration in Education of the Hearing Impaired (Deaf). This concentration has a clinical and educational focus and may be used to satisfy some of the academic preparation for certification by the Council on Education of the Deaf and for licensure from the State of California.

Undergraduate Preparation. Communication Disorders 106, 205, 320, 321, 340, 341, 357, 358, Physics 201; Psychology 101, 260, 270.

Graduate Program. Required courses (15 units minimum) to include: Communicative Disorders 600, 654, 657, 658 and Plan A (799A-3 units), or Plan B (797-2 units and 798-1 unit).

Electives (15 units) selected from 500, 600 and 700 level courses selected with consent of the student's adviser. Minimum of nine units of electives must be selected from Communicative Disorders courses. Maximum of three units of Communicative Disorder 596 may be chosen.

Electives in communication with the hearing impaired must be demonstrated, including oral and manual modes and combinations thereof.

D. Concentration in Communicative Sciences. This concentration has research and theoretical focus in the area of communicative disorders. Students interested in study with a research environment requiring a strong scientific foundation may avail themselves of this concentration.

Undergraduate Program. Communication Disorders 106, 205, 320, 321, 340, 341, 539, 547, 552; Physics 201; Psychology 260, 270.

Graduate Program. Required courses (15 units minimum) to include Communicative Disorders 600, 601, 640, 654, Plan A (Communicative Disorders 799A-3 units) or Plan B (Communicative Disorders 797-2 units and 798-1 unit).

Electives (15 units) selected from 500, 600 and 700 level courses with consent of the student's adviser. Recommended options include Communicative Disorders 543, 602, 603, 604, 605, 606, 644, 649, 657, 798. Up to six units from 600, 600 and 700 numbered courses from psychology, physics or linguistics may be applied to the master's degree.

Credentials

The Department of Communicative Disorders offers academic and practica work applicable to two credentials in the Ryan Credential Program. Students desiring to work in the public schools with speech, language, or hearing impaired pupils may choose the Special Education Specialist Credential for the Communication Handicapped (CH) or the Students desiring preparation as itinerant Language, Speech and Hearing Specialists or as Classroom Teachers of Severe Language Handicapped (or Aphasic) (Special Class Authorization-SCA) pupils may pursue either the CH or C-RS credential program.

Special Education Specialist Credential for the Communication Handicapped

The Special Education 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 aphasic) (Special Class Authorization-SCA)
- 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. Students applying to the program at the postbaccalaureate level must satisfy the admission requirements of the department for classified graduate standing.

Program
Persons interested in the Special Education Specialist Credential shall:
1. Concurrently or prior to completion of the specialist credential, complete the single subject credential (preliminary or clear) or the multiple subjects credential (preliminary or clear). Students may choose to:
   (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.
2. 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 Communicative Disorders 106, 205, 320, 321, 340, 453, 531, 551, 552, and 553.
      (2) Additional course work required for the specific area emphasis within the Credential (Severe Oral Language, Deaf, Deaf-Blind, Speech and Hearing) selected by the student in conjunction with adviser.
3. A postbaccalaureate year (minimum of 30 semester units) is required of all candidates.

Clinical-Rehabilitative Services Credential
Clinical-Rehabilitative Services (C-RS) Credentials are available in the following areas:
- Language, Speech and Hearing (LSH)
- Audiology
- Severe Language Handicapped/Aphasic (SLH) (Special Class Authorization SOA)

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 106, 205, 320, 321, 322, 325 or 357, 340, 413, 423, 524, 526, 527, 530, 531, 545, 546, and 551. Courses from other departments include: Psychology 101 or Sociology 101, Psychology 210, 260 or Zoology 108, Psychology 330 or Family Studies and Consumer Sciences 270, Psychology 340 or Sociology 440 or Family Studies and Consumer Sciences 436, 271 or 576, Physics 201, and Special Education 500 and 506.

The Advanced Specialization Program in Language, Speech and Hearing (LSH) requires the following additional courses: Communicative Disorders 401, 422, 433, 526, 528L, 529, 551, 552, 553, 554, 555 or 546. Courses from other departments include Linguistics 553.

The Severe Language Handicapped (SLH) Credential requires the following courses within the department in addition to those required for the LSH credential: Communicative Disorders 325 (SLH class placement), 529, 554, 555 and 433 (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 356, 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 (CCC-Sp) or to 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 clock hours of supervised clinical experience; 150 hours of which must be completed at the graduate level; a clinical fellowship year; and a national examination. The academic and practice requirements must meet certain specifications. Consult an adviser 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 practica requirements leading to the State Credential and the Professional Certificate given by the Council on Education of the Deaf. The Professional Certificate requires a specific pattern of courses and teaching experiences and evidence of successful classroom teaching following completion of the academic requirements. Consult an adviser in the Program for Education of the Hearing Impaired for more information.

Preparation Leading to State Licensure in Speech Pathology or Audiology
Students may complete the academic and clinical practicum requirements leading to California State Licensure in Speech Pathology or in Audiology, a legal requirement for all individuals professionally employed in non-public school settings. The Speech Pathology and Audiology Examining Committee which operates within the California State Board of Medical Quality Assurance requires evidence of completion of 24 semester hours of course work in the area (Speech Pathology or Audiology) in which the license is to be granted. 276 clock hours of clinical experience, nine months of full-time experience (Required Professional Experience), and a national examination. Most Licensure and ASHA Certification requirements may be fulfilled concurrently. Consult an adviser in the area in which licensure is desired for specific information.

Courses Acceptable on Master's Degree Programs in Speech Pathology and Audiology

UPPER DIVISION COURSES IN COMMUNICATIVE DISORDERS

524. Clinical Procedures in Communicative Disorders (3) I, II
Prerequisites: Communicative Disorders 322, 423, 552, 553.
Remediation models and clinical approaches, procedures, and techniques. Integration of theoretical information and clinical applications. (Formerly numbered Communicative Disorders 324.)

526. Clinical Practice in Speech-Language Pathology (1-3) I, II
Three hours of laboratory.
Prerequisites: Communicative Disorders 325 or documented 25 hours of observation; 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 526, 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.
Prerequisites: 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 of 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 clinical practicum; plus departmental approval. Recommended: Credit or concurrent registration in Communicative Disorders 526, 546, 626 or 646.
Goals, materials and procedures for organizing and administering speech, language and hearing programs in the school. Fifteen hours of observation and fifteen hours of screening required. Should be taken the semester before Communicative Disorders 433 or 453.

530. Family Communication Dynamics (3)
Prerequisites: Communicative Disorders 322 and 526.
The communication environment in the home. Parent-child interaction in relation to the origin and alleviation of functional and organic speech disorders.

531. Language Structure (3)
Prerequisite: 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.

540. Hearing Conservation and Audiology for School Nurses (3) I, II
Prerequisite: Registered nurse.
Builds on registered nurse's knowledge of anatomy, physiology, and medical-surgical treatment of disease as it relates to auditory mechanism. Designed to give background in hearing screening (pure tone and impedance) and awareness of ramifications of hearing loss in children necessary for referral and follow-up. Fulfills 3 unit requirement for the School Nurse Credential and may be used toward the 6 unit State Audiometric Certificate requirement. Not open to students with credit in Communicative Disorders 205, 340, 341.

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 542L.
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 electroacoustic hearing aid analysis (2 units). Students may elect Module I (1 unit) or Modules I and II (3 units).

545. Clinical Practice in Audiologic 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 combined 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. Up to 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; its 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, sociological and psychological problems.

551. Speech Reading and Auditory Training (3)
Prerequisites: Communicative Disorders 320 and 340; competency examination. Recommended: Communicative Disorders 537, 531 and 553.
Theory and methods of speech reading; auditory rehabilitation methods including survey of amplification systems. Fifteen hours of observation in program for deaf, severely hard of hearing.

552. Articulation Disorders and Methods (3) II
Prerequisites: Communicative Disorders 320, 321, 340, 531.
Significant theories and research in prevention and remediation of articulatory disorders. Includes emphases on speech habilitation of hearing impaired, cognitive and motor processing.

553. Language Disorders and Methods (3) I, II
Prerequisites: Communicative Disorders 320, 321, 340, 531.
Significant theories and research in language acquisition and language disorders. Includes assessment of, and intervention with, language impaired children. Includes emphasis on application to hearing impaired individuals.
554. Multisensory Integration (3)
Prerequisite: Communicative Disorders 553.
Theories of multisensory integration, sensory motor development, and auditory processing. Programs and techniques of remediation applicable to communicatively handicapped children.

555. Curriculum for the Communicatively Handicapped (3)
Prerequisites: Communicative Disorders 526 or 556, and 552 and 553.
Application of cognitive processing theory to the development and evaluation of curriculum, materials, and procedures; selection of learning modalities and appropriate modification of curriculum. (Formerly numbered Special Education 575.)

556. Clinical Practice with the Deaf (1) I, II
Three hours of laboratory.
Prerequisites: Communicative Disorders 357, 358; credit in two of the following and concurrent registration in the third. Communicative Disorders 551, 552, 553. Admission to clinical practicum includes successful completion of competency examination. Supervised therapy with representative problems found in the hearing impaired population. Maximum one unit first semester; maximum credit two units. Maximum combined credit eight units for Communicative Disorders 357, 556 and 656. (Formerly numbered Communicative Disorders 356.)

558. Advanced Sign Language (2) I, II
Prerequisite: Communicative Disorders 458.
Theory of sign language for the classroom interpreter. Emphasis on conceptual sign, signed idioms and appropriate usage for the academic setting.

559. Spanish and Sign Language (2) I
Prerequisite: Demonstrate competence at the intermediate level in either Spanish or sign language.
Rudiments of sign language taught to Spanish speakers and the basics of Spanish to users of sign language. Emphasis on communication needs within health care setting, public school setting and informal social setting.

568. Spanish and Sign Language (2) I
Prerequisite: Twelve units in communicative disorders and science courses.
Specialized study of selected topics from the area of speech-language pathology, audiology, education of the hearing impaired, and speech and hearing science. 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. Maximum credit three units applicable to a master's degree.

600. Research and Bibliography (3)
Two lectures and three hours of laboratory.
Prerequisites: Undergraduate major or equivalent in Communicative Disorders or Communicative Sciences, and Psychology 270.
Bibliographic techniques. Methods and exposition of research in the fields of speech pathology, audiology, deaf education and speech and hearing sciences. Recommended for the first semester of graduate work, and prerequisite to advancement to candidacy.

601. Seminar in Speech and Hearing Science (3)
Prerequisite: Classified graduate standing. Instrumentation and measurement techniques in communicative disorders and sciences. Techniques applied to the specific clinical and research areas of speech, hearing and language.

602. Seminar in Language Disorders (3)
Prerequisites: Communicative Disorders 423 and 539. Recommended prerequisite: Communicative Disorders 531 and 553 and concurrent registration in Communicative Disorders 626.
Review and analysis of research in diagnosis and therapy for persons with disorders of symbolization. May be repeated with new content. See Class Schedule for specific content related to children or adults. Maximum credit six units applicable on a master's degree.
645. **Advanced Clinical Practice in Audiologic Assessment (1) Cr/NC**
   Prerequisite: Communicative Disorders 545.
   Three hours of laboratory.
   Advanced casework in hearing evaluation. Maximum credit four units. Up to two units may be taken concurrently. Maximum credit four units of Communicative Disorders 626, 645, 646 and/or 656 applicable on a master's degree.

646. **Advanced Clinical Practice with Hard of Hearing (1) Cr/NC**
   Prerequisites: A minimum of two units of Communicative Disorders 526, 546 and/or 626. Recommended: Credit or concurrent registration in Communicative Disorders 543 (Module I) 552, and 553.
   Three hours of laboratory.
   Supervised practice with problem hearing cases. Maximum credit four units. Up to two units may be taken concurrently. Maximum credit four units of Communicative Disorders 626, 645, 646 and/or 656 applicable on a master's degree.

649. **Seminar in Major Research in Diagnostic Audiology (3)**
   Prerequisites: Communicative Disorders 542 and credit or concurrent registration in Communicative Disorders 600. Recommended: Communicative Disorders 644 and concurrent registration in Communicative Disorders 645.
   Consideration of research in clinical audiology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

654. **Seminar in Physiological Phonetics (3)**
   Prerequisite: Communicative Disorders 552.
   Physiology underlying the production of continuous speech, including transitional movements, based on a syllabic concept.

656. **Advanced Clinical Practice with the Deaf (1) Cr/NC**
   Three hours of laboratory.
   Prerequisites: Communicative Disorders 551, 552, 553, 556.
   Supervised clinic practicum at an advanced level with representative deaf cases. Maximum two units per semester; maximum credit four units. Maximum credit four units of Communicative Disorders 646 and 656 applicable on a master's degree with specialization in the Hearing Impaired.

657. **Differential Diagnosis of the Hearing Impaired (3)**
   Prerequisites: Communicative Disorders 551, and 626, 646, or 656.
   Diagnosis of multiple-handicapped, hearing impaired children; including clinical teaching, critical overview of assessment methods, materials and equipment, prognosis, current philosophies and trends. Suggested concurrent enrollment in Communicative Disorders 656.

658. **Seminar in Problems of Deafness (3)**
   Prerequisites: Communicative Disorders 546 or 556. Recommended: Communicative Disorders 543, 657.
   Problems of deafness, evaluation of research, interdisciplinary approach to aural habilitation. See Class Schedule for specific content.

659. **Seminar in Problems of Deaf-Blind (3)**
   Prerequisite: Communicative Disorders 656.
   Problems of the Deaf-Blind; study of techniques and methodology, evaluation of research, interdisciplinary approach to habilitation. See Class Schedule for specific content.

797. **Research (2) Cr/NC/SP**
   Prerequisites: Advancement to candidacy and consent of the graduate adviser.
   Research in speech pathology, deaf education or audiology. Maximum credit two units applicable on a master's degree. Participation in the department's Professional Development Seminar is required unless waived by the coordinator of the graduate program.

798. **Special Study (1-3) Cr/NC/SP**
   Prerequisites: Communicative Disorders 600 and consent of staff, to be arranged with department chair and instructor.
   Individual study. Maximum credit six units applicable on a master's degree.

799A. **Thesis or Project (3) Cr/NC/SP**
   Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree. Participation in the department's Professional Development Seminar is required unless waived by the coordinator of the graduate program.

799B. **Thesis or Project Extension (0) Cr/NC**
   Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis or project is granted final approval. Participation in the department's Professional Development Seminar is required unless waived by the coordinator of the graduate program.
Faculty
Paul Bruce, Ph.D., Professor of Counselor Education
James P. Carnevale, Ph.D., Professor of Counselor Education
John D. Chalmers, Ed.D., Professor of Counselor Education, Associate Dean of the College of Education
Emory J. Cummins, Ph.D., Professor of Counselor Education (Graduate Adviser), Chair of Department
Lawrence B. Feinberg, Ph.D., Professor of Counselor Education, Associate Dean of the Graduate Division and Research
Peggy J. Hawley, Ph.D., Professor of Counselor Education, Coordinator of Graduate Programs and Research of the College of Education
Richard D. Jones, Ed.D., Professor of Counselor Education
Fred R. McFarlane, Ph.D., Professor of Counselor Education
Ralph L. Miller, Ph.D., Professor of Counselor Education
Jean C. Ramage, Ph.D., Professor of Counselor Education, Assistant Dean of the College of Education
Maria Nieto Senour, Ph.D., Professor of Counselor Education
Raymond C. Howard, Ed.D., Associate Professor of Counselor Education
L. Ronald Jacobs, Ph.D., Associate Professor of Counselor Education
Patricia L. Patton, Ed.D., Associate Professor of Counselor Education
Gordon M. Thompson, Ph.D., Associate Professor of Counselor Education
Alice J. Cochran, M.A., Assistant Professor of Counselor Education
Carol A. Robinson, Ph.D., Assistant Professor of Counselor Education

General Information
The graduate programs in Counselor Education lead to one of two degrees: The 36-unit Master of Science in Counseling or the 60-unit Master of Science in Rehabilitation Counseling. These programs with certain stipulations can also qualify candidates for the Pupil Personnel Services Credential and the Community College Counseling Credential. Course work beyond the master's degree is offered for the School Psychologist Endorsement to the above PPS Credential.

Currently there are several programs and instructional sequences within the department which serve persons interested in performing a variety of functions such as pupil personnel services in elementary and secondary schools, rehabilitation counseling, community college counseling, college student personnel work, pastoral counseling, marriage and family counseling, school psychology, among others. These programs include the Community-based Full-time Block, the Full-time Block, the Part-time Evening Program, the Rehabilitation Counselor Program, and School Psychology.

Generally, these programs are based on the premise that there is a generic core of competencies and experiences appropriate for counseling in a variety of settings with specialized training provided, including immersion in an appropriate field work setting for those wanting to specialize. In most of these programs, individual needs are met through opportunities for student-initiated seminars and independent study.

Financial Assistance
Presently, financial assistance in the form of traineeships is provided through programs in Vocational Rehabilitation Counseling. Further inquiry can be made to the office of the Rehabilitation Counseling Programs Adviser in NE-188, 265-6406.

The department sponsors the Counselor Education Loan Fund honoring Professors Leonard Strom and John Schmidt which along with other university-wide programs is administered by the Financial Aid Office of the university. Other forms of financial assistance administered by the university are presented elsewhere in this bulletin.

Admission to Graduate Study
In seeking admission to the program leading to the Master of Science degree in Counseling, the student should write directly to Dr. Emery J. Cummins, Chair, Department of Counselor Education, requesting appropriate application materials. Detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms.

FULL-TIME STUDENTS ARE ADMITTED ONLY IN THE FALL SEMESTER OF EACH YEAR.
PART-TIME STUDENTS ARE ADMITTED FALL AND SPRING. COMPLETED APPLICATIONS FOR THE FALL SEMESTER MUST BE RECEIVED BY THE COUNSELOR EDUCATION OFFICE NO LATER THAN MARCH 1 AND FOR THE SPRING SEMESTER NO LATER THAN NOVEMBER 15.

The student must file an application for admission to San Diego State University with both the Office of Admissions and the Department of Counselor Education.

It is essential that the following application materials be submitted to the Department of Counselor Education by the appropriate deadline dates:
1. Completed application
2. Four letters of recommendation
3. Transcripts of all college work (these may be the applicant's own copies)
4. Scores on the GRE (Aptitude) Test. Note that receipt of the GRE scores by the University Graduate Division is necessary for the completion of the application procedures to the University.

Selection for admission to any of the programs in Counselor Education is undertaken by the department Admissions Committee. The first screening is accomplished on the basis of the data in the application including the applicant's personal statement and other information provided by the applicant.

Those who pass the initial paper screening will be requested to participate in a group interview with several other applicants and two members of the Admissions Committee, who will suggest the questions which the group will discuss. Final recommendations are made by the Admissions Committee to the Department Faculty and Chair.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy as described in Part Two of this bulletin and be recommended by the faculty. A student may be advanced to candidacy when the official program has been filed and after having earned a minimum grade point average of 3.0 in at least 12 units listed on the official program. A minimum of 9 units listed on the official program must be completed after advancement; coursework in progress at time of advancement can count as part of these 9 units.

Specific Requirements for the Master of Science Degree
In addition to the requirements for classified graduate standing and the basic requirements for the master's degree, as described in Part Two of this bulletin, the student must complete 36 units of approved course work to include Education 690, Counselor Education 710A-710B, and at least nine units from each of the following groups as approved by the graduate adviser:

First Level: Content focus on foundations, surveys, etc. Education 690, Counselor Education 610A, 610B, 620 or other courses (maximum of six units) if approved by the graduate adviser.

Second Level: Content focus on techniques, modalities, etc. Counselor Education 640-640L, 650-650L, 660-660L, 670-670L (645 and 667) or other courses (maximum of six units) if approved by the graduate adviser.

Third Level: Content focus on application, integration, etc. Counselor Education 710A, 710B, 720, 730, 740, 750. A departmental comprehensive examination is required and is currently being undertaken as part of the requirement for Counselor Education 710B, Professional Seminar.

Sequence of Courses
Students are expected to complete Counselor Education 610A prior to 660, 660 prior to 740, and 740 prior to 710B except in unusual cases and with permission of the instructor. It is also recommended that Education 690 be completed prior to Counselor Education 640 or 645, and 640 prior to 650.
Part-Time Evening Program
The PART-TIME EVENING PROGRAM leading to the Master of Science in Counseling degree serves primarily those students who are working and need to take courses in the late afternoon or evening. This program offers considerable flexibility for students to arrange the scheduling of their classes according to their needs and convenience. Also in this program, many students can take one of two electives which may be taken within or outside the departmental offerings. Ordinarily students can take one or two courses a semester or summer session. If courses are taken in the summer as well as during the regular year, most students can finish their degree program in two years.

Students in this program prepare to enter the profession of counseling in a variety of settings including the schools, colleges, community agencies, public service, churches, among others. Some choose this program not to enter the counseling profession, but to improve their interpersonal skills in their current profession or occupation.

Community-Based Block Program
The COMMUNITY-BASED BLOCK PROGRAM is a special program within the Department of Counselor Education. The program is community-based in two senses of the word "community." The basic approach to learning is the development of a total, self-contained "learning community—a group of up to 30 full-time graduate students and three core faculty members committed to working and learning together. The word "community" also refers to the locale of the program (virtually all of the program is off-campus) and to its special focus on the inner-city, people of difference, and the culture of poverty. The program deliberately recruits an extremely diversified group of students. Typically, two-thirds or more are people of color.

The two-semester, 33-unit program includes all course requirements for the Master of Science in Counseling degree except Education 690 which can be taken before or after but not concurrently with the program. Although the program places special emphasis on working in inner-city settings with multi-ethnic populations, admission to the program is not limited to students committed to working with these populations. The program is designed for students who intend to work in a variety of settings, including public schools, community colleges, churches, clinics, and other public and private agencies. Students seeking the Pupil Personnel Services Credential for counseling in public schools or the Marriage, Family, Child Counselor license will be required to complete additional course work.

Full-Time Block Program
The FULL-TIME BLOCK PROGRAM is designed to accommodate students who intend to work as a counselor or psychologist in public school or other settings. The program, which is scheduled to be completed in two semesters and one or two summers, leads to the Master of Science in Counseling degree and with appropriate field placements, to the Pupil Personnel Services Credential, qualifying for employment in public schools in California. This program can serve as prerequisite to a program of study leading to an advanced specialization as School Psychologist.

Students in the FULL-TIME BLOCK PROGRAM will take most of their didactic course work in the late afternoon, allowing time earlier in the day for the required field work and, if desired, some limited part-time employment. Some seminars and class sessions, however, may be scheduled during the day.

This program utilizes a "block" format in which all students enroll together in all of the courses in the block and no others. Efforts are made to develop a sense of group cohesion, a learning community which encourages students to learn from one another, as well as to accommodate the individuality and particular needs of each student.

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.

California License for Marriage, Family, and Child Counselors
The Master of Science in Counseling at San Diego State University satisfies the requirement for the California state license for Marriage, Family, and Child Counselors provided the following courses are completed: Education 690, Counselor Education 585A, 585B, 660, 610A, 610B or 615, 640, 660, 710A, 740. Not more than six units of this course work may be taken subsequent to the receipt of the master's degree, except that a student's faculty adviser may plan a program which includes up to six units of post-master's degree course work provided the post-master's degree course work and the post-master's course work is virtually continuous and uninterrupted.

In addition to the education requirements stated above, the applicant for this license must satisfy an experience requirement consisting of at least 3000 supervised hours obtained in no less than two calendar years.

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 may be developed by completing the approved program for the Pupil Personnel Services Credential, or equivalent, and taking the courses in the School Psychology Program, which includes Counselor Education 621, 641A-641B, 720, 752, and 760, Education 511, and Special Education 500, 501, 510, or equivalent. Students who have had comparable course work 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.
Master of Science Degree in Rehabilitation Counseling

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Two of this bulletin. Students seeking admission to the graduate program which leads to a Master of Science degree in Rehabilitation Counseling should address their inquiries to the director of the program. Detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms. As there are specific requirements for the program, it is not sufficient merely to file the general university admission forms.

STUDENTS ARE ADMITTED ONLY IN THE FALL SEMESTER EACH YEAR. PREFERENCE IS GIVEN TO APPLICATIONS WHICH ARE COMPLETED AND SUBMITTED BY MARCH 1; HOWEVER, APPLICATIONS WILL BE ACCEPTED UNTIL APRIL 15.

A student who has already completed a program leading to a Master of Arts degree in Counseling, or a Master of Science degree in Counseling, will not be eligible for admission to the program leading to the Master of Science degree in Rehabilitation Counseling.

The Rehabilitation Counselor Program has the primary objective of preparing students to enter the field of vocational rehabilitation, and has an emphasis in providing counseling services to physically, emotionally, and mentally disabled persons. A limited number of graduate stipends from the Rehabilitation Services Administration are available to (1) students who are committed to entering vocational rehabilitation after graduation, and (2) students with a financial need.

Advancement to Candidacy

To be eligible for advancement to candidacy the student must, in addition to holding classified graduate standing, have completed at least 24 units of the course work listed on the official program, maintain good standing in the Rehabilitation Counselor Program, and otherwise comply with the regulations of the Graduate Division as described in Part Two of this bulletin.

Specific Requirements for the Master of Science Degree in Rehabilitation Counseling

In addition to meeting the requirements for classified graduate standing, and the basic requirements for the master's degree, as described in Part Two of this bulletin, the student must complete a minimum of 60 graduate units of 500-, 600-, and 700-numbered courses, to include:

Thirty-nine units of required courses:

ED 690 Procedures of Investigation and Report (3)
CNED 610A Determinants of Human Behavior (3)
CNED 610B Determinants of Human Behavior (3)
OR
CNED 615 Seminar in Multicultural Dimensions in Counseling (3)
CNED 645 Appraisal and Career Development (6)

CNED 660 Theory and Process of Counseling (3)
CNED 670 Theory and Process of Group Counseling (3)
CNED 690A Theory and Process of Counseling (3)
CNED 680B Medical Aspects of Disability (3)
CNED 680C Psychological Aspects of Disability (3)
CNED 680D Placement of the Disabled (3)
CNED 710A Professional Seminar (3)
CNED 710B Professional Seminar (3)

Nine units selected from the following:

CNED 720 Internship (2-6) Cr/NC
CNED 730 Field Work in Counseling (3, 3-3, or 3-3-3) Cr/NC

Nine units selected from the following:

CNED 740 Practicum: Individual Counseling (3, 3-3, or 3-3-3) Cr/NC
CNED 750 Advanced Seminar and Practicum: Individual Counseling (3-6) Cr/NC

Three units selected from the following:

CNED 630 Workshop in Counseling (1-3)
CNED 660L Counseling Practicum Laboratory (1) Cr/NC
CNED 670L Group Counseling Laboratory (1) Cr/NC

Comprehensive Examination

A comprehensive examination is required. The student must demonstrate satisfactory performance on a comprehensive examination, in lieu of thesis, prepared by the Rehabilitation Counselor Program. Reservations for the examination must be made in advance in the Rehabilitation Counselor Program Office, North Education Building, Room 188.

Program Structure

The Rehabilitation Counselor Program offers a two-year, full-time block format that leads to the Master of Science in Rehabilitation Counseling. Students are also accepted on a part-time basis.

Courses Acceptable on Master's Degree Programs in Counseling

UPPER DIVISION COURSES

585A. Human Sexuality for Counselors (3) S
Prerequisite: Upper division course in human sexuality
Dimensions of human sexuality that bear directly on the role and function of helping professions. Human sexual development, sexual variations, sexual dysfunctions, intimate life styles, treatment modalities and sexual ethics. Fulfills MFCC licensure requirements.

585B. Dynamics of Adjustment Behavior (3) S
Prerequisite: Upper division course in abnormal psychology
Philosophies and dynamics of adjustment behavior, patterns and types of abnormal behavior, and treatment modalities. Fulfills MFCC licensure requirement.

596. Selected Studies (1-3) I, II
Prerequisite: Consent of Instructor
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. Maximum credit six units applicable on a master's degree. See Class Schedule for specific content. Formerly numbered and entitled Counselor Education 506, "Guidance Conference".

GRADUATE COURSES

601. Student Personnel Services in Higher Education (3)
Philosophy, goals and objectives of Student Personnel Services in Higher Education. Focus on supportive services and their administration.
610A-610B. Determinants of Human Behavior (3-3)
Implications of theory and research in behavioral sciences for the understanding of human behavior. Counselor Education 610A deals with personality theories and psychological determinants of behavior. 610B with social and cultural determinants.

615. Seminar in Multicultural Dimensions in Counseling (3)
Issues, insights and techniques for improving effectiveness in working with culturally different populations.

616. Counselors as Change Agents: Theory and Practice (4)
Three lectures and three hours of laboratory.
Organizational models, system analysis, power, and change strategies as applied to educational institutions. Laboratory emphasis on change techniques for counselors and student personnel workers.

620. Guidance Services in Public Education (3)
Historical, philosophical and legal bases of pupil personnel services; staff roles and relationships in a variety of organizational patterns.

621. Introduction to School Psychology (3)
Introduction to school psychology: roles (assessing, counseling, consulting) skills (innovative techniques, consultation); and issues (modifying the system, multicultural impact).

630. Workshop in Counseling (1-3)
Prerequisite: Consent of instructor.
Application of principles and procedures to specific situations for improvement of counseling services. Individual problems emphasized. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

640. Theory and Process of Appraisal (3)
Measurement theory and procedures, including interpretation of test results. Not open to students with credit in Counselor Education 645. Offered during summer sessions only in combination with Counselor Education 650 as 645.

640L. Appraisal Laboratory (1) Cr/NC
Three hours of laboratory.
Prerequisite: Consent or concurrent registration in Counselor Education 640.
Directed laboratory activity focusing on topics presented in Counselor Education 640.

641A-641B. Individualized Appraisal of Learning Characteristics (4-4)
Three lectures and three hours of laboratory.
Prerequisite: Counselor Education 640.

645. Appraisal and Career Development (6)
Five lectures and three hours of laboratory.
Measurement theory, interpretation of test results, vocational choice theory, occupational and educational information in career planning. Not open to students with credit in Counselor Education 640 or 650. Application to take the course must be made early during the preceding semester.

650. Theory and Process of Career Development (3)
Vocational choice theory, occupational and educational materials used in career planning. Not open to students with credit in Counselor Education 640 or 650. Offered only in conjunction with Counselor Education 640 as 645.

650L. Career Development Laboratory (1) Cr/NC
Three hours of laboratory.
Prerequisite: Consent or concurrent registration in Counselor Education 650.
Directed laboratory activity focusing on materials and processes used in career planning and other topics presented in Counselor Education 650.

651. Counseling for Sex Roles in Transition (3)
Development of counseling skills in career development, educational, psychological and social forces affecting contemporary women and men. Impact of these forces upon relationships between the sexes and personal definitions of femininity/masculinity.

660. Theory and Process of Counseling (3)
Prerequisite: Counselor Education 610A.
Counseling process theories, approaches to and techniques for counseling, and research concerning counseling effectiveness. Not open to students with credit in Counselor Education 667. Offered during summer sessions only in combination with Counselor Education 660 as 667.

660L. Counseling Prepracticum Laboratory (1) Cr/NC
Three hours of laboratory.
Prerequisite: Consent or concurrent registration in Counselor Education 660.
Supervised practice in and critique of counseling and other topics presented in Counselor Education 660.

667. Counseling: Individual and Group (6)
Five lectures and three hours of laboratory.
Counseling theory and techniques. Individual and group. Not open to students with credit in Counselor Education 660 or 670. Application to take the course must be made early during the preceding semester.

670. Theory and Process of Group Counseling (3)
Prerequisites: Counselor Education 610A and 610B.
Group process and individual growth, theories of group interaction, sensitivity training and group leadership techniques. Not open to students with credit in Counselor Education 667. Offered during summer sessions only in combination with Counselor Education 660 as 667.

670L. Group Counseling Laboratory (1) Cr/NC
Three hours of laboratory.
Prerequisite: Consent or concurrent registration in Counselor Education 670.
Supervised practice in group counseling, group leadership, and other topics presented in Counselor Education 670.

670A. Introduction to the Rehabilitation Process (3)
Two lectures and three hours of laboratory.
Background and legislation related to vocational rehabilitation; overview of client services and role and function of the rehabilitation counselor as a professional person. Orientation to community rehabilitation agencies.

680. Medical Aspects of Disability (3)
Two lectures and three hours of laboratory.
Prerequisite: Open to rehabilitation graduate students and practitioners.
Orientation to medicine and illness in relation to work capacity and work outlook. Focus on major diseases and impairments resulting in vocational disability. Lecture and clinical seminars.

680C. Psychological Aspects of Disability (3)
Two lectures and three hours of laboratory.
Prerequisite: Open to rehabilitation graduate students and practitioners.
Analysis of the psychological component to illness and disease. Focus on functional disorders and vocational implications. Lecture and clinical seminars.

680D. Placement of the Disabled (3)
Two lectures and three hours of laboratory.
Prerequisite: Admission to Rehabilitation Counselor Program.
Determination of employment needs of disabled clients, case study method. Follow-through to placement. Continuous survey of employment needs and opportunities in the wider community.

805. Theories of Marriage and Family Counseling (3)
Prerequisite: Counselor Education 660.
Counseling modalities, family intervention strategies and techniques of co-counseling in marriage and family therapy. Systems approaches and behavioral contracting. Fulfill MFCC licensing requirements. Prerequisite: Consent or concurrent registration in Counselor Education 660.

710A-710B. Professional Seminar (3-3)
Prerequisites: Six units from Counselor Education 640, 645, 650, 660 and 670.
Study of selected areas in counseling and rehabilitation culminating in a written project with emphasis on research, counseling, and/or rehabilitation as a profession. Topic to be announced in Class Schedule.
720. Internship (2-6) Cr/NC
Supervised internship experience in counseling or school psychology activities. Application to take the course must be made early during the preceding semester. May be repeated with new content. Maximum credit six units applicable on a master’s degree.

730. Field Work In Counseling (2-6) Cr/NC
Prerequisite: Counselor Education 660. Application of concepts and procedures of counseling or school psychology services in appropriate school or agency setting. Daily observation and practice. Weekly seminar sessions with university staff. Application to take the course must be made early during the preceding semester. May be repeated with new content. Maximum credit six units applicable on a master’s degree in counseling; maximum credit nine units applicable on master’s degree in Rehabilitation Counseling.

740. Practicum: Individual Counseling (3) Cr/NC
Prerequisite: Counselor Education 660. Supervised experience in individual counseling and career planning. Maximum credit six units applicable on a master’s degree in Counseling; maximum credit nine units applicable on master’s degree in Rehabilitation Counseling.

741. Practicum: Group Counseling (3) Cr/NC
Prerequisite: Counselor Education 670. Supervised experience in group counseling and career planning. Maximum credit six units applicable on a master’s degree.

750. Advanced Seminar and Practicum: Individual Counseling (3-6) Cr/NC
Supervised experience in individual counseling and study of problems, issues, and research.

751. Seminar and Practicum: Group Counseling (3-6) Cr/NC
Prerequisite: Counselor Education 741. Supervised experience in group counseling, study of problems, issues and research.

752. Seminar & Practicum: School Psychology (3-6) Cr/NC
One lecture and six hours of practicum for three units. Advanced theories of learning and development of normal and exceptional pupils from multicultural backgrounds. Application of standard and innovative school psychology practices.

760. Advanced Seminar in School Psychology (3)
Prerequisite: Counselor Education 621. Study of selected areas in school psychology which culminates in a written project with emphases on research, problems and/or issues. Topic to be announced in Class Schedule.

798. Special Study (1-6) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor. May involve field work. Individual study. Maximum credit six units applicable on a master’s degree.

Drama

Faculty
Kjell Ambie, Ph.D., Professor of Drama
Alicia M. Annas, M.F.A., Professor of Drama
Michael L. Harvey, Ph.D., Professor of Drama
Mollie L. Lessley, Ph.D., Professor of Drama, Dean (Acting), College of Professional Studies and Fine Arts
Margaret McKerrow, M.F.A., Associate Professor of Drama
Beau Salzer, M.F.A., Professor of Drama
Clarence E. Stephenson, Ph.D., Professor of Drama
Jay E. Fields, Ph.D., Associate Professor of Drama
Joseph J. Bellingliere, Ph.D., Assistant Professor of Drama
James Christian, M.F.A., Assistant Professor of Drama
William N. Reid, M.A., Assistant Professor of Drama

Assistantships
Graduate teaching assistantships and graduate nonteaching assistantships are available to a limited number of qualified students. Application forms and further information may be obtained from the department.

General Information
The Department of Drama, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts degree and the Master of Fine Arts degree. The Master of Arts degree may be completed in any one of the following areas: acting, theatre history, directing, children's drama, and theatre research. The Master of Fine Arts degree is offered in the areas of costume design, lighting design, scenic design, technical theatre, and musical theatre. The M.A. is a 30-unit program; the M.F.A a 60-unit program. San Diego State University has one of the best equipped educational theatre plants in the United States. The Dramatic Arts building contains a Main Stage Theatre seating 500, with state-of-the-art computer lighting control, and an Experimental Theatre seating 200, rehearsal and recording areas, a scene design drafting room, paint shop, wagon house, fully equipped costume laboratory and a spacious scene shop. The Department of Drama is a member of the National Association of Schools of Theatre (N.A.S.T.).

MASTER OF ARTS DEGREE IN DRAMA

Admission to Graduate Study
General requirements for admission to the University with classified graduate standing are described in Part Two of this bulletin. In addition, the Graduate Coordinator, along with the specific recommendation of the Emphasis Area adviser, must judge the applicant capable of graduate work in Drama. The judgment will be based on (1) the applicant's transcripts of prior academic work; (2) three letters of recommendation from individuals familiar with the applicant's academic ability; (3) the applicant's scores on the GRE General (Aptitude) Test; and (4) an interview, when appropriate, revealing the applicant's ability to succeed in the chosen area.

Advancement to Candidacy
All students in the Master of Arts program must meet the general requirements for advancement to candidacy, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in Drama (regardless of area of specialization) are required to have completed Drama 600, and to have removed any deficiencies assigned. It is recommended that all graduate students take Drama 600 during their first semester.
Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of a minimum of 30 units. Eighteen of the 30 units must be in 600- and 700-numbered courses in Drama; an additional 6 units from 500-, 600-, or 700-numbered Drama courses; and the remaining 6 units may be selected from 500-, 600-, or 700-numbered courses in Drama or outside departments. Please note: Drama 600, Drama 621, Drama 647A or 647B, and Drama 799A are required courses for all Master of Arts candidates, regardless of area of specialization.

MASTER OF FINE ARTS DEGREE IN DRAMA

Admission to Graduate Study

In addition to meeting the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, a student must satisfy the following requirements before being recommended for classified graduate standing:

1. Achieve a score of not less than 1000 on the GRE General (Aptitude) Test.
2. Possess a baccalaureate degree in drama or an approved affiliated field with a grade point average of not less than 2.5 overall in the last 60 units of study attempted, with a 3.0 undergraduate average in the major, and a 3.5 average in those theatre classes considered prerequisites for the M.F.A. emphasis in design, technical theatre, or musical theatre.
3. Complete undergraduate requirements commensurate with the proposed emphasis in the M.F.A. program.
4. Complete a minimum of six units of theatre history.
5. Satisfy additional special emphasis requirements listed below.

Students who have not met certain criteria or demonstrate deficiencies in undergraduate preparation or basic skill development, may be granted conditional admission with the understanding that remedial course work in addition to the 60 unit M.F.A. program, will be completed prior to advancement to classified standing. Students who do not satisfy the requirements for an M.F.A. degree will not automatically be considered for an M.A. degree. A student holding an M.A. degree in Drama from SDSU or any other institution of higher learning may not normally apply for the M.F.A. degree. Please note: Applicants holding an M.A. or M.F.A. degree from an accredited institution may transfer up to 30 units upon review and recommendation of the faculty in the area of specialization, and approval of the Graduate Coordinator of the Drama Department.

Students already accepted into the program who request a change of specific emphasis at a later date, will be required to reapply for acceptance into the program.

Emphasis in Design and Technical Theatre

In addition to meeting the admission requirements listed above, a student must demonstrate outstanding abilities in a particular area of dramatic arts by submitting the following items:

1. Those students primarily interested in design must submit a design portfolio which contains sketches, renderings, graphs, floor plans, elevations, plots, color/fabric swatches, and photographs of productions, revealing the applicant's creative ability in the chosen area or areas of design.
2. Those students primarily interested in technical theatre must submit a portfolio which contains evidence of technical direction and management experiences in scenic, lighting, or costume technology and design.
3. A resume which contains documentation of participation in not less than five full-length theatrical productions.
4. Three letters of recommendation attesting to the candidate's academic, professional, and personal qualifications from responsible academic or professional theatre figures.

Emphasis in Musical Theatre

In addition to meeting the admission requirements listed above, a student must demonstrate unusual artistic talent in the musical theatre area by providing:

1. A resume of musical theatre accomplishments.
2. An audition tape demonstrating singing ability and, whenever possible, a videotape demonstrating basic ability in musical theatre dance.
3. Three letters of recommendation attesting to the candidate's level of competence in musical theatre performance in the areas of acting, singing, and dancing. These letters must also comment on the student's ability to work with others in a cooperative spirit, sense of responsibility, dedication to the disciplines of a musical theatre production, professional aspirations, and overall artistic sense.

Upon arrival at campus, a candidate will be auditioned by a committee composed of faculty specialists in Drama, Music, and Musical Theatre Dance. For specific audition dates and requirements, write to the Director, Musical Theatre Emphasis, Department of Drama, San Diego State University, San Diego, CA 92182-0218. A student may be accepted under conditional standing prior to the audition session.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Two of this bulletin. Candidates for the M.F.A. must have completed 30 units within their official program with a minimum grade point average of 3.0. A minimum of 24 units in the official program must be enrolled in and completed concurrently with or after advancement to candidacy. Students in both emphases must have successfully completed Drama 600 and removed any deficiencies noted by the faculty.

The departmental graduate committee must have appointed an adviser from the student's major area of specialization and must have approved a topic for thesis research. In addition, the student must receive from the M.F.A. committee a recommendation for advancement which is based on a review of the student's professionalism, aspects to be reviewed include artistic achievement, ability to function within organizational outlines, and demonstration of skills in emphasis area.

In addition to meeting the requirements for advancement to candidacy listed above, a student in the emphasis in musical theatre must have removed any deficiencies in singing, acting and dancing noted by the faculty during the student's initial audition and must have been accepted for a musical theatre internship.

Specific Requirements for the Master of Fine Arts Degree

Emphasis in Design and Technical Theatre

Candidates for the M.F.A. with an emphasis in Design and Technical Theatre, in addition to meeting the requirements for classified standing, must complete a 60-unit graduate program which includes a core of courses totaling 27 units as follows: Drama 600, 621, 643, 645, 646A, and 646B. Of these 27 units, 3 units of Drama 643 (Collaborative Studies in Design) must be taken each semester up to the maximum of 12 units. The student must complete 15 units of practicum, internships, and thesis/project under the course numbers: Drama 642, 740, 795, and 799A. Twelve elective units are to be selected from any courses acceptable for graduate credit in any department (including Drama) with the approval of the student's major adviser and the graduate adviser.

Candidates will prepare a production thesis project approved by their thesis committee. This project will be supported by a written analysis/apologia. Forty-five of the 60 units required for this program must be completed in courses numbered 600 or above. The remaining units may be selected from 500-, 600-, or 700-numbered courses in Drama or outside departments.

At least 30 units of the student's program must be completed in residence at San Diego State University, and the student must be in residence not less than two semesters. No more than six units in 799 will be accepted for credit toward the degree.

Emphasis in Musical Theatre

Candidates for the M.F.A. with an emphasis in Musical Theatre, in addition to meeting the requirements for classified graduate standing, must complete a 60-unit graduate program which includes a core of courses totaling 20 units as follows: Drama 520, 555, 559, 600, 621, 623, and 650. The student must complete 29 units of studio, voice, internship, practicum, and...
these 29 units, 4 units of Drama 627 (Studio) and 1 unit of Music 6500 (Voice) must be taken each semester. In addition, 11 general elective units are to be selected from the following courses: Drama 539A, 545A, 551, 645, 646A, and 646B. Music 552A, 552B, 554, 613, 648B, 652, 660; and Physical Education 653. Forty-five of the sixty units required for this program must be completed in courses numbered 600 or above. The remaining units may be selected from 500-, 600-, or 700-numbered courses in drama or outside departments.

Candidates will prepare an adjudicated performance thesis project established and approved by their thesis committee. This project will be supported by a written analysis/apologia.

**Courses Acceptable on Master's Degree Programs in Drama**

**UPPER DIVISION COURSES**

**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.

**532. Advanced Acting and Directing (3) I**
Prerequisite: Drama 231. Acting students admitted by audition only; directing students by interview. Problems in characterization in contemporary drama, and in plays of Ibsen, Strindberg, Chekhov, and Shaw. (Formerly numbered Drama 432.)

**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.

**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.

**GRADUATE COURSES**

**551. Costume, Movement, and Manners (3) I**
Prerequisite: Drama 250.
Interrelationship of period costumes and 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 452 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, armor, 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.

**600. Research and Bibliography (3)**
Basic reference works, scholarly and critical journals; introduction to bibliographical techniques; exercises and problems in methods and exposition of research as it relates to the various areas of speech. Recommended for first semester of graduate work, and prerequisite to advancement to candidacy.

**621. Seminar in Theories of the Theatre (3)**
Prerequisites: Drama 420, 600.
Critical determinants in the theatre which have led to the major stylistic movements: Aristotle, Wagner, Brecht, Strindberg, Appia, Craig, Jones, Brunetiere, Archer, Simonson and Grotowski.

**623. Seminar in Musical Theatre Script and Score Analysis (3)**
Prerequisite: Credit or concurrent registration in Drama 420.
Representative works from the musical theatre spectrum analyzed in terms of dramatic and musical content, environment, action, character and style.

**627. Musical Theatre Studio (4)**
Eight hours of activity.
Enter by audition only. The integration of acting, singing, and dancing skills with emphasis on individual problems. Maximum credit sixteen units.
635. Seminar in Children's Dramatics (3)
Prerequisites: Drama 310 and 515.
Modern developments and trends in children's theatre and creative drama in educational, civic and professional programs in the United States and England.

642. Theatre Practicum Skills (3) Cr/NC
Prerequisite: Admission to the M.F.A. program.
Twelve hours per week in laboratory and workshop experience in three design areas (lighting, scene design, costume).
Investigation and application of those skills necessary to the function of a theatrical design artist in theatrical scene design, lighting design or costume design.
Experience and instruction in drafting, painting, color mixing, costume and pattern cutting, lighting and projection techniques, slide preparation, construction and use of equipment and materials. (Formerly numbered Drama 746A.)

643. Collaborative Studies in Design (3)
Prerequisite: Admission to M.F.A. program in Design. This course must be repeated each semester by the M.F.A. Design student for a maximum of 12 units.
Design of theatrical productions with emphasis on artistic collaboration and integration of scenery, costumes and lights. Attention to graphic presentation techniques as well as design production.

644. Seminar in Stage Direction (3)
Prerequisite: Drama 457.
Research projects in the aesthetic principles and practices of stage direction with an emphasis on theory, technique and historical development.

645. Seminar in Lighting for Stage and Television (3)
Prerequisite: Drama 545A or 545B.
Projects concerned with the aesthetic and technical problems of stage lighting.

646. Seminar in Design for Stage and Television (3)
The principles of design in the theatre with an emphasis on the historical development of theatrical costume or scenic environment. The investigation of recent tendencies in styles and their evolution. Each section may be taken once for credit.
A. Costume Design
Prerequisite: Drama 452 or 552.
B. Scenery Design
Prerequisite: Drama 448 or 540.

647. Seminar in History of Theatre and Drama (3)
Prerequisites: Drama 420, 460A and 460B.
A. British and Continental Theatre
B. American Theatre

648. Seminar in Producing the European Play (3)
Prerequisites: Drama 420, 460A, 460B, and 600.
Problems in producing works of such playwrights as Ibsen, Strindberg, Chekhov, Shaw.
Maximum credit six units applicable on a master's degree.

650. Seminar in Theories of Dance Repertory for Musical Theatre (3)
Prerequisites: Drama 555, 623.
Dance repertory related to particular requirements for the actor-singer-dancer-director, movement for expression of character, conflict, plot, and development of dramatic story line within the disciplined framework of a musical theatre production.

746. Theatre Practicum Internship (3)
Prerequisites: Drama 642 and advancement to Candidacy in the M.F.A. program.
Twenty-four hours per week in laboratory and workshop field experience in one of three design areas (lighting, scene design, costume) or musical theatre at an approved professional theatre. (Formerly numbered Drama 746B.)

795. Practicum in Theatre Arts (1-6)
Prerequisites: Drama 600 and 647.
Faculty supervised projects in scene design, costume design, lighting design, performance or direction leading to public performance of a full-length play.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Drama 795 (Practicum in Theatre Arts) is a prerequisite if the student elects the preparation of a project.
Preparation of a project or thesis for the master's degree.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.
Economics

Faculty

George Babcock, Ph.D., Professor of Economics
Robert E. Barlowe, Ph.D., Professor of Economics, Chair of Department
Norris C. Clement, Ph.D., Professor of Economics
Denis A. Flagg, Ph.D., Professor of Economics
Adam Gifford, Ph.D., Professor of Economics
Clenith E. Jenkins, Ph.D., Professor of Economics
Arthur E. Kartman, Ph.D., Professor of Economics
J. William Leasure, Ph.D., Professor of Economics
Maragappa C. Mathavan, Ph.D., Professor of Economics
Woo Hyun Nam, Ph.D., Professor of Economics
Edward J. Neuner Jr., Ph.D., Professor of Economics
Dean O. Popp, Ph.D., Professor of Economics, Graduate Coordinator
Ibrahim I. Poray, Ph.D., Professor of Economics
Frederick D. Sebold, Ph.D., Professor of Economics
Vianis P. Venieris, Ph.D., Professor of Economics
Raford D. Boddy, Ph.D., Associate Professor of Economics
Roger S. Frantz, Ph.D., Associate Professor of Economics
Louis C. Green, Ph.D., Associate Professor of Economics
Amyra Grossbard-Shechtman, Ph.D., Associate Professor of Economics
Ronda K. Hagerman, Ph.D., Associate Professor of Economics
J. William Leasure, Ph.D., Professor of Economics
John W. Hamblyton, Ph.D., Associate Professor of Economics
Douglas B. Stewart, Ph.D., Associate Professor of Economics
Mark A. Thayer, Ph.D., Associate Professor of Economics
Robert L. Sisson, Ph.D., Assistant Professor of Public Health and Economics
Georgia C. Villaflo, B.A., Assistant Professor of Economics
Walter H. Vogl, Ph.D., Assistant Professor of Economics

Assistantships

Graduate assistantships in economics are available to a limited number of qualified students. Application blanks and further information may be obtained from the Chair of the Department of Economics.

Scholarships

Annually the Center for Public Economics with the advice of the Department's Scholarship Committee awards the $500 Walter Weiss scholarship, the $400 Henry Cramer scholarship, the $200 Sidney Evans scholarship, a general $300 scholarship to students in economics, and a $100 Henry George Scholarship.

General Information

The Department of Economics, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Economics. A student may specialize in Public Economics of the Urban Sector, Development Economics, or general economics. For graduate study in connection with the Master of Arts degree in Social Science, refer to "Social Science" in Part Four of this bulletin. Research facilities include the Social Science Research Laboratory in the College, and, within the Department, the Center for Public Economics, the Institute of Labor Economics and the Center for Research in Economic Development.

Admission to Graduate Study

General requirements for admission to the University with classified graduate standing are described in Part Two of this bulletin. In addition, the Graduate Committee of the Department must judge the applicant capable of graduate work in Economics. The Committee's judgment will be based on (1) the applicant's transcripts of prior academic work; (2) three letters of recommendation from individuals familiar with the applicant's academic ability; and (3) the applicant's scores on the GRE Aptitude Test. Item (2) should be addressed directly to the Department of Economics. Official transcripts must be received by the Admissions Office directly from the institutions attended. All documents should be on file by March or early April for fall admission and by late November for spring admission.

Applicants whose preparation in economics and mathematics is judged inadequate by the Graduate Committee may be admitted with Conditional Graduate Standing (classified). The Committee may require students so admitted to remove the deficiency by satisfactory performance on placement exams administered by the Department or in additional course work within a specified amount of time.

Advancement to Candidacy

In addition to the general requirements for advancement to candidacy described in Part Two of this bulletin, the student must have satisfactorily completed Economics 541, 620 and 621.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete an approved graduate program of at least 30 units. Each program must include Economics 541 (if not previously completed with a grade of C (2.0) or better); 620 and 621. No program may contain more than six units from: Economics 741, 797, 798, and 799A; and no more than six units of 500-level courses. Normally a program may contain up to six units of approved electives outside of economics. Written comprehensive examinations in micro and macro theory and in two additional fields are required, but a grade of B (3.0) or better can be substituted for these exams on a graduate course-by-course basis.

Students selecting Plan A must include Economics 799A in their programs and complete a thesis.

Students selecting Plan B must take Economics 741 and may select a specialization in Public Economics of the Urban Sector by including Economics 758 and either 701 or 702 in their programs, or a specialization in the Economics of International Development by including Economics 660 and either 665 or 728 in their programs, or may select a program in General Economics by including at least nine additional units from the list of acceptable courses below.

Courses Acceptable on Master's Degree Programs in Economics

UPPER DIVISION COURSES

502. Public Economics (3)
- Prerequisite: Economics 321 or 401
- General equilibrium. Externalities of consumption and production; their impact on allocative efficiency. Theory of social wants and public goods supply. Theoretical treatment of individual and community preference ordering and decision making. Proposals for improving the allocation of resources.

505. 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.

541. Econometrics (3)
- Prerequisite: Economics 201, and 307 or Mathematics 142
- Measurement in economics. The construction and testing of simple economic hypotheses. Use of economic models involving multiple-regression analysis.
555. Economic Analysis of Environmental Quality (3) II
Prerequisites: Economics 321 and Mathematics 121 or 141 or 150.
Examination of materials balance, interface between economic and ecological systems, and comprehensive waste residuals management. Economic analysis of population growth and environmental degradation, preservation vs. development issues, global environmental problems and international law.

561. International Trade Theory (3)
Prerequisites: Economics 320 and 321.
The pure theory of international trade and commercial policy.

562. International Economic Expansion and Dependence (3)
Prerequisites: Economics 313 or 365 or 464.
Explores various theories of imperialism and dependence, behavior of multinational corporations, and role of state from Marxian and other perspectives. Theories examined in terms of experience of specific countries (e.g., Mexico).

565. U.S.-Mexico Economic Relations (3)
Prerequisite: One course in economics.
Mexico's socioeconomic development since World War II. Problem areas affecting the U.S. including foreign trade, multinational corporations, energy, migration patterns and border relations.

592. International Monetary Theory and Policy (3)
Prerequisites: Economics 320 or 490.
Balance of payments, international capital movements and foreign exchange in relation to current theories and policies.

596. Experimental Topics (3)
Prerequisite: Consent of instructor.
Intensive study in specific areas of economics. Topics to be announced in the Class Schedule. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES

603. Economic Analysis (3)
Prerequisite: Classified graduate standing.
Economic analysis of the firm in a market economy and the economics of national income determination. Not open to students with credit for Economics 320 or 321. Not applicable toward a master's degree in economics.

620. Seminar In Advanced Economic Theory (3)
Prerequisites: Economics 307, 320 and 321.
Theory of money, employment, and income determination. Alternative theories of consumption, investment, price level and rate of interest. Causes of instability in short and long run.

621. Seminar In Advanced Economic Theory (3)
Prerequisites: Economics 307, 320 and 321.
Theory of consumer and producer behavior. Determination of prices and resource allocation patterns in a market economy; partial and general equilibrium.

635. Seminar In Economic History (3)
Prerequisite: Economics 335 or 338.
Individual study and group discussion on selected topics in economic history.

660. Seminar In International Economics (3)
Prerequisites: Economics 541 and 620.
Resource allocation, income distribution, commercial policies, capital movements, balance of payments, and international monetary institutions.

680. Seminar In Labor Economics (3)
Prerequisite: Economics 380 or 482.
Individual study and group discussion of selected topics in labor economics.
Education

General Information

The College of Education offers graduate study leading to the Master of Arts degree in Education with concentrations in the following: community college curriculum and instruction, educational technology, elementary curriculum and instruction, reading education, secondary curriculum and instruction, administration and supervision, special education, educational research, and multicultural education. Some of these concentrations are designed to permit concurrent completion of the requirements for the correspondingly named advanced credentials.

Graduate study is also offered leading to the Master of Science degree in Counseling and the Master of Science degree in Rehabilitation Counseling. Refer to the section of this bulletin on Counselor Education.

The Ph.D. in Education with a Multicultural Component is offered as a joint doctorate with the Claremont Graduate School. Inquiries concerning this program should be addressed to the Coordinator of Graduate Programs, College of Education.

Section I. Joint Doctoral Program

The cooperating faculties at San Diego State University and Claremont Graduate School represent diverse research and teaching interests. Under their stewardship, students may prepare themselves for qualifying examinations and for dissertation research in many areas including educational administration, curriculum and instruction, special education, learning theory, human growth and development, applied linguistics and higher education. In addition to the traditional concerns of advanced study in education, the program seeks to explore the effects of culture on learning and teaching and to investigate ways to meet the needs of all students in a pluralistic society. For these reasons and because of its importance as a newly emerging field of inquiry, multicultural education is both a separate component of the program and a unifying theme within it.

In addition to multicultural education, three other components constitute the core areas of the program: research and evaluation, area of specialization and cognate area. Fulfillment of the cognate area requires course work, or the equivalent, outside of the field of education.

Normally an applicant will be expected to hold a master's degree in education from an accredited institution. Experience in the field is desirable and could reduce the time required to prepare for qualifying examinations. A minimum of 48 semester units of residency, 24 at each institution, is required before a student is eligible to take qualifying examinations. In addition to these residency units, additional course work may be needed before the student is competent to conduct dissertation research. After successful completion of qualifying examinations, the student is advanced to candidacy and enters the dissertation phase of the program.

Upon admission to the program, the student is guided by the requirements for the doctoral program given in Part Two of this bulletin and those listed under Education in the Claremont Graduate School Bulletin.

For further information write:
San Diego State University
Peggy J. Hawley, Coordinator
Graduate Programs & Research
College of Education

Claremont Graduate School
Conrad Briner, Chair
Faculty in Education

Section II. Master's Degree Programs

Master of Arts Degree in Education

Admission to Graduate Study

The student must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, the student must have completed a minimum of 12 units in professional education courses, and must either be admitted to the program of teacher education or hold a valid California credential, other than an emergency or provisional credential, before he or she will be recommended by the school for classified graduate standing. (This is not applicable to students in the Department of Educational Technology and Librarianship.)

Advancement to Candidacy

A student desiring a Master of Arts degree in Education with a concentration in community college curriculum and instruction, educational technology and librarianship, elementary curriculum and instruction, reading education or secondary curriculum and instruction may be advanced to candidacy upon completion of the basic requirements as described in Part Two of this bulletin. A student desiring a concentration in administration and supervision, or multicultural education must, in addition to the above, meet specific requirements for admission to the appropriate advanced credential program. A student desiring a master's degree concentration in special education must also meet specific admission requirements. (For further information, refer to the College of Education, Office of Graduate Programs, Room Education 100B, or to the coordinators of the respective programs.)

Specific Requirements for the Master of Arts Degree in Education

In addition to meeting the requirements for admission to the University with classified graduate standing and the credential requirements as applicable, the student must satisfy the basic requirements for the master's degree described in Part Two of this bulletin. In addition, the student must meet the requirements specified for one of the concentrations in Education (described below). Courses common to all concentrations are Education 680 and Plan A, which requires Education 769A or Education 795A, or Plan B in which two options are available, Education 791A-791B or Education 795A-795B. All applicants for the Master of Arts degree in Education must pass a comprehensive examination.

The Comprehensive Examination

This examination, designed to evaluate the achievement in the specific area of the student's concentration, is required of all candidates for the master's degree in education. A student is eligible to take the comprehensive examination only after advancement to candidacy.

The examination is offered once a year and is required near the midpoint of each semester. Reservation must be made at least one week in advance of the examination. For information on exact dates and for a reservation, check with the Office of Graduate Programs, College of Education, Room Education 100B, or with the coordinators of the respective programs.

Selection of Plan A or Plan B

In general, applicants will be programed for Plan B, the seminar plan. After the student is approximately half way through the program, has secured an adviser and established a thesis problem, they may request to transfer to Plan A. A student must be prepared as an official change in program for the master's degree, countersigned by the faculty adviser, and submitted to the Office of Graduate Programs in the College of Education.

Both Plan B options provide students the opportunity (1) to have two experiences which emphasize research or evaluation and writing, (2) to participate actively in the projects of the other members of the seminar, and (3) to subject their own work to critical evaluation by the other seminar members. Both plans require the ability to formulate and define research or evaluation problems, to assemble data pertinent to the problem, to draw conclusions, and to present the study in acceptable written form. It is expected that the two seminars will be at least as demanding as the thesis with respect to the difficulty and quantity of work required. Selection of one of the Plan B options must be made with the approval of the departmental faculty adviser.

Course Requirements

Note: Students are requested to consult with the appropriate master's degree adviser prior to taking any course work leading to the master's degree. Students are urged to take Education 690 (3 units) as early as possible in their first graduate year.

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Concentrations

Administration and Supervision

The Master of Arts degree in Education with a concentration in educational administration and supervision is designed to provide increased knowledge and skill for the prospective administrator or supervisor. The program is intended for those educators who wish to become: superintendents, assistant superintendents, principals, vice principals, supervisors of instructional programs, special education administrators, or to pursue other administrative or supervisory positions in public or private schools. Students in this concentration may earn a degree without the Administrative Services Credential or they may combine their studies to earn both the master’s degree and to fulfill most of the requirements for the credential. The degree without the credential is designed for students who wish to become private or foreign school administrators, school business managers, administrators of educational programs in private industry or civil services, or those who have other administrative objectives in educational fields. Students who intend to pursue careers in administration in California public schools, grades K-12, are advised to satisfy requirements for both the degree and credential.

Requirements for Concentration without Credential

1. Prerequisites:
   A. A teaching or counseling credential or teaching or counseling experience.
   B. An application for admission to the Department of Educational Administration.
   C. Two letters of recommendation from the school district or agency where employed.
   D. A counseling interview with a faculty member in the Department if needed.
2. Education 690 (3 units).
3. Core Courses: EdAd 600, 610, 620, 630 (12 units).
4. Electives selected with the approval of the graduate adviser (9-12 units).
5. Education 791A-791B (6 units) or 795A-795B (6 units) or 799A (3 units).
6. Students with special interests who desire a program which deviates from that above are invited to seek counsel from the Department Coordinator.

Requirements for Concentration with Administrative Services Credential

1. Prerequisites:
   A. A teaching or counseling credential and three years teaching or counseling experience.
   B. An application for admission to the Department of Educational Administration.
   C. Two letters of recommendation from the school district or agency where employed.
   D. A counseling interview with a faculty member in the Department if needed.
2. Education 690 (3 units).
3. Core Courses: EdAd 600, 610, 620, 630 (12 units).
4. Specialization (4-7 units) selected from one of the following:
   A. Elementary Principalship: EdAd 640A, 640B, 640C.
   B. Secondary Principalship: EdAd 650A, 650B, 650C.
   C. Administration of Special Education: EdAd 640B or 650B, 680 (Seminar in Administration of Special Education) EdAd 670.
   D. Supervision of Instructional Programs: EdAd 640B or 650B, 680 (Seminar in Supervision of Instructional Programs).
5. Electives (2-8 units) selected with approval of graduate adviser.
6. Education 791A-791B (6 units) or 795A-795B (6 units) or Education 799A (3 units).
7. In addition to the above degree requirements, students seeking a credential must complete the following courses, some of which may have been included as electives in the master’s degree program, EdAd 682 (Due Process 1 unit), 660A-660B (4 units).
8. Students who have not met the special education requirements mandated by Title 5 must complete two units in special education selected with the approval of the graduate adviser.

San Diego State University offers a program leading to the Administrative Services Credential. This credential authorizes service in any administrative and/or supervisory position in grades K-12.

For further information, the student is referred to the Department of Educational Administration, North Education Room 182.

Requirements

1. Possession of a valid California teaching or pupil personnel credential which is based on a bachelor’s degree.
2. Three years of teaching or counseling experience in the public schools grades K-12, or private schools of equivalent status.
3. Possession of a master’s degree. (The degree may be in educational administration or in another field related to educational practice.)
4. Completion of 12 units of core courses and one of the specializations listed under the MA and Credential track.
5. EdAd 682. (Due Process 1 unit)
6. EdAd 660A, 660B (4 units)
7. Students who have not yet met the Title 5 specified special educational requirements for the administrative services credential must complete two additional units in special education under advisement.

Community College Curriculum and Instruction

The Master of Arts degree in Education with a concentration in Community College Curriculum and Instruction is designed as the base for applicants to increase professional competence in the form of more breadth, depth and technical skill in curriculum and instruction, either generally or in selected subject areas of specialization in the Community College. The program is intended for those educators who wish to develop their own professional competence as faculty as well as those who wish to become instructional supervisors, department chairpersons or other supervisory instructional personnel in postsecondary education or in other settings involved with adult education.

Requirements for Concentration

1. Prerequisites:
   A. A basic background in Education (B.A., B.V.Ed. or teaching credential).
   B. Experience in the community college setting.
   2. Community College Core Program — 12 units
      ED 630 Seminar in Instructional Methods and Materials: Community College (3)
      ED 680 The Community College (3)
      ED 610 Curriculum Theory and Development in Post-Secondary Education (3)
      ED 660 Advanced Educational Psychology (3)
      OR
      ED 730 Seminar in Adult Learning (3)
   3. Electives — 9-12 units selected with adviser approval. 6 units may be in cognate area.
   4. Education 690 Procedures of Investigation and Report (3)
   5. Research (3-6 units): Education 791A-791B, Evaluation (3-3 units); or Education 795A-795B, Seminar (3-3 units); or Education 799A Thesis (3 units)

Educational Research

The Master of Arts degree in Education with a concentration in educational research is designed to prepare students having a basic background in education to conduct measurement, research, and evaluation activities at a professional level. Emphasis is upon preparation for research activities at the school district level.

1. Prerequisite: A basic background in education (a minimum of 12 units of professional education) including at least one course in tests and measurement.
2. Education 690, Procedures of Investigation and Report (3 units)
3. Core program (3 units): Education 661, Seminar in Educational Measurement; Secondary Education 564, Quantitative Methods in Educational Research; and three units of educational research design selected with the approval of the adviser.
4. Electives (15 units) selected with adviser's approval.
5. Education 799A, Thesis (3 units)
Educational Technology

The Master of Arts degree in Education with a concentration in educational technology is designed for persons seeking a career in one or a combination of the following: The systematic design, implementation and use of instructional strategies; the systematic design, production, use and evaluation of instructional products in various media such as computer-assisted instruction, print text, slide/tape programs, and/or video. Students are prepared to work in design, production and/or resource management in settings like schools, hospitals, learning resource centers, industry, publishing, etc. For further information, see the Coordinator of Educational Technology and Librarianship. Course requirements follow. The Master of Arts degree in Education with a concentration in educational technology is designed to provide special knowledge and skills for three distinct student populations: curriculum specialists (Plan 1), resource specialists (Plan 2), and research policy specialists (Plan 3).

Plan 1: Curriculum Specialists

1. Prerequisite: Varies with the career goal of the student—see adviser.
2. ED 690. Procedures of Investigation and Report (3 units).
3. Core program (15 units): The core is composed of courses in education and related fields, selected with the approval of the adviser on the basis of the student's interests and goals. A minimum of nine units must be taken in courses at the 600 and 700 level.
4. Electives (6-9 units) selected with the approval of the adviser.
5. Research (3-6 units): ED 791A-791B, Evaluation (3-3 units); or Education 795A-795B, Seminar (3-3 units); or Education 799A, Thesis (3 units).

Specialization in Educational Computing: Students specializing in Educational Computing should complete a core sequence of Educational Technology and Librarianship 544, 571 and Education 590, 571. Recommended electives to be approved by the program include Educational Technology and Librarianship 553, 596, 674, 676, 775, Special Education 650 and Educational Administration 682. Specialization prerequisites are Educational Technology and Librarianship 540, 571.

Elementary Curriculum and Instruction

The Master of Arts degree in Education with a concentration in elementary curriculum and instruction is designed to increase professional competence in the form of more breadth, depth, and technical skill in curriculum and instruction, either generally or in select areas of specialization. A Specialist Credential in Early Childhood Education may be earned concurrently with this degree. See graduate adviser, Elementary Education, for further information. Course requirements are as follows:

1. Prerequisite: A basic background in education (minimum of 12 units) to include curriculum and methods, growth and development, educational psychology, and history and philosophy of education.
2. Education 690. Procedures of Investigation and Report (3 units).
3. Core program (15 units): The core is composed of courses in education and related fields, selected with the approval of the adviser on the basis of the student's interests, professional needs and goals. The core program will include:
   a. Elementary Education 610, Curriculum Construction and Evaluation in Elementary Education or Elementary Education 710, Curriculum Development and Evaluation for Early Childhood Education (3 units).
   b. Education 660, Advanced Educational Psychology or Education 682, Social Foundations, or Education 683, Comparative Education, or Education 685, Philosophy of Education, or Education 686, Educational Sociology (3 units).
   c. Elementary Education 611, Seminar in Reading in Elementary Education, or Elementary Education 612, Seminar in Language Arts in Elementary Education, or Elementary Education 613, Seminar in Mathematics in Elementary Education, or Elementary Education 614, Seminar in Social Studies in Elementary Education, or Elementary Education 615, Seminar in Science in Elementary Education, or Elementary Education 624, Seminar in Elementary Social Studies Curriculum Development or related courses with approval of the adviser (3 units).
   d. 500/600/700-numbered courses in Elementary Education with the approval of the adviser (3-6 units).
   e. 500/600/700-numbered courses in education or related fields selected with the approval of the adviser (up to 6 units).
4. Electives (6-9 units) selected with the approval of the adviser.
5. Special Study and Research (3-6 units): Education 791A-791B, Evaluation (3-3 units); or Education 795A-795B, Seminar (3-3 units); or Education 799A, Thesis (3 units).

The program of study must include at least 15 units of 600- and 700-level courses.

Multicultural Education

The Master of Arts degree in Education with a concentration in multicultural education is designed to provide special knowledge and skills for three distinct student populations: curriculum specialists (Plan 1), resource specialists (Plan 2), and research policy specialists (Plan 3).

Plan 1: Curriculum Specialists

1. Prerequisites: 
   M ED 653. Language Policies and Practices (3)
2. ED 690. Procedures of Investigation and Report (3)
3. Core Program (18-21 units)
   a. MED 650. Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies (3)
   b. MED 653 Language Policies and Practices (3)
   c. MED 654 Cultural Foundations of Education (3)
   d. MED 662 Teaching Writing in Multilingual Settings (3)
   e. MED 543 Social Policy Research (3)
   f. MED 602 Cross-Cultural Experience in Classroom Interaction (3)
   g. MED 603 Social and Cultural Influences in Multicultural Education (3)
   h. MED 631 Teaching Reading in Bilingual Settings (3)
   i. MED 650. Bilingual-Cross-Cultural Curriculum Development and Teaching Strategies (3)
   j. MED 651. Multicultural Methods and Curriculum in Content Areas (3)
4. Electives (3-6 units)
   Plan A. Students (Thesis) 6 units
   Plan B. Students (Seminar) 3 units
   3 units of electives selected from 500/600/700-numbered courses from disciplines other than Education with the approval of the adviser.
5. Plan A Education 799A Thesis (3)
6. Plan B Education 791A-791B, Evaluation (3-3); or Education 795A-795B, Seminar (3-3).

Plan 2: Resource Specialists

1. Prerequisites:
   M ED 653. Language Policies and Practices (3)
2. ED 690. Procedures of Investigation and Report (3)
3. Core Program (18-21 units)
   a. MED 602. Cross-Cultural Experience in Classroom Interaction (3)
   b. MED 650. Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies (3)
   c. MED 653 Language Policies and Practices (3)
   d. MED 654 Cultural Foundations of Education (3)
   e. MED 662 Teaching Writing in Multilingual Settings (3)
   f. MED 543 Social Policy Research (3)
   g. MED 602 Cross-Cultural Experience in Classroom Interaction (3)
   h. MED 603 Social and Cultural Influences in Multicultural Education (3)
   i. MED 631 Teaching Reading in Bilingual Settings (3)
   j. MED 650. Bilingual-Cross-Cultural Curriculum Development and Teaching Strategies (3)
   k. MED 651. Multicultural Methods and Curriculum in Content Areas (3)
4. Electives (3-6 units)
   Plan A. Students (Thesis) 6 units
   Plan B. Students (Seminar) 3 units
   3 units of electives selected from 500/600/700-numbered courses from disciplines other than Education with the approval of the adviser.
5. Plan A Education 799A Thesis (3)
6. Plan B Education 791A-791B, Evaluation (3-3); or Education 795A-795B, Seminar (3-3).

Plan 3: Research and Policy Specialists

1. Prerequisites:
   M ED 653. Language Policies and Practices (3)
2. ED 690. Procedures of Investigation and Report (3)
3. Core Program (21 units)
   a. MED 650. Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies (3)
   b. MED 653 Language Policies and Practices (3)
   c. MED 654 Cultural Foundations of Education (3)
   d. MED 662 Teaching Writing in Multilingual Settings (3)
   e. MED 602 Cross-Cultural Experience in Classroom Interaction (3)
   f. MED 603 Social and Cultural Influences in Multicultural Education (3)
   g. MED 631 Teaching Reading in Bilingual Settings (3)
   h. MED 650. Bilingual-Cross-Cultural Curriculum Development and Teaching Strategies (3)
   i. MED 651. Multicultural Methods and Curriculum in Content Areas (3)
   j. MED 654 Cultural Foundations of Education (3)
   k. MED 662 Teaching Writing in Multilingual Settings (3)
   l. MED 653 Language Policies and Practices (3)
   m. MED 686 Seminar in Multicultural Education (3)
4. Electives (3 units)
   3 units of electives selected from 500/600/700-numbered courses from disciplines with
   the approval of the adviser.
5. Education 799A, Thesis (3)

**Reading Education**

The Master of Arts degree in Education with a concentration in Reading Education is
designed to provide increased knowledge and skill for those who are or wish to become
reading specialists in public or private schools and clinics. The program prepares candidates
to teach, tutor, develop curriculum, offer in-service instruction and administer reading centers
for students ranging from kindergarten through community college, university, and adult levels.
This degree is often earned concurrently with a California Reading Specialist Credential, which
has a number of common requirements.

1. Prerequisite: Completion of a minimum of 12 units of professional course work in
   education, including a basic course in methods and materials for teaching reading,
   and a methods course in reading.
2. Education 690, Procedures of Investigation and Report (3)
3. Core Program (15 units)
   Education 511, Reading Diagnosis (3)
   Education 621, Advanced Diagnosis in Reading (3)
   Education 631, Reading Clinic (3)
   Education 652, Topics in Reading Education (minimum of 3)
   Elementary Education 611, Seminar in Reading in Elementary Education (3)
   or
   Secondary Education 681, Seminar in Secondary School Reading (3)
4. Electives (6-9 units)
   Course work within or outside the College of Education selected with the approval of the
   adviser.
5. Education 791A-791B, Evaluation (3-3) or Education 795A-795B, Seminar (3-3), or
   Education 799A, Thesis (3)

**Secondary Curriculum and Instruction**

The Master of Arts degree in Education with a concentration in Secondary Curriculum and
Instruction, is designed as the base for applicants to increase professional competence in any
of the fields typically taught in secondary schools, and for obtaining those competencies and
technical skills in curriculum and instruction either generally, or in selected areas of
specialization.

1. Prerequisites: A basic background in education (12 units).
2. Education 690, Procedures of Investigation and Report (3 units)
3. Core program: (6 units) to include Secondary Education 510, Curriculum Development
   (3 units) and 3 units from Secondary Education 613, Advanced Problems in Instruction
   or
   Secondary Education 616, Recent Trends in Curriculum;
   or
   Secondary Education 617, Seminar in Research in Curricular Problems;
4. Electives (15 units) selected with the approval of the graduate adviser on the basis of the
   student's interests, goals and needs. A minimum of 3 units must be in 600- or
   700-numbered courses. A maximum of 6 units may be selected from cognate fields
   outside the College of Education.
5. Education 791A-791B, Evaluation (3-3), or Education 795A-795B, Seminar (3-3); or
   Education 799A Thesis (3 units).

A Master of Arts degree in Education with a concentration in curriculum and instruction in
the area of occupational or adult education is also offered. Each student is urged to consult with
the program adviser as to the specific course content of the program. With the adviser's
approval in this 30-unit program, up to 12 units of electives may be selected in the appropriate
fields related to the major occupational field.
Specialist Credentials

Bilingual/Cross-cultural

Early Childhood

Reading Specialist

Special Education

Communication Handicapped (Dept. of

Physically Handicapped

Learning Handicapped

Severely Handicapped

Gifted

Visually Handicapped*

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 24 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.

Community College Instructor Credential

Specific Requirements

1. An associate degree in which the student can establish four years of occupational experience in a subject matter area plus 12 units in designated courses on the community college.
2. A baccalaureate degree in which the student can establish two years of occupational experience and a major or minor in a subject matter area related to this occupational experience plus six units in designated courses on the community college.
3. A master’s degree in a subject matter area designated in Title 5, Section 5, #52210 (subjects commonly taught at a community college).

Baccalaureate Degree Candidates

Education 380, 381, 382, 565 or 568 are offered to students who have had experience in an occupational program taught in a community college. Students may also enroll if they presently hold a California partial credential in an occupational area. Early consultation with the Higher Education Programs Coordinator is recommended.

Master’s Degree Candidates

No formal courses in education are required under the current interpretation of the Education Code. The program is elective and selective. It is strongly suggested, however, that graduate students enroll in the professional courses in teacher education in order to enhance employment possibilities as most community colleges require some professional preparation and/or experience. Students desiring further information are urged to consult the Higher Education Programs Coordinator. Admission to Education 700 is based upon successful completion of Education 660 (not required for psychology majors) and Education 680 and selection by the Community College Admission Committee.

Most departments on the San Diego State University campus have developed programs permitting graduate students to obtain the master’s degree and enroll in the education courses concurrently as little as one year of full-time study. The courses in education are typically offered after three o'clock in regular semesters.

The following courses are suggested to enhance employment in the community college:

- Education 630 Seminar in Instructional Methods and Materials: Community College (3)
- Education 660 Advanced Educational Psychology (3)
- Education 680 The Community College (3)
- Education 700 Directed Teaching: Community College (4) Cr/NC

NOTE: Directed teaching can be accomplished only in a community college during the current academic year.

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, Elementary Education 592, 571, 710, 713.
4. Verification of two years of successful teaching experience at the preschool or primary grade levels.

Library Services Credential*

San Diego State University offers curricula leading to the Library Services Credential. This credential authorizes the holder to serve as a school library/media specialist in grades kindergarten through 12. For information concerning the credential, the student is referred to the Department of Educational Technology and Librarianship.

Requirements for Admission

1. Formal application to the Department of Educational Technology and Librarianship.
2. Admission to a basic teaching credential program.
3. Possession of a basic teaching credential.
4. Interview(s) with a faculty member in the Department of Educational Technology and Librarianship.

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

- No new students are being admitted into this program during the current year.

- No new students will be admitted into this program during the current academic year.
Program
The following program elements are required of all library credential candidates: (31 units)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETL 445</td>
<td>School Library Media Programs</td>
<td>3</td>
</tr>
<tr>
<td>ETL 483</td>
<td>Directed Teaching, Educational Technology and Librarianship</td>
<td>4</td>
</tr>
<tr>
<td>ETL 532</td>
<td>Design and Production of Instructional Materials</td>
<td>3</td>
</tr>
<tr>
<td>ETL 540</td>
<td>Instructional Technology</td>
<td>3</td>
</tr>
<tr>
<td>ETL 546</td>
<td>Basic Reference Materials</td>
<td>3</td>
</tr>
<tr>
<td>ETL 547</td>
<td>Selection of Instructional Materials</td>
<td>3</td>
</tr>
<tr>
<td>ETL 548</td>
<td>Cataloging and Classification</td>
<td>3</td>
</tr>
<tr>
<td>ETL 675</td>
<td>Seminar in the Administration of Instructional Media Centers</td>
<td>3</td>
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<tr>
<td>ETL 678</td>
<td>Literature for Children</td>
<td>3</td>
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<tr>
<td>ETL 679</td>
<td>Literature for Adolescents</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units 31

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.

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 511</td>
<td>Reading Diagnosis</td>
<td>3</td>
</tr>
<tr>
<td>ED 621</td>
<td>Advanced Diagnosis in Reading, to be taken concurrently with ED 652B, Interpersonal/Interdisciplinary Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>ED 631</td>
<td>Reading Clinic (Must be taken concurrently with ED 652A, Linguistic/Cultural Difference and Reading)</td>
<td>3</td>
</tr>
<tr>
<td>ED 690</td>
<td>Procedures of Investigation and Report</td>
<td>3</td>
</tr>
<tr>
<td>ELED 611</td>
<td>Seminar in Reading in Elementary Education, or</td>
<td></td>
</tr>
<tr>
<td>SECED 681</td>
<td>Seminar in Secondary School Reading</td>
<td>3</td>
</tr>
<tr>
<td>ED 652</td>
<td>Topics in Reading Education. Three required categories:</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>652A Linguistic/Cultural Difference and Reading</td>
<td></td>
</tr>
<tr>
<td></td>
<td>652B Interpersonal/Interdisciplinary Communication Skills</td>
<td></td>
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<tr>
<td></td>
<td>652C Children/Young Adult Literature: Oral and Creative Responses to Reading</td>
<td></td>
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<tr>
<td>ED 701</td>
<td>Field Experience as a Reading Specialist</td>
<td>4</td>
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<tr>
<td>Electives</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

Additional Requirements
1. A minimum of one year of full-time teaching experience (or the equivalent) within the range of grades kindergarten to 12.
2. Satisfactory completion of a comprehensive examination covering the program course work.

A master’s degree is not a requirement for this credential; however, courses in the program described above may be acceptable also for the Master of Arts in Education degree with a concentration in Reading Education. The 8 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 two additional units of Education 652, Topics in Reading Education.

Resource 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 University, the candidate must hold a valid special education specialist credential, have completed three years of teaching in regular and special education settings, and must have satisfied the competencies specified in the three Resource Specialist courses: Special Education 651, 652, 653.

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 General (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. One course in Human Growth and Development, approved by an advisor, for Severely Handicapped. (9-12 units)

Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Education 600 (3 units)** or Education 690 (3 units)**</td>
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<td></td>
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<tr>
<td>2, Specialization Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Learning Handicapped – Special Education 480A (4 units)</td>
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<td></td>
</tr>
<tr>
<td>b Severely Handicapped – Special Education 480B (8 units)</td>
<td></td>
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</tr>
<tr>
<td>c Physically Handicapped – Special Education 480C (8 units)</td>
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<tr>
<td>d Gifted – Special Education 480D (2 units) or 505G, 511D, 622, and nine units of electives. (20 units)</td>
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<td></td>
</tr>
<tr>
<td>e Visually Handicapped – Special Education 480E (8 units)</td>
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</tbody>
</table>

* No new students are being admitted to the Visually HandicappedCredential program.
** For students completing the Bilingual (Spanish) Certificate program, Multicultural Education 602 (3 units) may be substituted, with approval of graduate adviser, for Special Education 600. In Gifted Concentration, Special Education 622 may be substituted for Special Education 650 with approval of Graduate Adviser.

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Certificate in Bilingual (Spanish) Special Education

This certificate program provides specialized preparation for teachers of learning handicapped children whose primary language is Spanish.

Prerequisites for admission include the following:
1. Completion of, or admission to, the departmental program for the Specialist Credential in Special Education (Learning Handicapped). Will satisfy prerequisites for Special Education 510C and 511C.
2. Special Education 508F.
3. Spanish language proficiency at the S-3 (FSI 3) level.
4. Knowledge of the target culture and bilingual teaching strategies. Will satisfy prerequisites for Multicultural Education 602. Proficiency may be demonstrated by passing the "Test of Culture and Teaching" used by the College of Education bilingual emphasis programs or Multicultural Education 603.

Certificate program requirements include the following: Multicultural Education 553, 602, Special Education 510C, 511C, and demonstration of competence in teaching learning handicapped students whose primary language is Spanish.

A grade point average of 3.0 must be obtained in the four courses. Contact the Department of Special Education for further information.

Certificate in Teaching the Emotionally Disturbed/Behaviorally Disordered

This certificate provides specialized preparation for teachers of children with severe emotional disturbance who have been labeled as severely emotionally disturbed/behaviorally disordered in the school setting, including those children labeled as seriously emotionally disturbed.

Prerequisites for admission to the certificate program include the following:
1. Completion of, or admission to, the departmental program for the Specialist Credential in Special Education (Severely Handicapped).
2. A graduate GPA of 3.0.
3. Special Education 600 (advisor appointed section).
4. Interview with program faculty.

Program requirements for the Certificate in Teaching the Emotionally Disturbed/Behaviorally Disordered include the following: Special Education 510A, 512E, 514A, 514B, 771 (2 units, advisor approved section), and demonstrated competence in teaching emotionally disturbed/behaviorally disordered students.

A grade point average of 3.0 is required for certificate course work. Contact the Department of Special Education for further information.

Certificate in Children's Literature

This certificate attests that the student has successfully completed 18 units (minimum GPA 3.0) of planned, advised, coherent, and articulated study in the field of literature for children.

Prerequisites include admission to the University and to upper division or graduate standing. The Certificate in Children's Literature may be earned with a specialization either in Education or in English and Comparative Literature.

Specialization in Education. Nine units from courses in group A, six units from group B, and three units of an appropriate elective chosen with the approval of a faculty adviser.

Specialization in English and Comparative Literature. Nine units from courses in group B, six units from group A, and three units of an appropriate elective chosen with the approval of a faculty adviser.


Group B. English and Comparative Literature: Comparative Literature 561 (when offered as European Children's Literature), English 496*, 501, 526*, 549.

* With advisor's permission when the subject is closely related to children's literature.

Certificate in Instructional Technology

To receive a Certificate in Instructional Technology, candidates, in addition to meeting all admissions requirements, must complete the following 12 units of coursework:
- Educational Technology and Librarianship 540, 544, 571 plus three units from Educational Technology and Librarianship 541, 553, or 596.

Certificate for Language Development Specialist

The Language Development Specialist Certificate provides an interdisciplinary approach in linguistics and multicultural education to train teachers in theory and application of English as a second language methodologies for linguistically diverse students in grades K-12.

Prerequisites for admission:
1. Valid California teaching credential.
2. Six units of an appropriate foreign language.
3. The certificate program includes Linguistics 520, 550, 551, 552, and Multicultural Education 553, 602, 650, 651, 652. A grade point average of 3.0 must be obtained in the eight courses. Students who complete the certificate program are not eligible to receive the Basic Certificate in Applied Linguistics in English as a Second Language (ESL).

Courses Acceptable on Master's Degree Programs in Education

UPPER DIVISION COURSES IN EDUCATION

GENERAL

565. Occupational Student (3) S
Prerequisite: Education 380 or 381
The learning process and individual differences, behavioral characteristics of youth and ethnic relations in the schools.

568. Human Relations and Counseling in Adult Education (1-3)
Prerequisite: Possession of a valid teaching credential.
Principles, procedures and issues appropriate to human relations and counseling in adult education.

590. Computer Solutions to Instructional Problems (3) I, II
Prerequisite: Possession of a valid teaching credential.
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. Maximum credit six units.

UPPER DIVISION COURSE IN READING

511. Reading Diagnosis (3)
Prerequisites: Valid teaching credential and consent of instructor.
Diagnosis of reading difficulties and exploration of remedial techniques.

GRADUATE COURSES IN READING

621. Advanced Diagnosis in Reading (3)
Prerequisite: Education 511
Principles and techniques of individual and group diagnosis of reading difficulties. Experience in administration and interpretation of individual and group instruments in diagnosis. (Formerly numbered Elementary Education 821.)
631. Reading Clinic (3)  
Two lectures and three hours of laboratory.  
Prerequisites: Education 511 and 621.  
The utilization of remediation techniques in a laboratory situation.

652. Topics In Reading Education (1-6)  
Prerequisite: California Teaching Credential.  
A variety of instructional sequences (mini-courses), each focusing on a single topic or competency dealing with reading instructor. Topics differ each semester to adjust to current literature in the field, inservice needs and resource availability. Of three required units, at least one must be taken from each of the three required categories (A, B and C). Students may elect to take more than three from these same categories. Consult Class Schedule each semester for offerings.

A. Linguistic/Cultural Difference and Reading  
B. Interpersonal/Interdisciplinary Communication Skills  
C. Children/Young Adult Literature; Oral and Creative Responses to Reading

701. Field Experience as a Reading Specialist (4)  
Prerequisites: Education 511, 621, 631, 652 and consent of the instructor.  
Supervised experience as a Reading Specialist. Approval of instructor and of local school district required in the semester prior to registration.

GRADUATE COURSES IN EDUCATION

Students without classified graduate standing are not admitted to 600- and 700-numbered courses in Education. Twelve units of professional education are prerequisite for enrollment in all graduate courses, except Education 630 and 680, which require special clearance from the Coordinator of Higher Education Programs.

GENERAL

610. Curriculum Theory and Development in Postsecondary Education (3)  
Prerequisite: Education 680 or appropriate experience.  
Process of curriculum change and improvement. Development and evaluation of curricula in postsecondary education and selection of appropriate teaching strategies to meet learning needs of students.

630. Seminar in Instructional Methods and Materials: Community College (3)  
Prerequisite: Education 610. 680 or appropriate experience.  
The teaching process at the community college level addressing lesson planning, individualization of instruction, use of learning centers, interactive instruction, micro-teaching, other audiovisual methods and procedures of evaluation.

632. Change in Education (3)  
Prerequisite: Valid teaching credential.  
Examination of the process of change in education, analysis of recent major changes and study of techniques for effecting change.

635. Literacy and Language (3)  
Prerequisites: Education 511 and Elementary Education 411 or Secondary Education 403.  
Methods of teaching reading. Theories of literacy and methods for developing literacy in language, reading and writing. Instructional methods and assessment techniques for children, youths and adults.

660. Advanced Educational Psychology (3)  
Prerequisite: Elementary Education 361 or valid teaching credential.  
Advanced study of the research in educational psychology and its application to learning and human growth.

661. Seminar in Educational Measurement (3)  
Problems in educational testing. Emphasis on construction, administration and validation of teacher-made tests.

670. Simulation and Games (3)  
Prerequisite: Open to teachers and those enrolled in education credential programs. The use and construction of simulations and games for education.

672. Values Education (3)  
Prerequisite: Valid teaching credential or enrollment in a credential program.  
Analysis of various strategies that promote clarification of values and moral dilemmas. Development of classroom strategies to measure values and implement value clarification.

674. Schools and Changing Sex Roles (3)  
Prerequisite: Open to teachers and those enrolled in education credential programs.  
Impact of schools upon the role of males and females and the role the educational systems play in redefining traditional roles.

675. Advanced Computerized Instruction (3)  
Prerequisites: Education 590 or experience in programming and consent of instructor.  
Design and implementation of educational software using files, simulation, (color) graphics and other capabilities available on microcomputers.

680. The Community College (3)  
Overview of philosophy, history, aims, scope, function, outcomes, principles and problems of the community college. Relation of the community college to secondary and higher education. Fieldwork required.

682. Social Foundations (2 or 3)  
Prerequisite: Admission to teacher education.  
Sociological, historical, and philosophical foundations of American education and their influences on present-day educational practices.

683. Comparative Education (3)  
The contemporary educational ideas and practices of various countries of the world and their impact on our culture and education.

685. Philosophy of Education (3)  
Prerequisite: Education 363.  
Advanced study of philosophical backgrounds of educational thought; a study of comparative philosophies, and an analysis of selected current trends and problems.

686. Educational Sociology (3)  
Prerequisite: Education 363.  
A study of the social, economic, political and moral setting in which present-day American education functions.

687. Workshop in Community Influences on Learning and Curriculum Planning (1-3)  
Prerequisite: Teaching experience.  
Advanced study of community influences on learning and child growth and development, and of group techniques; implications for curriculum planning. Provides opportunity for work on individual problems of the participants. May be repeated with new content. See Class Schedule for specific content. Maximum combined credit six units applicable on a master's degree for Education 687, Elementary Education 687, Secondary Education 687, Special Education 687.

688. Workshop in Community College Education (1-6)  
Prerequisite: Teaching or administrative experience in a community college.  
To provide community college faculty members with opportunities to explore ways to improve curriculum and instruction in the community college. See Class Schedule for specific content.

689. Workshop in Intercultural Education (3)  
A cooperative workshop sponsored by the University and local school districts to study trends in intercultural education in American schools, including the examination and construction of units, curricular and instructional materials and techniques. See Class Schedule for specific content.

690. Procedures of Investigation and Report (3)  
Research methods in education. Location, selection and analysis of professional literature. Methods of investigation, data analysis and reporting. Required of all applicants for advanced degrees in education.
700. Directed Teaching: Community College (4) Cr/NC
   Prerequisites: Education 610, 630 and 680 or appropriate experience.
   Systematic observation, participation, and teaching under supervision in a community
college. Permission of the Graduate Coordinator is required. Application to take this course must
be made in the preceding semester by preregistration with the Higher Education Programs
Coordinator. Not acceptable on master's degree programs.

720. Internship Community College Education (1-6) Cr/NC
   Prerequisites: Education 660, 680 and teaching or administrative experience in a
   community college. Supervised internship experience. Application to take the course must be made early
during the preceding semester. May be repeated with new content. Maximum credit six units
applicable on a master's degree.

730. Seminar in Adult Learning (3)
   Prerequisite: Education 610, 680 or appropriate experience.
   Study of the developing theory on how adults learn. Learning patterns and implications for
   life-long learning.

790. Directed Readings in Education (3)
   Prerequisite: Advancement to candidacy.
   Theory and research in topical areas. Library research, discussion, papers and readings
   emphasize the state-of-the-field.

791A. Evaluation Techniques (3)
   Prerequisite: Education 690 and advancement to candidacy.
   Theory and practice of instructional program and product evaluation.

791B. Practicum: Evaluation (3)
   One-semester plus independent study.
   Prerequisite: Education 791A and advancement to candidacy for the Master of Arts degree
   in Education.
   Supervised experience in conducting a program or product evaluation; strategy selection;
   procedures, reporting methods, culminating in a written project.

799A. Thesis (3) Cr/NC/SP
   Prerequisite: Education 799A and advancement to candidacy for the Master of Arts degree
   in education.
   An intensive study in selected areas of education culminating in a written project. Limited to
   students following Plan B for the Master of Arts degree in education.
   Research in one of the fields of education. Maximum credit six units applicable on a
   master's degree.

799A. Thesis (3) Cr/NC/SP
   Prerequisite: Education 690 and advancement to candidacy.
   Preparation of a project or thesis for the Master of Arts degree.
   Registration required to have a background in the social sciences or humanities relevant to
   such educational issues as social behavior and minority cultures.

799B. Thesis Extension (0) Cr/NC
   Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
   Registration required in any semester or term following assignment of SP in Course 799A in
   which the student expects to use the facilities and resources of the university; also student must
   be registered in the course when the completed thesis is granted final approval.

DOCTORAL COURSES IN EDUCATION

801. Seminar on Social and Cultural Foundations of Multicultural Education (3-4)
   Prerequisite: Admission to the doctoral program or consent of the Graduate Coordinator.
   Students are required to have a background in the social sciences or humanities relevant to
   such educational issues as social behavior and minority cultures.

804. Bilingual Education: Models and Current Research Trends (3-4)
   Prerequisites: Education 801, a background in sociolinguistics or social anthropology and
   admission to the doctoral program or consent of Graduate Coordinator.
   Analysis of existing models of bilingual education based on previously identified needs of
   linguistic minority students. Demonstrated needs from current research in classrooms by
   ethnographers. Significance of linguistic/cultural competencies for academic performance and
   validity of existing impact studies.

805. Practicum in Education of Minority Learner (1) Cr/NC
   Two hours of activity.
   Concurrent registration in Education 806.
   Culturally defined variables such as styles of communication, interaction, values, cognition
   and learning. Case studies, simulations and field experience.

806. The Minority Learner: Public Policy and Classroom Practice (3-4)
   Prerequisites: Education 801 and admission to the doctoral program or consent of the
   Graduate Coordinator. Background in psychological foundations of education and educational
   policy is required.
   National, state and school policy directed at providing the minority learner with equal
   educational opportunity. Discussion of legislation for desegregation, bilingual education, school
   implementation cases and classroom practices as these relate to equal educational opportunity.

810. Seminar in Curriculum Development 3-4)
   Prerequisites: Elementary Education 610, Secondary Education 610, Educational
   Administration 630 or Multicultural Education 650 and consent of Graduate Coordinator.
   Examination of curricular issues with emphasis on the processes of decision making,
   curriculum development with emphasis on the processes of decision making, curriculum
design, analysis and implementation cases and classroom practices as these relate to equal
   educational opportunity.

   Prerequisite: Admission to the doctoral program or consent of the Graduate Coordinator.
   Issues relating to handicapped individuals in society. Current and historical practices in
   education and the impact and role of public policy on service systems.

812. Planning and Supervising Programs for Persons with Special Needs (3)
   Prerequisites: Admission to doctoral program or consent of Graduate Coordinator;
   Education 811 or extensive background in special education or related field.
   Program planning and development in settings serving special populations. Policy analysis,
   systems modeling, normalization, change theory, needs assessment, personnel development,
   supervision, manpower and resources development. Emphasizing services to the
   handicapped, adjustment to family living.

820. Advanced Educational Statistics (3-4)
   Prerequisites: Education 661, 680, Secondary Education 564, or equivalent graduate level
   courses and consent of Graduate Coordinator.
   Theory and practice of statistical inference for research in education. Probability and
   sampling theory, data collection and organization, computer applications in educational
   research, statistical significance testing and prediction, use of statistical computer program
   libraries.

821. Methodologies for Program Evaluation (3)
   Prerequisites: Education 610 and 680 and consent of Graduate Coordinator.
   Integration of program design and evaluation concepts for management decision making
   and quality control of programs for special need populations. Program design, analysis of
   critical evaluation components, evaluation procedures, assessment of design adequacy,
   system evaluation, and reporting procedures.

825. Reading Research (3)
   Prerequisites: M.A in reading or related language area, and two years of teaching
   experience.
   Analysis of existing literature in reading education and its application to the field. Exploration
   of areas of research need.
890. Advanced Seminar: Processes of Reading (3)
Prerequisite: Admission to doctoral program or consent of Graduate Coordinator and Education 825.
Linguistic, cognitive and affective factors that influence a reader while processing texts. Models of reading process, discourse analysis of written text, and models of reading instruction.

895. Seminar (1-8)
Prerequisite: Admission to the doctoral program or consent of the Graduate Coordinator. Investigation of a particular topic or issue, emphasis on empirical research in education; topic to be announced in the Class Schedule. Maximum credit eight units applicable on an advanced degree.

897. Doctoral Research (1-3) Cr/NC/SP
Prerequisite: Admission to the doctoral program. Independent investigation in the general field of the dissertation.

899. Doctoral Dissertation (3-6) Cr/NC/SP
Prerequisites: An officially constituted dissertation committee and advancement to candidacy. Preparation of the dissertation for the doctoral program. Enrollment is required during the term in which the dissertation is approved.

Educational Administration

Faculty
Raymond F. Latta, Ph.D., Professor of Educational Administration
Alfred Merino, Ed.D., Professor of Educational Administration
Timothy C. Crowner, Ph.D., Associate Professor of Educational Administration
Bettie B. Youngs, Ph.D., Associate Professor of Educational Administration

GRADUATE COURSES IN EDUCATIONAL ADMINISTRATION

600. Principles of Educational Administration (3)
Prerequisite: Teaching credential.
Federal, state and local educational administrative relationships. Introduction to educational administrative and organizational theory with appropriate experiences to show transfer to practice.

610. Education Leadership (3)
Prerequisite: Teaching credential.
Concepts and techniques of leadership, analysis of the factors and practice in the procedures of group and individual leadership in four areas: (a) the community; (b) the teaching staff; (c) the student personnel; (d) the professional field of educational administration and supervision.

620. Legal and Financial Aspects of School District Policies (3)
Prerequisite: Teaching credential.
Relationship of the school district to attendance units. The legal basis for policy formation in the selection and retention of certified personnel, in the admission and assignment of pupils, in the instructional programs and in related budgetary considerations.

630. Curriculum Development and Evaluation (3)
Prerequisite: Teaching credential.
Curriculum development in both elementary and secondary schools, with emphasis on interrelationships between these levels, responsibilities of curricular and supervisory personnel, and use of research.

640A-640B-640C. Seminar in Elementary School Administration and Supervision (2-2-2)
Prerequisites: Educational Administration 600, 610, 620, 630, and admission to Program of Educational Administration; concurrent registration in 640A-640B. Analysis of theories and practices in the administration and supervision of the elementary school.

650A-650B-650C. Seminar in Secondary School Administration and Supervision (2-2-2)
Prerequisites: Educational Administration 600, 610, 620, 630, and admission to Program of Educational Administration. Analysis of theories and practices in the administration and supervision of the secondary school.

660A-660B. Field Experience in Educational Administration (2-2) Cr/NC
Prerequisite: Admission to program in Educational Administration and permission of candidate's school district. Administrative field experience in schools or other educational settings.

680. Seminar in Educational Administration (1-6)
Prerequisites: Teaching credential and consent of instructor. Study of educational administration in a specialized field, such as community college, school district, a subject field, or designated services. Field experience when appropriate. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable on a master's degree.
682. Workshop in Educational Administration (1-3)
Prerequisites: Teaching credential and permission of department.
Concentration, in a workshop environment, on a particular problem and/or competency unique to educational administrators. May be repeated with new content. See Class Schedule for specific content. Maximum credit three units applicable on a master’s degree.

740. Advanced Seminar in Educational Administration (3)
Prerequisite: Teaching credential.
Study of a selected area in educational administration, such as educational law, finance, supervision, personnel procedures, etc. May be repeated with new content. See Class Schedule for specific content. Maximum credit nine units applicable on a master’s degree.

760. Internship in Educational Administration (2-6) Cr/NC
Prerequisites: Teaching credential and consent of instructor.
Internship for prospective educational administrators. Released time, permission of supporting organization and administration with chair of Department of Educational Administration previous semester required.

Educational Technology

Faculty
Dennis D. Gooler, Ph.D., Professor of Educational Technology and Librarianship, Dean of the College of Education
Patrick J. Harrison, Ph.D., Professor of Educational Technology and Librarianship, Chair of Department
Allison Rossett, Ed.D., Professor of Educational Technology and Librarianship
Brockenbrough S. Allen, Ph.D., Assistant Professor of Educational Technology and Librarianship
Bernard J. Dodge, Ph.D., Assistant Professor of Educational Technology and Librarianship
David M. Sharpe, Ed.D., Assistant Professor of Educational Technology and Librarianship

UPPER DIVISION COURSES
IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP

532. Design and Production of Instructional Materials (3) I, II
Nine hours of laboratory. Planning, preparing and using instructional materials with a wide variety of learners. Transparencies, lettering aids, color slides, audio cassettes, simulations, and portable video.

540. Instructional Technology (3) I, II, S

541. Media Production (3) I, II
Nine hours of laboratory. Prerequisite recommended: Educational Technology and Librarianship 404. Planning and production of media for instruction and training. Cost estimation and control, facilities design, legal requirements, production practices and personnel, storyboarding and scripting.

542. Advanced Production Techniques (3)
Nine hours of laboratory. Prerequisite recommended: Educational Technology and Librarianship 541. Application of communication principles, skills, and techniques pertaining to the design and production of light and heat sensitive instructional materials to problems of educational communication and instructional development.

544. Instructional Design (3) I, II
Six hours of activity. Systematic approach to instructional design. Review of research and theory in instructional strategy development. Analysis, design and development of instructional and training products and programs.

546. Basic Reference Materials (3) I, II
Six hours of activity. General reference books, bibliographies and source materials with emphasis on their use in the school library media center.

547. Selection of Instructional Materials (3) I, II
Six hours of activity. Prerequisite recommended: Educational Technology and Librarianship 445. Selection criteria and development of written policy statements. Annotations, reviewing media, standard catalogs and bibliographies.
548. Cataloging and Classification (3) I, II
Two lectures and three hours of laboratory.
Prerequisite recommended: Educational Technology and Librarianship 445.
A practical approach to organizing instructional materials in school library media centers.
Descriptive cataloging, classification, and choice of subject headings. Basic knowledge of typing helpful.

553. Workshop in Educational Television (3)
Nine hours of laboratory.
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 Telecommunications and Film 320.

571. Introduction to Computers in Education (3) I
One lecture and six hours of laboratory.
Prerequisite required for preservice students, recommended for in-service 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. Maximum credit six units. See Class Schedule for specific content.

GRADUATE COURSES
IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP

641. Instructional Graphic Communication (3)
Nine hours of laboratory.
Prerequisite recommended: Educational Technology and Librarianship 541.
Application of communication principles and learning theory to the design and production of instructional graphic materials. Emphasis on design, production and evaluation of opaque and transparent visual imagery.

642. Multimedia Message Design (3)
Nine hours of laboratory.
Prerequisites recommended: Educational Technology and Librarianship 541, 542 and 641.
Application of communication principles and learning theories to the design, development and integration of audio and visual media into instructional packages.

653. Instructional Interactive Video (3)
Six hours of activity.
Prerequisites: Educational Technology and Librarianship 544, 553, 571.
Interactive video as a training and educational medium. Design and production principles appropriate to interactive video. Review of present research and applications.

671. Computers In Education (3)
Six hours of activity.
Prerequisite recommended: Educational Technology and Librarianship 540.
Role of computers in various instructional settings, management of instruction, delivery of instruction, evaluation, and simulations. Current issues and applications evaluated.

674. Seminar in Management of Educational Technology (3)
Prerequisite recommended: Educational Technology and Librarianship 540.
Research reviewed and the findings related to current practices. Relationships of educational technology to educational philosophies and current issues. Recent trends evaluated.

675. Seminar in the Administration of Instructional Media Centers (3)
Prerequisites recommended: Educational Technology and Librarianship 445 and 540.
The relationship of school, district, and regional media centers to the educational program. Concepts of leadership and management, review of current practices and policies.

676. Seminar in Instructional Design (3)
Prerequisites recommended: Educational Technology and Librarianship 540 and 544.
Examination of roles and concerns of persons in instructional design. Problem-solving on current design issues. Instructional product development, use and evaluation.

678. Literature for Children (3)
Prerequisite recommended: Educational Technology and Librarianship 547.
Literature and other library materials suited to the elementary school student. Standard, classic and current books for children; aids and criteria for selection.

679. Literature for Adolescents (3)
Prerequisite recommended: Educational Technology and Librarianship 547.
Literature and other library materials suited to the high school student. Standard, classic and current books for the adolescent; aids and criteria for selection.

700. Seminar in Educational Technology (1-3)
Prerequisite Educational Technology and Librarianship 540.
Selected topics, topics in educational technology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

775. Directed Internship in Educational Technology (2-6) Cr/NC
Supervised internship in an educational setting. (Application to take course must be made during preceding semester.)

798. Special Study (1-6) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor. May involve fieldwork.
Individual study. Maximum credit six units applicable on a master’s degree.
### Elementary Education

#### Faculty

- George J. Becker, Ph.D., Professor of Elementary Education
- Marlowe J. Berg, Ph.D., Professor of Elementary Education
- Houston M. Burnside, Ph.D., Professor of Elementary Education
- Carol M. Charles, Ph.D., Professor of Elementary Education
- David K. Gast, Ed.D., Professor of Elementary Education
- Gerald F. Gates, Ed.D., Professor of Elementary Education
- Peter C. Gega, Ed.D., Professor of Elementary Education
- Roger A. Goodson, Ed.D., Professor of Elementary Education
- James E. Inskeep Jr., Ph.D., Professor of Elementary Education
- W. Lloyd Kendall, Ed.D., Professor of Elementary Education
- Steve G. Moreno, Ed.D., Professor of Elementary Education
- Monica A. Murphy, Ph.D., Professor of Elementary Education, Chair of Department (Acting)
- Thomas S. Nagel, Ph.D., Professor of Elementary Education
- James N. Renton, Ed.D., Professor of Elementary Education
- Eunice E. Rixman, D.M.A., Professor of Elementary Education
- Ramon R. Ross, Ed.D., Professor of Elementary Education
- Monroe K. Rowland, Ph.D., Professor of Elementary Education
- David W. Strom, Ed.D., Professor of Elementary Education
- Gerald H. Treadway Jr., Ed.D., Professor of Elementary Education
- John H. Wilding, Ed.D., Professor of Elementary Education
- Patricia T. Bokim, Ed.D., Associate Professor of Elementary Education
- Margaret A. Clark, Ed.D., Associate Professor of Elementary Education
- David H. Ford, Ed.D., Associate Professor of Elementary Education
- C. Lynn Fox, Ph.D., Associate Professor of Elementary Education
- James M. Kaatz, Ed.D., Associate Professor of Elementary Education (Graduate Adviser)
- Ida M. Mallin, Ph.D., Associate Professor of Elementary Education
- Jack D. Moeus, Ed.D., Associate Professor of Elementary Education
- Joyce Morris, Ph.D., Associate Professor of Elementary Education
- Richard Pacheco, Ph.D., Associate Professor of Elementary Education
- Jane E. Reel, Ph.D., Associate Professor of Elementary Education
- Pamela J. Ross, Ph.D., Associate Professor of Elementary Education
- Alba G. Thompson, Ed.D., Assistant Professor of Elementary Education

#### Upper Division Courses in Elementary Education

- **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 or 418.
  - 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."

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### Graduate Courses in Elementary Education

- **610. Curriculum Construction and Evaluation in Elementary Education (3)**
  - Prerequisite: Credit or concurrent registration in Education 690.
  - Advanced study of the research in curriculum development, construction and evaluation.

- **611. Seminar in Reading in Elementary Education (3)**
  - Prerequisite: Credit or concurrent registration in Education 690.
  - Advanced study of trends in reading instruction. Topics include development of instructional units in reading skills and abilities, reading in the content fields, individual differences and interests. Students will develop individual projects or problems.

- **612. Seminar in Language Arts in Elementary Education (3)**
  - Prerequisite: Credit or concurrent registration in Education 690.
  - Advanced study of problems in teaching language arts in the elementary school, including spelling, literature and written and oral communication. Emphasis will be on the study of the scientific research in the field.

- **613. Seminar in Mathematics in Elementary Education (3)**
  - Prerequisite: Credit or concurrent registration in Education 690.
  - A study of research and practice in the methods of teaching and in the curriculum of elementary and junior high school mathematics.
614. Seminar in Social Studies in Elementary Education (3)
Prerequisite: Credit or concurrent registration in Education 690.
Problems in teaching social studies in the elementary school with emphasis on the study of
the scientific research in the field.
615. Seminar in Science in Elementary Education (3)
Prerequisite: Credit or concurrent registration in Education 690.
Advanced study of the problems of teaching science in the elementary school with
emphasis on the literature of science education.
618. Advanced Diagnosis and Treatment of Learning Difficulties (3)
Prerequisites: A teaching credential and Elementary Education 562.
Principles and techniques of diagnosis and treatment of difficulties in learning the school
subjects. Supervised experience in working with individual pupils and their parents.
624. Seminar in Elementary Social Studies Curriculum Development (3)
Prerequisite: Elementary Education 414 or 418, and credit or concurrent registration in
Education 690.
Current theories of instruction pertaining directly to elementary social studies teaching and
curriculum development; critique of current social studies courses of study and guides;
experience in elementary social studies curriculum planning at the classroom, school and
district levels.
687. Workshop in Community Influences on Learning
and Curriculum Planning (1-3)
Prerequisite: Teaching experience.
Advanced study of community influences on learning and child growth and development,
and of group techniques; implications for curriculum planning. Provides opportunity for work on
individual problems of the participants. May be repeated with new content. See Class Schedule
for specific content. Maximum credit six units applicable on a master's degree.
710. Curriculum Development and Evaluation for Early Childhood Education (3)
Prerequisite: Nine units of elementary methods.
Philosophy of Early Childhood curriculum development; Analysis, evaluation and
development of curriculum materials for children, ages eight and younger.
713. Organization and Supervision of Early Childhood Education Programs (3)
Planning, organizing and implementing various E.C.E. programs (e.g., nursery schools, day
care center, kindergarten-primary programs). Coordination and supervision of programs for
cognitive, motor and social development, health, nutrition, psychological services and staff
development.
798. Special Study (1-6) Cr/NC/SP
Prerequisite: Consent of staff; may involve fieldwork.
Individual study. Maximum credit six units applicable on a master’s degree.

Faculty
Ricardo J. Cornejo, Ph.D., Professor of Multicultural Education
Alberto M. Ochoa, Ed.D., Professor of Multicultural Education
Ruben W. Espinosa, Ph.D., Associate Professor of Multicultural Education
Ana Maria Rodriguez, Ed.D., Associate Professor of Multicultural Education, Chair of
Department

UPPER DIVISION COURSES IN MULTICULTURAL EDUCATION

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

602. Cross-Cultural Experience in Classroom Interaction (3)
Prerequisite: Multicultural Education 551.
Analysis of teacher’s verbal and nonverbal communicative strategies; teacher's classroom
management style and children's sociolinguistic repertoire within learning situation.
603. Sociocultural and Community Influences in Multicultural Education (3)
Prerequisite: Multicultural Education 551.
Social, cultural and political influences of U.S. society or community environments on
psychological and academic development of racial or ethnolinguistic minority children.
611. Multicultural Education as a Social System of Society (3)
Prerequisite: Multicultural Education 551.
Operationalization of the concept of cultural pluralism with regard to its ideological,
economic, political, cultural and educational implications and conditions for a multicultural
society. Conditions for a multicultural social system of society.
612. Ethnocultural Approach to Classroom Interaction (3)
Prerequisite: Multicultural Education 554.
Interpersonal interaction in classrooms via analysis of linguistic, paralinguistic, kinesic, and
proxicemic behaviors of teachers and students; levels of communicative competence and
teach/learning patterns.
613. Organizational Strategies and Staff Development for the Multicultural
School-Community (3)
Prerequisite: Multicultural Education 653.
Leadership skills and change strategies for designing and implementing instructional
programs, staff development approaches, and establishing a structural and functional
organizational school climate that promotes culturally pluralistic educational services.
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614. Strategies for Educational Change: Development and Implementation of School Site Programs for Multicultural Education (3)
Prerequisite: Multicultural Education 551.
Legal and educational framework for developing educational programs reflective of the sociocultural characteristics of the school determinants, assessment of school site program effectiveness, development of educational strategies for implementing school site programs.

622. Analysis and Issues in Race and Ethnic Relations: Theory, Research and Action (3)
Race and ethnic relations from theoretical, research, and action-based perspectives; investigates social, political, economic, and educational factors that hinder or promote cultural relativism and intercultural harmony; domestically and internationally.

Prerequisite: Education 690.
Policies research aimed at educational reform for the poor and ethnic minority child; major equity issues including school segregation, school finance and bilingual-bicultural education. Offers writing and computer skills to critically conduct action-oriented policy research.

631. Teaching Reading in Bilingual Settings (3)
Prerequisite: Multicultural Education 551.
Theories, research methods, management skills and assessment techniques with regard to teaching of reading in first and second languages. Transfer of reading skills from first to second languages.

650. Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies (3)
Prerequisite: Multicultural Education 551.
Bilingual/cross-cultural teaching materials and methodologies for implementation in the multicultural classroom. (Formerly numbered Education 650.)

651. Multicultural Methods and Curriculum in Content Areas (1-3)
Prerequisite: Multicultural Education 650.
Variety of instructional areas (mini-courses), each focusing on a single topic dealing with multicultural education. Of three required units, at least one must be taken from basic content areas, such as social studies, science or mathematics. See Class Schedule for specific content. Maximum credit three units applicable on a master's degree.

652. Language Arts in the Multicultural Education Curriculum (3)
Prerequisite: Multicultural Education 650.
Research and teacher curricular strategies related to English literacy and oral language development for bilingual and limited English proficient student.

653. Language Policies and Practices (3)
Prerequisite: Multicultural Education 551.
Historical and present day analysis of how non-English speakers have been educated, including methodologies, relevant legislation, formal and informal policies, teaching practices, and the implications for schools and society.

686. Seminar in Multicultural Education (1-6)
Prerequisite: Multicultural Education 551.
Topics dealing with current issues in multicultural education. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

688. Colloquium in Multicultural Education (1) Cr/NC
Prerequisite: Advancement to candidacy.
Critical content areas in multicultural education, including policies and assessment, sociocultural awareness, curriculum and research. Not acceptable on master's degree program.

796. Special Study (1-6) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor. May involve fieldwork. Individual study. Maximum credit six units applicable on a master's degree.

Secondary Education

Faculty
Robert S. Ackerson Jr., Ed.D., Professor of Secondary Education
Sally M. Anthony, Ed.D., Professor of Secondary Education
Leilani Becklund, Ph.D., Professor of Secondary Education (Graduate Adviser)
Clifford P. Bee, Ph.D., Professor of Secondary Education
Robert M. Briggs, Ed.D., Professor of Secondary Education
Joan F. Curry, Ed.D., Professor of Secondary Education
Joseph B. Duckworth, Ed.D., Professor of Secondary Education
Paul Erickson, Ed.D., Professor of Secondary Education
James Flood, Ph.D., Professor of Secondary Education
Robert T. Gray, Ed.D., Professor of Secondary Education
Philip Hallak, Ed.D., Professor of Secondary Education
Diane K. Lattre, Ed.D., Professor of Secondary Education
Robert E. McCabe, Ph.D., Professor of Secondary Education
Leone D. McCoy, Ph.D., Professor of Secondary Education
John G. McLevy, Ph.D., Professor of Secondary Education, Chair of Department
Robert B. Peterson, Ph.D., Professor of Secondary Education
Dorothy J. Riggs, Ed.D., Professor of Secondary Education
Larry J. Shaw, Ed.D., Professor of Secondary Education
Robert D. Smith Jr., Ph.D., Professor of Secondary Education
Siward Staudt, Ph.D., Professor of Secondary Education
Mark J. Studebaker, Ed.D., Professor of Secondary Education
Charlotte B. Yesselman, Ph.D., Professor of Secondary Education, Assistant Dean
Undergraduate Studies
Robert J. Behm, Ph.D., Associate Professor of Secondary Education
Jaime L. Lujan, Ph.D., Associate Professor of Secondary Education
Cynthia Darche Park, Ph.D., Associate Professor of Secondary Education
Robert R. Pehrson, Ph.D, Professor of Secondary Education
Rafael Canizalez, Ph.D., Assistant Professor of Secondary Education
Rafaela Santa Cruz, Ph.D., Assistant Professor of Secondary Education

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 for more than six units. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

* Specified Sections

Graduate Courses in Secondary Education

610. Curriculum Development (3)
Prerequisite: Student teaching or teaching experience.
Present status and development of the secondary school curriculum with emphasis on curriculum construction and curriculum evaluation. Opportunities provided for study of problems submitted by students.
613. Advanced Problems in Instruction (3)

Prerequisites: Teaching experience and consent of instructor.

An analysis of the scientific research and philosophical principles in secondary school instruction.

614. Seminar in Advanced Curriculum and Instruction in Mathematics (3)

Factors directing the changing mathematics curriculum; recent trends and current research in the teaching of secondary mathematics.

615. Innovations in Instruction (1-3)

Prerequisite: Teaching experience or enrollment in the Secondary Credential Program.

An exploration of innovative instructional practice in the public and private schools, with emphasis on innovative teaching strategies. An evaluation of the motivational effect and structural validity of promising instructional practices. See class schedule for specific content.

Maximum credit three units applicable on a master’s degree.

616. Recent Trends in Curriculum (3)

Prerequisite: Teaching experience.

Current practices and trends in secondary schools. Extensive individual work on related problems of interest to members of the class.

617. Seminar in Research in Curricular Problems (1-3)

Individual study by graduate students who have demonstrated exceptional ability. Maximum credit three units applicable on a master’s degree.

618. Instructional Problems in Practice (1-3)

Prerequisite: Consent of the Coordinator of Secondary Education and instructor.

Problems of interest to members of the class. May be repeated with new content. See Class Schedule for specific content. Maximum credit three units applicable on a master’s degree.

667. Guidance Problems in Education (3)

The theory and practice of guidance, emphasizing advanced mental hygiene concepts needed by teachers, counselors and nurses.

673. Seminar in Curriculum and Instruction in the Social Sciences (3)

Prerequisite: Valid teaching credential and appropriate teaching experience.

Theories of content selection, social pressures which affect curriculum design of the secondary school; current research in curriculum development; trends in teaching techniques and materials. Field trips to be arranged.

681. Seminar in Secondary School Reading (3)

Prerequisite: Education 690.

Sources of research on reading, reading and criticism of selected studies; identification of research trends and needs.

687. Workshop in Community Influences on Learning and Curriculum Planning (1-3)

Prerequisite: Teaching experience.

Advanced study of community influences on learning and child growth and development, and of group techniques; implications for curriculum planning. Provides opportunity for work on individual problems of the participants. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

700. Seminar in Secondary Education (3)

Prerequisite: Advancement to Candidacy.

Intensive consideration of selected topics of current importance in Secondary Education. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

709. Seminar in Secondary Education (3)

Prerequisite: Consent of staff; to be arranged with department chair and instructor. May involve fieldwork.

Individual study. Maximum credit six units applicable on a master’s degree.

798. Special Study (1-6) Cr/NC/SP

Prerequisite: Consent of staff; to be arranged with department chair and instructor. May involve fieldwork.

Individual study. Maximum credit six units applicable on a master’s degree.
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. Multicultural Learning Handicapped
D. Visually Handicapped
(Formerly numbered SPED 510E.)

511. Curriculum and Instruction for Exceptional Individuals (3) I, II
Prerequisites: Special Education 501, 505 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. Multicultural Learning Handicapped

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.
*Overlay of intellectual, emotional and physical problems which influence the success or failure patterns of individuals with exceptional needs. Strategies used to facilitate the adjustment of the exceptional individual to his environment including home, school and work.
May be taken in each of the areas of specialization.
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped

513. Dynamics of Behavior Change and the Exceptional Individual (3) I, II
Prerequisites: 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. Gifted (Formerly numbered SPED 513D.)

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.
Must 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.
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.

* To be offered for the last time in 1984-85.

GRADUATE COURSES IN SPECIAL EDUCATION

600. Exceptional Learner: Advanced Problems in Development and Learning (3)
Prerequisites: Special Education 500 and admission to the Special Education Department.
Development and learning as it relates to educational programming for persons identified as exceptional.

622. The Gifted Child (3)
Prerequisites: Special Education 500 and 501.
The abilities and characteristics of the intellectually gifted or talented; related problems of curriculum, teaching, administration and guidance.

650. Special Topics in Special Education (1-4)
Prerequisites: Special Education 471, 500, 501.
Instructional sequences (mini-courses) focusing on a single topic or competency dealing with special education. Topics differ each semester to adjust to current literature in the field, training needs, and resource availability. May be repeated for up to nine units with different content for a master's degree. Offered in four categories:
A. Consultant Skills/Multidisciplinary
B. Affective and Social Development

651. Legislation and Management of Special Education Services (3)
Prerequisites: Special Education 500 and 501.
Implementation of laws, regulations and compliance requirements in special education. Requirements to and approaches for managing school and delivery of school and related services within a multidisciplinary context. Meets competencies for Resource Specialist Certificate.

To be offered for the last time in 1984-85.
652. Parent Education and Staff Development in Special Education (3)
Prerequisite: Special Education 512.
Issues relating to and development of skills for working with parents and school staff to
develop skills and competencies needed to optimize the educational progress of handicapped

653. Advanced Programming and Consultation in Special Education (3)
Prerequisites: Special Education 500, 501, and a course in Special Education Curriculum
and Instruction and Behavior Management.
Education programming and consultation for working with teachers in instructional delivery
for handicapped students. Skills in behavior management, assessment, programming,

670. Seminar in Education of Exceptional Children (3)
Prerequisites: Special Education 500, 505 in area of specialization.
Principles, trends and research in the education of exceptional children.

680. Advanced Seminar in Special Education (3)
Prerequisites: Special Education 670, 505 in area of specialization.
Principles, trends and research in the education of exceptional children. Current educational
theories and philosophies, research findings, and issues and trends in the field. Application of
research literature to solution of educational problems. May be taken in each of the areas of
exceptionality:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Emotionally Disturbed
E. Visually Handicapped *
F. Multicultural Learning Handicapped
G. Gifted
H. Handicapped Infants and Preschoolers

771. Directed Internship: Special Education (4) Cr/NC/SP
Prerequisites: Advancement to candidacy, Special Education 471 and 480. Application to
be made during previous semester. Extensive daily participation or teaching in public schools and preparation for teaching of
exceptional individuals.

798. Special Study (1-6) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor. May
involve fieldwork.
Individual study. Maximum credit six units applicable on a master's degree.

* To be offered for the last time in 1984-85.

Assistantships
Graduate teaching assistantships and graduate nonteaching assistantships in engineering are
available to a limited number of qualified students. Application blanks and additional
information may be secured from the chair of the appropriate department.

General Information
The College of Engineering offers graduate study leading to Master of Science degrees in
Aerospace, Civil, Electrical, and Mechanical Engineering. These curricula are designed to
augment the student's undergraduate training by advanced study in one of the various fields of
engineering. Recognizing the increasing importance in modern technology of the
engineer-scientist team, San Diego State University has developed an academic pattern which
offers to one holding a first degree in engineering an opportunity to pursue advanced study in a
specialized area of knowledge.

The undergraduate curricula in engineering, with degrees in aerospace, civil, electrical, and
mechanical engineering, are accredited by the Engineers' Council for Professional
Development.

Within the region served by San Diego State University are to be found many organizations
which employ a considerable number of engineers holding the master of science degree.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the Graduate Division
with classified graduate standing as described in Part Two of this bulletin. Candidates for
admission to Civil Engineering, Electrical Engineering and Mechanical Engineering programs
must have attained a grade point average of at least 2.75 (when A equals 4) in the last 60
semester (90 quarter) units attempted in the undergraduate degree program. In addition, the
student must have a bachelor's degree in a field of engineering appropriate to the field in which
he/she desires to earn an advanced degree or in a field closely related thereto from an
institution acceptable to the College of Engineering. If undergraduate preparation is deemed
insufficient, the student will be required to take specified courses for the removal of the
deficiency. Such courses, taken as an unclassified student, are in addition to the minimum of 30
units for the master's degree in engineering.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, which are
described in Part Two of this bulletin.

Specific Requirements for the Master of Science Degrees
In addition to meeting the requirements for classified graduate standing as stated above, the
student must satisfy the basic requirements for the master's degree as described in Part
Two of this bulletin. With the approval of the appropriate department the student working toward
the master of science degree may elect either Plan A, requiring a thesis, or Plan B, requiring a
comprehensive written examination. In either case, a final oral examination will be required.

The student shall arrange his course pattern in consultation with his graduate adviser,
according to the following requirements for the specific degree:

Aerospace Engineering

Specific requirements for the degree: The student's program prepared in conference
with and approved by the graduate adviser, must satisfy the following requirements:
1. Eighteen units of 600- and 700-numbered courses in aerospace engineering and/or
   engineering mechanics including EM643, EM601 and EM621; and at least six additional
   units in one area of specialization and excluding Aerospace Engineering 797, 798, 799A.
2. At least six additional units of 500-600- and 700-numbered courses in the College of Engineering or in the Departments of Mathematical Sciences, Physics, or Astronomy, including Aerospace Engineering 799A (Plan A), if elected.
3. Six elective units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

Areas of Specialization in Aerospace Engineering

Fluid Dynamics
AE 600. Seminar (1-3)
EM 643. Advanced Fluid Mechanics I (3)
AE 612. Compressible Fluid Flow (3)
AE 716. Aerodynamics of Flight (3)

Engineering Mechanics
EM 600. Seminar (1-3)
EM 621. Theory of Elasticity (3)
EM 725. Theory of Plates (3)
EM 726. Theory of Shells (3)
EM 727. Theory of Elastic Stability (3)

Flight Dynamics
AE 600. or EM 600. Seminar (1-3)
AE 671. Flight Dynamics—Theory of Flight Paths (3)
EM 703. Theory of Vibrations (3)

Civil Engineering

Specific Requirements for the Degree: The student's program, prepared in conference with and approved by the graduate adviser, must satisfy the following requirements:
1. Eighteen units of 600- and 700-numbered courses in civil engineering, excluding Civil Engineering 797, 798, and 799A.
2. At least six additional units of 500-, 600- or 700-numbered courses in the College of Engineering or in the College of Sciences, including Civil Engineering 799A, (Plan A), if elected.
3. Mathematics 541A and three elective units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

Electrical Engineering

Specific Requirements for the Degree: The student's program, prepared in conference with and approved by the graduate adviser, must satisfy the following requirements:
1. Eighteen units of 600- and 700-numbered courses in electrical engineering.
2. At least six additional units of 500-600- or 700-numbered courses in the College of Engineering or, with the approval of the graduate adviser, in the College of Sciences.
3. Six elective units of 500-600- or 700-numbered courses approved by the graduate adviser.
4. As a breadth requirement, each classified graduate student is required to complete with prior approval of the Graduate Adviser at least one course from four of the following disciplines: Communications, Computers, Electronics/Networks, Physical Electronics, Power/Control Systems. If the course content is appropriate, the Graduate Adviser may approve certain Electrical Engineering 598 and 600 courses to satisfy part of the breadth requirement.
   Disciplines and related courses:
   Communications: Electrical Engineering 553, 555, 558, 605, 647, 650, 651, 653, 658
   Computers: Electrical Engineering 571, 575, 606, 670, 671, 676, 677, 678
   Electronics/Networks: Electrical Engineering 550, 554, 570, 610, 631, 654, 636
   Physical Electronics: Electrical Engineering 534, 540, 640, 642, 644, 645
   Power/Control Systems: Electrical Engineering 520, 521, 580, 581, 622, 625

Mechanical Engineering

Specific Requirements for the Degree: The student's program, prepared in conference with and approved by the graduate adviser, must satisfy the following requirements:
1. Twenty-one units of 600- and 700-numbered courses in mechanical engineering including three units in Mechanical Engineering 797, and 15 units in one area of specialization (designated as Group A and Group B).
2. Nine additional units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

Areas of Specialization in Mechanical Engineering

Group A: Thermal Sciences
ME 651. Analytical Thermodynamics (3)
ME 661. Gas Dynamics (3)
ME 663. Boundary Layers in Internal Flows (3)
ME 671. Heat Transfer I (3)
ME 675. Heat Transfer II (3)

Group B: Engineering Design
ME 614. Engineering Design: Analytical Methods (3)
ME 621A. Mechanical Vibrations (3)
ME 631. Fluid Power and Control Systems (3), or
ME 632. Advanced Topics in Automatic Controls (3)
ME 645. Mechanical Metallurgy for Engineers (3)
ME 796. Advanced Topics: Finite Element Methods (3)

Courses Acceptable on Master's Degree Programs

UPPER DIVISION COURSES IN ENGINEERING

510. Methods of Analysis (3) I, II
Prerequisite: Engineering 310 with a 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)
Prerequisites: 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.
Aerospace Engineering and Engineering Mechanics

Faculty
John F. Conly, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics, Chair of Department
Sangiah Nadar Dharmarajan, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Govindaraju K. Krishnamoorthy, Ph.D., Professor of Engineering Mechanics and Civil Engineering
Robert D. McGhee, Ph.D., P.E., Professor of Aerospace Engineering and Engineering Mechanics
Balbir S. Narang, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Mauro Pierucci, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Kuo Chang Wang, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Dale F. Moses, Ph.D., Associate Professor of Aerospace Engineering and Engineering Mechanics (Graduate Adviser)
Nagy Nosser, Ph.D., Assistant Professor of Aerospace Engineering and Engineering Mechanics

UPPER DIVISION COURSES IN AEROSPACE ENGINEERING

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 derivations, perturbed state thrust forces and moment; special problems in dynamic stability and response.

UPPER DIVISION COURSES IN ENGINEERING MECHANICS

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 of 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.
Modern developments in engineering mechanics. See Class Schedule for specific content.
Maximum credit six units for any combination of Engineering Mechanics 496, 499 and 596.

GRADUATE COURSES IN AEROSPACE ENGINEERING

600. Seminar (1-3)
Prerequisite: Consent of the graduate adviser and instructor.
Intensive study of one of the following topics: Aeroelasticity, aerodynamic noise, aerothermal structural analysis, hydrodynamic stability, hypersonic flow theory, magnetofluid mechanics, rarefied and real gas flows, electromagnetic propulsion, boundary layers and other areas of aerospace engineering. Topic to be announced in Class Schedule.

612. Compressible Fluid Flow (3)
Prerequisites: Aerospace Engineering 302 and credit or concurrent registration in Engineering 510.
Theory of flow at supersonic speeds. Linearized theory, three-dimensional wings in steady flight, slender-body theory, methods of characteristics.

671. Flight Dynamics—Theory of Flight Paths (3)
Prerequisite: Aerospace Engineering 302.
Analysis of trajectories of aircraft, missiles, satellites, and spacecraft subjected to uniform or central gravitational forces, aerodynamic forces, and thrust.

716. Aerodynamics of Flight (3)
Prerequisite: Aerospace Engineering 612.
Transonic flight, VSTOL, and related topics.

796. Advanced Topics in Aerospace Engineering (2 or 3)
Advanced study in the field of aerospace engineering. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit three units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must

GRADUATE COURSES IN ENGINEERING MECHANICS

600. Seminar (1-3)
Prerequisite: Consent of the graduate adviser and instructor.
Intensive study of one of the following topics: Nonlinear vibrations, random vibrations, continuum mechanics, anisotropic elasticity, energy methods, plasticity, and other areas of engineering mechanics. May be repeated with new content. Topic to be announced in Class Schedule. Maximum credit six units applicable on a master's degree.

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UPPER DIVISION COURSES IN AEROSPACE ENGINEERING

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 derivations, perturbed state thrust forces and moment; special problems in dynamic stability and response.

UPPER DIVISION COURSES IN ENGINEERING MECHANICS

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 of 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.
Modern developments in engineering mechanics. See Class Schedule for specific content.
Maximum credit six units for any combination of Engineering Mechanics 496, 499 and 596.

GRADUATE COURSES IN AEROSPACE ENGINEERING

600. Seminar (1-3)
Prerequisite: Consent of the graduate adviser and instructor.
Intensive study of one of the following topics: Aeroelasticity, aerodynamic noise, aerothermal structural analysis, hydrodynamic stability, hypersonic flow theory, magnetofluid mechanics, rarefied and real gas flows, electromagnetic propulsion, boundary layers and other areas of aerospace engineering. Topic to be announced in Class Schedule.

612. Compressible Fluid Flow (3)
Prerequisites: Aerospace Engineering 302 and credit or concurrent registration in Engineering 510.
Theory of flow at supersonic speeds. Linearized theory, three-dimensional wings in steady flight, slender-body theory, methods of characteristics.

671. Flight Dynamics—Theory of Flight Paths (3)
Prerequisite: Aerospace Engineering 302.
Analysis of trajectories of aircraft, missiles, satellites, and spacecraft subjected to uniform or central gravitational forces, aerodynamic forces, and thrust.

716. Aerodynamics of Flight (3)
Prerequisite: Aerospace Engineering 612.
Transonic flight, VSTOL, and related topics.

796. Advanced Topics in Aerospace Engineering (2 or 3)
Advanced study in the field of aerospace engineering. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit three units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must

GRADUATE COURSES IN ENGINEERING MECHANICS

600. Seminar (1-3)
Prerequisite: Consent of the graduate adviser and instructor.
Intensive study of one of the following topics: Nonlinear vibrations, random vibrations, continuum mechanics, anisotropic elasticity, energy methods, plasticity, and other areas of engineering mechanics. May be repeated with new content. Topic to be announced in Class Schedule. Maximum credit six units applicable on a master's degree.
601. Advanced Dynamics (3)
Prerequisites: Engineering Mechanics 220 and Engineering 310 or Mathematics 340A.
Kinematics and kinetics of systems of particles and rigid bodies with special reference to
equations, Hamilton's principle and variational methods.

621. Theory of Elasticity (3)
Prerequisites: Civil Engineering 301 and credit or concurrent registration in Engineering 510
or Mathematics 340B.
Analysis of stress and strain; stress-strain relations; the equations of elasticity; uniqueness

643. Advanced Fluid Mechanics I (3)
Prerequisites: Engineering Mechanics 340 and credit or concurrent registration in
Engineering 510 or Mathematics 340B.
Fluid kinematics and kinetics. Conservation of mass, energy, and momentum. Applied to
Introduction to turbulence and boundary layer theory. Vector and tensor notation will be used.

703. Theory of Vibrations (3)
Prerequisites: Engineering Mechanics 601 and credit or concurrent registration in
Engineering 510 or Mathematics 340B.
Linear and nonlinear periodic phenomena as applied to discrete systems and continuous
media with application to physical problems.

725. Theory of Plates (3)
Prerequisites: Engineering Mechanics 621.
Bending and buckling theory of plates; application of small deflection and large deflection
theories to plates with various boundary conditions; use of approximate methods and exact
methods in solution.

726. Theory of Shells (3)
Prerequisites: Engineering Mechanics 601.
Membrane and bending theory of shells of revolution and shells of arbitrary shape; exact
and approximate methods of solution of shells subjected to axisymmetric and arbitrary loads.

727. Theory of Elastic Stability (3)
Prerequisite: Engineering Mechanics 621.
Stability of elastic systems. Differential equations of stability by summation of forces and
movements, and by the variational method. Applications.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable on a master's degree.

UPPER DIVISION COURSES IN CIVIL ENGINEERING

521. Structural Analysis II (3) I
Prerequisite: Civil Engineering 321 with minimum grade of C.
Analysis of statically indeterminate structures by virtual work. Advanced treatment of slope
deflection, moment distribution. Arch analysis, secondary stresses in trusses. Advanced
treatment of influence lines. Introduction to matrix analysis of structures.

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.
Water and wastewater. Physical, chemical and biological methods of treatment. Advanced

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

600. Seminar (2 or 3)
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in advanced civil engineering. May be repeated with new content. Topic
to be announced in the Class Schedule. Maximum credit six units applicable on a master's
degree.
605. Prestressed Concrete Structures (3)  
Prerequisite: Civil Engineering 421 with minimum grade of C.  
Fundamental concepts of prestressed concrete theory. Design applications to various types of structures.

606. Matrix Analysis of Structures (3)  
Prerequisite: Civil Engineering 321 with minimum grade of C.  

607. Dynamics of Structures (3)  
Prerequisite: Civil Engineering 521 with minimum grade of C.  
Dynamic disturbances, structures with variable degrees of freedom, free vibrations of slender elastic beams; continuous beams, rigid frames, floor systems. Energy methods in structural dynamics.

608. Earthquake Engineering (3)  
Prerequisite: Civil Engineering 607.  
Elements of seismology. Methods of analysis for earthquake loads. Procedures and code provisions for the design of earthquake-resistant structures.

610. Finite Element Analysis of Structures (3)  
Prerequisites: Engineering 120 and Civil Engineering 521 with minimum grade of C.  
General procedure, various types of finite elements, analysis and design of isotropic and orthotropic plates and shells, deep beams, and shear walls using finite element technique; use of digital computers for solutions. Application to civil engineering structures.

620. Traffic Engineering (3)  
Prerequisite: Consent of instructor.  
Traffic characteristics and studies. Control and regulation of street and highway traffic. Parking facilities, mass transportation, traffic engineering administration.

622. Mass Transit Engineering (3)  
Prerequisite: Consent of instructor.  
Urban transportation and land use, characteristics of urban travel patterns, estimation of transit usage, planning of transit systems; economic problems of mass transportation. Case studies of existing and proposed systems.

632. Computational Hydraulics and Hydrology (3)  
Prerequisites: Civil Engineering 444 and Mathematics 541A.  

634. Surface Water Hydrology (3)  
Prerequisite: Civil Engineering 445.  

635. Water Quality Engineering (3)  
Prerequisite: Civil Engineering 555 with minimum grade of C.  

636. Water Quality Processes (3)  
Prerequisite: Civil Engineering 555 with minimum grade of C.  
Two lectures and three hours of laboratory. Theoretical and laboratory study of the chemical and microbiological processes which govern modern water and wastewater treatment.

638. Sedimentation and River Engineering (3)  
Prerequisite: Civil Engineering 444 with a minimum grade of C.  

640. Advanced Soil Mechanics (3)  
Prerequisites: Civil Engineering 462 and 463 with minimum grades of C.  
Advanced theories of soil mechanics and their applications to design, including physicochemical behavior of soils, theories of compaction, consolidation, stress distribution, shear strength, settlement analyses, lateral pressures, and bearing capacity of soils.

641. Advanced Foundation Engineering (3)  
Prerequisite: Civil Engineering 640.  
Principles governing the flow of water through soils and their application in the design of earth and rock-fill dams. Stability analysis and design of earth dams.

642. Seepage and Earth Dams (3)  
Prerequisite: Civil Engineering 640.  
Principles governing the flow of water through soils and their application in the design of earth and rock-fill dams. Stability analysis and design of earth dams.

780. Seminar in Structural Engineering (2 or 3)  
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.  
An intensive study in structural engineering. Maximum credit six units applicable on a master's degree.

781. Seminar in Transportation Engineering (2 or 3)  
Prerequisite: Minimum grade point average of 3.0 and consent of instructor.  
An intensive study in transportation engineering. Maximum credit six units applicable on a master's degree.

782. Seminar in Soil Mechanics and Foundation Engineering (2 or 3)  
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.  
Advanced study in soil mechanics and foundation engineering. Maximum credit six units applicable on a master's degree.

796. Advanced Topics in Civil Engineering (2 or 3)  
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.  
Advanced study in the field of civil engineering. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

797. Research (1-3) Cr/NC/SP  
Prerequisite: Consent of graduate adviser.  
Research in engineering. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP  
Prerequisite: Consent of staff, to be arranged with department chair and instructor.  
Individual study. Maximum credit three units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP  
Prerequisites: An officially appointed thesis committee and advancement to candidacy.  
Preparation of a thesis or project for the master's degree.

799B. Thesis or Project Extension (0) Cr/NC  
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.  
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval.
Electrical and Computer Engineering

Faculty

Huseyn Abut, Ph.D., Professor of Electrical and Computer Engineering
Ching-ten Chang, Ph.D., Professor of Electrical and Computer Engineering
Fredric J. Harris, M.S.E.E., PE., Professor of Electrical and Computer Engineering
Jay H. Harris, Ph.D., Professor of Electrical and Computer Engineering
Alexander Isopovnice, Ph.D., Professor of Electrical and Computer Engineering
Long C. Lee, Ph.D., Professor of Electrical and Computer Engineering
Mao-Shou Lin, Ph.D., Professor of Electrical and Computer Engineering, Chair of Department
Chesler R. Lodge, Ph.D., Professor of Electrical and Computer Engineering
Leonard R. Marine, Ph.D., Professor of Electrical and Computer Engineering
Gail A. Massey, Ph.D., Professor of Electrical and Computer Engineering
Robert J. Stuart, Ph.D., Professor of Electrical and Computer Engineering (Graduate Adviser)
Chun-Shin Lin, Ph.D., Associate Professor of Electrical and Computer Engineering
Paul L. Nunez, Ph.D., Associate Professor of Electrical and Computer Engineering
Nicholas Panos, M.S.E.E., PE., Associate Professor of Electrical and Computer Engineering
Masako Suto, Ph.D., Associate Professor of Electrical and Computer Engineering
Andrew T. Szeto, Ph.D., Associate Professor of Electrical and Computer Engineering
Kalyanam. S. Thyagarajan, Doct. Eng., Assistant Professor of Electrical and Computer Engineering

UPPER DIVISION COURSES IN ELECTRICAL ENGINEERING

503. Computer Hardware Organization (3)
Prerequisite: Electrical Engineering 120 or Mathematics 107, at least junior standing; some knowledge of assembly language preferred.
Computer hardware organization and design, including combinational and sequential networks, using integrated circuits. Not open to E.E. majors.

520. Feedback Control Systems (3) I
Prerequisite: Electrical Engineering 410; 420 recommended.
Analysis of regulatory systems including servomechanisms by the Laplace transform method. System performance and stability. Nyquist, Bode, and root-locus diagrams, elementary synthesis techniques. Practical components and examples of typical designs.

521. Advanced Feedback Control Systems (3) II
Prerequisite: Electrical Engineering 520.
A continuation of Electrical Engineering 520 to include feedback compensation, advanced compensation techniques, signal flow theory, state-variable techniques, introduction to nonlinear and sampled-data control systems.

530. Transistor Circuit Analysis (3) I, II
Prerequisite: Electrical Engineering 430.
Analysis and design of transistor voltage and power amplifier circuits by use of duality and matrix methods. Feedback amplifiers, audio amplifiers, video amplifiers, power supplies and oscillators, transient analysis and noise considerations.

534. Solid-State Devices (3) I
Prerequisite: Electrical Engineering 430.
Conduction theory of solids. Characteristics of tunnel, forward, breakdown, multilayer and varactor diodes, silicon controlled rectifiers and switches, unjunction transistors, hot electron devices, lasers and laser applications.

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, stripline circuits, electromagnetic radiation.

540L. Microwave Measurements Laboratory (1) II
Three hours of laboratory.
Prerequisites: Credit or concurrent registration in Electrical Engineering 430L and 540L.
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.

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 or 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.

575. Microprocessors (3) I, II
Prerequisites: Electrical Engineering 373 and 470.
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.

576. Microprocessor Systems Development (3) I
Prerequisite: Electrical Engineering 475.
Design of microprocessor-based systems using modern development systems. Hardware and software development. Assembly language and PASCAL. Testing by emulation and real-time analysis.

580. Modern Power Systems I (3) I
Prerequisites: Engineering 310, Electrical Engineering 310 and 380.
Modern power system elements: calculation of load flow, fault currents, and system stability.

581. Modern Power Systems II (3) II
Prerequisite: Electrical Engineering 580.
Transient response of modern power system elements: positive, negative and zero sequence impedance, subharmonic effects.
596. Advanced Electrical Engineering Topics (1-3) I, II
   Prerequisite: Consent of instructor.
   Modern developments in electrical engineering. See Class Schedule for specific content.
   Maximum credit six units for any combination of 496, 499 and 596.

GRADUATE COURSES IN ELECTRICAL ENGINEERING

600. Seminar (1-3)
   Prerequisite: Consent of instructor.
   An intensive study in advanced electrical engineering. May be repeated with new content.
   Topic to be announced in the Class Schedule. Maximum credit six units applicable on a
   master's degree.

605. Seminar in Communications Systems (1-3)
   Prerequisite: Consent of instructor.
   An intensive study in communication theory and systems. May be repeated with new
   content. See Class Schedule for specific content. Maximum credit six units applicable on a
   master's degree.

606. Seminar in Computer Engineering (1-3)
   Prerequisite: Consent of instructor.
   Intensive study in computer engineering topics. May be repeated with new content. See
   Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

610. Linear System Analysis (3)
   Prerequisites: Electrical Engineering 410 and credit or concurrent registration in Engineering
   510.
   Loop and nodal system equations based on topological considerations. Four-terminal
   network theory using matrices. Fourier integral transform theory as applied to linear system
   analysis. Positive real functions and associated testing methods.

622. Sampled-Data Systems (3)
   Prerequisite: Electrical Engineering 520.
   Analysis and synthesis of sampled-data and digital control systems; techniques for the
design of time optimal sampled-data control systems; z-transform calculus and difference
   equation synthesis techniques for determining stability and system response.

625. State Space Analysis of Control Systems (3)
   Prerequisite: Electrical Engineering 410; 520 recommended.
   State space representation of control systems. State transition flow graphs. Methods of
   solution of the state equation, controllability and observability, and introduction to optimal
   control systems.

631. Integrated Circuits (3)
   Prerequisite: Electrical Engineering 430, 534 recommended.
   Fabrication methods, logic gates, multivibrators, medium- and large-scale integration
   techniques and devices. Linear integrated circuits and MOS technology. Emphasis on proper
   application of devices through knowledge of circuit operation and interpretation of
   manufacturers' specification sheets.

634. Semiconductor RF Circuit Design (3)
   Prerequisite: Electrical Engineering 540.
   Wide band amplifiers, low level RF amplifiers and mixers, IF amplifiers, AGC, tuning and
   stability problems, unilateralization and mismatching techniques, harmonic oscillators, VHF
   power amplifiers including varactor multipliers.

636. Noise in Electrical Devices (3)
   Prerequisite: Electrical Engineering 530.
   Major types and origins of electrical noise and the effects of noise on system behavior.
   Emphasis on concepts of noise as a random process, as distinguished from systematic or
   periodic interference.

640. Quantum Electronics (3)
   Prerequisite: Electrical Engineering 534.
   Quantum mechanics for engineers concerned with its application to solid-state devices.
   Basic principles and engineering applications of lasers.

642. Optical Communications (3)
   Prerequisite: Electrical Engineering 555.
   Fundamentals of electro-optical technology from ultraviolet through infrared. Characteristics
   of thermal and laser radiation including generation, transmission, detection, data processing
   and display.

644. Optical Data Processing (3)
   Prerequisites: Electrical Engineering 340 and 410.
   Electro-optical systems for processing electronic data or images. Spatial frequency
   analysis, filtering, convolution, and correlation based on light diffraction. Film as a recording
   medium. Acousto-optic and electro-optic processing devices and their applications.

645. Antennas and Propagation (3)
   Prerequisite: Electrical Engineering 540.
   Impedance characteristics and radiation patterns of thin linear antenna elements; field
   integral calculations. Tropospheric and ionospheric propagation; propagation anomalies.

647. Radar Systems (3)
   Prerequisite: Electrical Engineering 540.
   The radar equation; characteristics of CW, FM, MTI, pulse-doppler and tracking radar
   system; transmitters, antennas and receivers; detection of signals in noise, extraction of
   information; propagation effects; system engineering and design.

650. Modern Communication Theory I (3)
   Prerequisite: Electrical Engineering 553 or Mathematics 550.
   Probability theory, random variables, random processes. Gaussian process; random
   signals through linear systems, noise considerations, optimum receiver design; applications to
digital and wave-form communication.

651. Modern Communication Theory II (3)
   Prerequisite: Electrical Engineering 650.
   Estimation of signal parameters in noise. Estimation of spectral densities and correlation
   functions. Inter symbol interference. Adaptive and feedback systems.

653. Coding Theory (3)
   Prerequisite: Electrical Engineering 553.
   The theory of coding to combat noise over communication channels. Redundancy added to
   messages to assure arbitrarily small error rates at a given information rate. Discussion of
   channels and capacity Block codes, cyclic codes, BCH codes, convolutional code.

658. Digital Processing of Signals (3)
   Prerequisite: Electrical Engineering 555.
   Theory of digital signal processing. Emphasis on digital filters, discrete spectrum analysis,
   loops.

670. Microprogramming (3)
   Prerequisite: Electrical Engineering 373.
   Fundamentals of microprogramming and read only storage technology as related to the
design of digital computers.

671. Computer Input/Output Devices and Systems (3)
   Prerequisite: Electrical Engineering 373.
   Control programs, interrupt procedures, I/O programming techniques, interfaces, channels,
magnetic recording techniques, I/O devices.

675. Advanced Microprocessors (3)
   Prerequisite: Electrical Engineering 576.
   Program development, circuit design, interrupt structure, memory management, multiprogramming, and standardized busses for a 16-bit or 32-bit microprocessor.

676. Fault Tolerant Computing (3)
   Prerequisite: Electrical Engineering 373.
   Triple modular redundancy, standby sparing, quadded logic, parity and residue checking of
   computer systems and subsystems. Diagnostic programming and fault testing fundamentals.
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677. Topics in Logic Design (3) II
Prerequisite: Electrical Engineering 571.
Review of current technical periodic literature in logic design and digital systems. Stress on specialized synthesis techniques and recent theoretical developments.

678. Electronic Digital Systems (3)
Prerequisite: Electrical Engineering 373.
Design of arithmetic, control and memory units. Detailed comparative analysis of the system organization and operation of several digital computers, with special attention to the interdependence of design decisions and their dependence upon the intended system application.

679. Real-Time Software Engineering (3)
Prerequisite: Electrical Engineering 675.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of department chair.
Research in engineering. Maximum credit six units applicable on a master’s degree.

798. Thesis or Project (3) Cr/NC/SP
Prerequisite: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799A. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university: also student must be registered in the course when the completed thesis or project is granted final approval.

Mechanical Engineering

Faculty
Robert L. Bedore, M.S., PE., Professor of Mechanical Engineering, Chair of Department
George T. Craig, Ph.D., Professor of Mechanical Engineering, Dean of the College of Engineering
Richard A. Fitz, Ph.D., Professor of Mechanical Engineering
Nihad A. Hussain, Ph.D., Professor of Mechanical Engineering, Associate Dean of the College of Engineering
George A. Mansfield Jr., M.S., PE., Professor of Mechanical Engineering
Charles Morgan, M.S., PE., Professor of Mechanical Engineering
Robert J. Murphy, Ph.D., PE., Professor of Mechanical Engineering
Basil Ohrnysty, M.S., PE., Professor of Mechanical Engineering
John G. Pinto, Ph.D., Professor of Mechanical Engineering
Singiresu S. Rao, Ph.D., Professor of Mechanical Engineering
Todd H. Pierce, Ph.D., Associate Professor of Mechanical Engineering
Larry D. Thompson, Ph.D., Assistant Professor of Mechanical Engineering
Jack W. Hoyt, Ph.D., Lecturer in Mechanical Engineering (Graduate Adviser)

UPPER DIVISION COURSES IN MECHANICAL ENGINEERING

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
Analysis of mechanical vibration, single- and multi-degree of freedom systems, free and forced vibrations, vibration isolation, vibration absorbers. Theory of vibration measuring instruments.

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: Mechanical 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)
Prerequisites: Mechanical Engineering 340.
Two lectures and three hours of laboratory. Fundamentals of plastics, reinforced plastics, and ceramics. Analysis of effect of physical properties upon selection of a material for use in design.

542. Production Engineering (3)
Prerequisites: Mechanical Engineering 340 and Engineering 310.
Quantitative techniques including regression analysis, linear programming, network analysis, simulation methods, as applied to planning, forecasting, scheduling and maintaining of production and manufacturing systems.

544. Advanced Manufacturing Processes (3)
Prerequisites: Mechanical Engineering 195, 314, 340, 350 and Engineering 310.
Theory and techniques of metal cutting, forming, non-cutting metal removal, computer controlled machining.

546. Computer Aided Manufacturing (3)
Prerequisites: Mechanical Engineering 195, 340 and Engineering 120, 310.
Computer controlled manufacturing and assembly techniques and devices. Data bases and special languages.

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-S64B. Principles of Chemical Engineering (3-3)
(Same course as Chemistry 500A-500B.)
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.

586. Solar Energy Conversion (3)
Prerequisites: Engineering Mechanics 340, Mechanical Engineering 450 and 470.
Application of thermodynamics, fluid mechanics and heat transfer to the thermal design of solar energy conversion systems. Computer simulations utilized.

596. Advanced Mechanical Engineering Topics (1-3) I, II
Prerequisite: Consent of instructor.
Modern developments in mechanical engineering. See Class Schedule for specific content. Maximum credit six units for any combination of Mechanical Engineering 496, 499 and 596.

GRADUATE COURSES IN MECHANICAL ENGINEERING

614. Engineering Design: Analytical Methods (3)
Prerequisites: Mechanical Engineering 512 and Engineering 510.

621A-621B. Mechanical Vibrations (3-3)
Prerequisites: Engineering 510, Mechanical Engineering 512 and 520.
Topics in vibration relating to mechanical design such as nonlinear vibrations, distributed mass systems, random vibrations, mobility analysis, isolator design.

631. Fluid Power and Control Systems (3)
Prerequisite: Mechanical Engineering 530.
Analysis of dynamic performance of physical systems such as pneumatic, hydraulic and hot-gas. Transient forces and valve instability. Servo characteristics.

632. Advanced Topics in Automatic Controls (3)
Prerequisite: Mechanical Engineering 530.
Synthesis of linear control systems. Analysis of nonlinear systems by describing function and phase plane methods. Sampled data systems analysis, statistical design techniques and adaptive control.

645. Mechanical Metallurgy for Engineers (3)
Prerequisites: Mechanical Engineering 340 and 350.
Fundamentals of plastic deformation of crystalline solids; elementary theory of statics and dynamics of dislocations, deformation, fracture and metallurgical variables on mechanical properties, environment-failure interactions.

651. Analytical Thermodynamics (3)
Prerequisite: Engineering 310.
Advanced concepts of microscopic thermodynamics. Application of thermodynamics to special systems.

661. Gas Dynamics (3)
Prerequisites: Engineering 510 and Mechanical Engineering 450.
Thermodynamics of high velocity compressible fluid flow. Adiabatic and diabatic flow; shock phenomena; imperfect gases; multidimensional flow. Applications to the propulsive duct and turbomachinery.

663. Boundary Layers in Internal Flows (3)
Prerequisites: Mechanical Engineering 470 and Engineering 510.
Conservation laws applied to boundary layers in viscous, heat conducting fluids; analysis of the boundary layer equations; applications to internal flows.

671. Heat Transfer I (3)
Prerequisites: Mechanical Engineering 470 and Engineering 510.
Conduction Heat Transfer; Multidimensional Conduction Processes, Transient Analysis. Convection Heat Transfer; Advanced Theories of Forces and Free Convection.

675. Heat Transfer II (3)
Prerequisites: Mechanical Engineering 470 and Engineering 510.

684. Theory of Turbomachines (3)
Prerequisite: Aerospace Engineering 301 or Mechanical Engineering 661.
Application of the fundamental laws of fluid mechanics to the problems of energy transfer between fluid and rotor. Performance characteristics of turbomachines. Study of loss mechanisms.

700. Seminar (1-3)
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in advanced mechanical engineering. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

796. Advanced Topics in Mechanical Engineering (2 or 3)
Prerequisites: Mechanical Engineering 510 and Engineering 510.
Advanced study in the field of mechanical engineering. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit three units applicable on a master's degree.
799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
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Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis or project is granted final approval.

English and Comparative Literature

Faculty

Elsie B. Adams, Ph.D., Professor of English and Comparative Literature
James R. Baker, Ph.D., Professor of English and Comparative Literature
Jackson J. Benson, Ph.D., Professor of English and Comparative Literature
Howard C. Brasher, Ph.D., Professor of English and Comparative Literature
Jerry D. Bumpus, M.F.A., Professor of English and Comparative Literature
Glover T. Davis II, M.F.A., Professor of English and Comparative Literature (Graduate Adviser)
John W. Dickinson, Ph.D., Professor of English and Comparative Literature
Gerald H. Farber, Ph.D., Professor of English and Comparative Literature
Frances S. Foster, Ph.D., Professor of English and Comparative Literature
Maurice S. Friedman, Ph.D., L.L.D., Professor of Religious Studies, Philosophy and Comparative Literature
Jay H. Gellens, Ph.D., Professor of English and Comparative Literature
George C. Gross, Ph.D., Professor of English and Comparative Literature (Graduate Adviser)
Suzanne Henig, Ph.D., Professor of English and Comparative Literature
James C. Hinkie, M.A., Professor of English and Comparative Literature
Karl Kaiser, Ph.D., Professor of English and Comparative Literature
Lawrence F. McCaffery, Ph.D., Professor of English and Comparative Literature
Dan D. McLeod, Ph.D., Professor of English and Comparative Literature, Chair of Department
John P. Monteverde, Ph.D., Professor of English and Comparative Literature
Fred S. Moramarco, Ph.D., Professor of English and Comparative Literature
Thomas A. Nelson, Ph.D., Professor of English and Comparative Literature
Peter F. Neumeyer, Ph.D., Professor of English and Comparative Literature (Graduate Adviser)
William A. Perkins, Ph.D., Professor of English and Comparative Literature
William N. Rogers II, Ph.D., Professor of English and Comparative Literature, Graduate Coordinator
James Rothen, Ph.D., Professor of English and Comparative Literature
Gennaro A. Santangelo, Ph.D., Professor of English and Comparative Literature
Minas Savvas, Ph.D., Professor of English and Comparative Literature (Graduate Adviser)
Ilsa S. Sheres, Ph.D., Professor of English and Comparative Literature
Donald A. Shoai, Ph.D., Professor of English and Comparative Literature
Harry C. Sreehi, Ph.D., Professor of English and Comparative Literature
Lowell Sizemore, Ph.D., Professor of English and Comparative Literature
Kermit Vanderbit, Ph.D., Professor of English and Comparative Literature
Kingsley Widmer, Ph.D., Professor of English and Comparative Literature
Roberta F. Borkel, Ph.D., Associate Professor of English and Comparative Literature
Ruth M. Brown, Ph.D., Associate Professor of English and Comparative Literature
Gerald J. Butler, Ph.D., Associate Professor of English and Comparative Literature
Ronald J. Gervais, Ph.D., Associate Professor of English and Comparative Literature (Graduate Adviser)
Harold Jaffe, Ph.D., Associate Professor of English and Comparative Literature
Richard C. Kohler, Ph.D., Associate Professor of English and Comparative Literature
Prescott S. Nichols, Ph.D., Associate Professor of English and Comparative Literature
Robert W. Redding, Ph.D., Associate Professor of English and Comparative Literature
Hawley C. Taylor, Ph.D., Associate Professor of English and Comparative Literature
Casey G. Wall, Ph.D., Associate Professor of English and Comparative Literature
Thomas Aniger, Ph.D., Assistant Professor of English and Comparative Literature
Alfred F. Boe, Ph.D., Assistant Professor of English and Comparative Literature (Undergraduate Adviser)
William A. Covino, Ph.D., Assistant Professor of English and Comparative Literature (Graduate Adviser)
Assistantships and Scholarships

Graduate teaching assistantships in English are available to a limited number of qualified students. Application blanks and additional information may be secured from the Graduate Coordinator.

The Dorothy Cranston Stott scholarship of $100 is awarded each June to an English major who is graduating from San Diego State University and who is continuing work toward a higher degree or credential.

For California State Fellowships, see Part Two, Scholarships, Fellowships section of this bulletin.

General Information

The English and Comparative Literature faculty in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in English and to postbaccalaureate (nondegree) study.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. Students may be admitted to the graduate program in literature in one of three categories:

1. Unconditional Classified Graduate Standing
   For unconditional acceptance to the graduate program in English, students must meet the following requirements:
   a. 24 units of upper division work in English
   b. 2.75 overall on a 4.0 Grade Point Scale
   c. 3.0 grade point average in the English major
   d. 850 on the GRE General (Aptitude) Test

2. Conditional Classified Graduate Standing
   Conditional acceptance will be granted to a candidate who is below requirements in one of the above. Students may be granted conditional acceptance if there is a deficiency in two or more of the above requirements. A student accepted conditionally must achieve an average of 3.25 in nine units of English or comparative literature courses before proceeding to further study and is limited to 12 units. Any units taken above this quota will not count toward the 30 units for the master's degree in English.
   a. English major unit deficiencies Students who lack 24 units of credit in upper division English will receive conditional acceptance if they meet the requirements of 2.75 overall and 950 on the GRE General (Aptitude) Test. After the completion of 24 units in the major, students will then be given classified graduate standing if they meet the other requirements.
   b. Postbaccalaureate Standing (Unclassified-No Degree Objective). See description in Part Two, Admission Section of this bulletin.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, including the foreign language requirement, as described in Part Two of this bulletin. All candidates may fulfill the foreign language requirement by passing the Graduate School Foreign Language Test, by completing one three-unit upper division foreign language literature course, or by completing one three-unit upper division foreign language literature course with readings in the original language with a grade of C (2.0) or better. If a language is not offered by the university, a Comparative Literature student may petition to work with a qualified instructor in three semester units of special studies (with CR considered a satisfactory grade). Students should consult their adviser for the language most appropriate for advanced graduate study.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program, approved by a graduate adviser and the graduate coordinator of the department, which includes a major consisting of 30 units, as follows:

- 18 units of 600- and 700-numbered courses. The student may take up to six units of electives outside the Department with approval of the student's adviser. Students in the Emphasis on the Teaching of Writing may take up to 12 units of electives outside the Department with approval of their adviser. In addition, the student must pass (1) a three-hour written examination in one broad area of emphasis (e.g., American Literature, British Literature Before 1800, Modern French Literature), and (2) a two-hour comprehensive oral examination covering American and British Literature (or equivalent areas in Comparative Literature).
- Three 700-level English courses (seminars), and nine units in English and Comparative Literature courses outside the program area.
- A minimum of 12 units of 600-numbered English and Comparative Literature courses outside the program area.
- A thesis (usually 75-125 pages in length) will be in the student's program area.

Plan A (I) Thesis:

Thirty units, including English 600 (English 600 or 601 for Comparative Literature students), 799A (Thesis) and a second 700-level course (other than 798). The program of courses developed with the student's adviser will emphasize breadth; a minimum of nine units must be selected from English and Comparative Literature courses outside the program area. The thesis (usually 75-125 pages in length) will be in the student's program area.

Plan A (II) Creative Writing:

Thirty units, including English 600 or 601, 799A (a creative work), a second 700-numbered English and Comparative Literature course (other than 798), at least nine units of writing courses, and a minimum of nine units in literature courses apart from Creative Writing. The creative work will normally be a novel or a collection of poems or short stories.

Plan A (III) Thesis in the Teaching of Writing:

Thirty units, including English 690, 740, 799A (Thesis), and a third graduate level course related to the teaching of writing, selected with the student's adviser. A minimum of nine units must be selected from literature courses. English 500W and 508W are required if courses of similar content not taken as an undergraduate. The thesis (usually 75-125 pages in length) will be in the student's program area.

Plan B (I) Oral and Written Examination:

Thirty units of course work including English 600 (English 600 or 601 for Comparative Literature students), three 700-level English courses (seminars), and nine units in English and Comparative Literature courses outside the program area. In addition, the student must pass (1) a three-hour written examination in one broad area of emphasis (e.g., American Literature, British Literature Before 1800, Modern French Literature), and (2) a two-hour comprehensive oral examination covering American and British Literature (or equivalent areas in Comparative Literature).

Plan B (II) Starred Papers and Oral Examination:

Thirty units including English 600 (English 600 or 601 for Comparative Literature students), at least one 700-level (seminar) course in the Department, and a minimum of nine units from English and Comparative Literature courses outside the program area. The program developed by the student and the graduate adviser will emphasize breadth. Three seminar papers of about 35 pages, each recommended as a "Starred Paper" by a seminar instructor, will be revised to meet the approval of the student and the Department. The third from outside that area (e.g., two from British Literature, one from American Literature). In addition, the student will be required to pass an oral examination covering the area of specialization as defined by his or her committee (e.g., British Literature since 1800, 20th Century World Literature).
Plan B (III) Starred Papers and Oral Examination in the Teaching of Writing:
Thirty units, including English 600, 740, at least three other 700-level (seminar) courses, and a minimum of nine units of literature courses. English 500W and 508W are required courses if similar content not taken as an undergraduate. Three graduate and/or seminar papers are to be revised to meet approval of the student's committee. Two of these papers must be from the student's program area, the third from outside that area. In addition, the student will be required to pass an oral examination covering the area of specialization as defined by his or her committee.

Courses Acceptable on the Master's Degree in English

UPPER DIVISION COURSES IN ENGLISH
All 500-level courses — Strongly recommended; Six lower division units in courses in literature and/or creative writing.

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 and completed the General Education requirement in Written Communication.

501. Literature for Children (3)

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 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. 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.

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, Jonathan 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 Literature of the South; Black Writers in America; The Frontier and American Literature; The History of American Literature; The Outcast in American Literature. May be repeated with new title and content. See Class Schedule for specific 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 1603.

533. Shakespeare (3) I, II
An introduction to the writings of Shakespeare.

534. 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 1660 to 1680.

537. Milton (3)
Milton's writings, with emphasis on Paradise Lost.

538A-538B. Restoration and Eighteenth Century Literature (3-3) I, II
English literature in the neoclassical era. Semester I: Dryden, Swift, Pope, and their contemporaries. Semester II: Writers of the middle and late eighteenth century.

540A-540B. English Fiction (3-3)

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)
British poetry since 1800.

544A-544B. Modern British Fiction (3-3)
Modern British 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

560A-560B. A History of English Literature (3-3) I, II
Survey of major English writers, with emphasis on reading of complete works. Semester I: From the beginning to the neoclassical period. Semester II: Begins with the Romantic period. 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.
571. Techniques of the Short Story (3) I, II
A study of the critical and theoretical literature of the short story from the creative writer's viewpoint, together with reading and discussion of appropriate examples. (Formerly numbered English 571A.)

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. Techniques of the Novel (3) I, II
A study of the critical and theoretical literature of the novel from the creative writer's viewpoint, together with reading and discussion of appropriate examples. (Formerly numbered English 571B.)

579. 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.

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. See Class Schedule for specific 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. See Class Schedule for specific content. Maximum credit six units.

589. Senior Workshop in Creative Writing (3)
An advanced workshop intended only for students who have an extensive background in creative writing. Different sections of the course may treat advanced poetry writing, advanced fiction writing, or other special topics. See Class Schedule for specific content.

UPPER DIVISION COURSES IN COMPARATIVE LITERATURE

510. Medieval Literature (3)
Representative selections from authors of the Middle Ages.

511. Continental Renaissance (3)
Representative selections from authors of the Renaissance period in continental Europe.

512. Seventeenth and Eighteenth Century European Literature (3)
Selected works by European writers prior to 1800.

513. Nineteenth Century European Literature (3)
Selected works by European writers between 1800 and 1900.

514. Modern European Literature (3)
Selected works by European writers of the twentieth 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.

GRADUATE COURSES IN ENGLISH

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 applicable on a master's degree.

562. Drama (3)
A comparative approach to themes and forms 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. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

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.

581. Literary Uses of Languages (3)
Study of the functions of language in literary writings. May take the form of translation workshop, stylistic studies, etc. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

585. Literature and Other Arts (3)
Prerequisite: Six lower division units in English, comparative literature or the arts. Comparative study of literature and such arts as painting, sculpture, architecture, music, dance, film. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

600. Introduction to Graduate Study (3)
Prerequisite: Twelve upper division units in English. Introduction to research methods and critical approaches common in the graduate study of literature, with attention to basic reference works, scholarly and critical journals, bibliographical techniques, editorial procedures, etc. Recommended for first semester graduate students. Prerequisite to graduate seminars.

601. Comparative Literature Theory (3)
Introduction to methods of comparative study involving history and theory of Comparative Literature as a discipline. Strongly recommended for first semester students who choose an emphasis in Comparative Literature.

610. Literature of the Middle Ages (3)
Prerequisite: Twelve upper division units in English. Selected works in the literature of the Middle Ages with emphasis on Middle English prose and poetry exclusive of Chaucer.
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612. Renaissance Literature (3)
Prerequisite: Twelve upper division units in English. Selected works in the literature of the Renaissance.

616. Earlier Nineteenth Century Literature (3)
Prerequisite: Twelve upper division units in English. Selected works in the literature of the early nineteenth century.

617. Later Nineteenth Century Literature (3)
Prerequisite: Twelve upper division units in English. Selected works in the literature of the later nineteenth century.

620. Twentieth Century Literature (3)
Prerequisite: Twelve upper division units in English. Selected works in the literature of the twentieth century.

624. British Literature (3)
Prerequisite: Twelve upper division units in English. Selected works of an author, period, or subject in English literature. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

625. American Literature (3)
Prerequisite: Twelve upper division units in English, with courses in American literature strongly recommended. Selected works of an author, period, or subject in American literature. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

630. Poetry (3)
Prerequisite: Twelve upper division units in English. Poetry as a literary form.

631. Fiction (3)
Prerequisite: Twelve upper division units in English. Fiction as a literary form.

640. Workshop in Creative Writing (3)
Prerequisite: Consent of instructor and departmental adviser. Criticism and coaching in the larger forms. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

642. Tutorial in Creative Writing (3)
Prerequisites: Twelve upper division units in English, including at least six units in creative writing. Individual guidance for advanced writers who wish to work on special projects in creative writing.

700. Seminar: A Major Author (3)
Prerequisites: An appropriate upper division or graduate level background course, and English 600. Critical study of a major author, such as Shakespeare, Dickens, Mark Twain. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

710. Seminar: A Cultural Period (3)
Prerequisite: An appropriate upper division or graduate level background course, and English 600. Advanced study through its literature, of a cultural period such as the Renaissance, the Enlightenment, the Romantic revolution. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

720. Seminar: Special Topics (3)
Prerequisite: English 600. Advanced study of such literary problems as Regionalism in America and Continental Influences on British Literature, or such topics as esthetics, the creative process, literary translation, teaching of composition and literature, and others. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

730. Seminar: A Literary Type (3)
Prerequisite: English 600. Advanced study of a literary type, such as the Personal Essay, Epic, Tragedy. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

740. Topics in the Teaching of Composition (3)
Prerequisites in the teaching of composition, both practical and theoretical. Advanced study of topics such as teaching practices, compositional theory, and stylistics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

741. Seminar in Classical Rhetoric and Composition (3)
Twentieth-century rhetoric: composition theory, reading theory, psycholinguistics, sociolinguistics, language philosophy, and literary theory. Relationship between rhetorical theory and modern approaches to teaching of writing and literature.

742. Seminar in Modern Rhetoric and Composition (3)
Twentieth-century rhetoric: composition theory, reading theory, psycholinguistics, sociolinguistics, language philosophy, and literary theory. Relationship between rhetorical theory and modern approaches to teaching of writing and literature.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis is granted final approval.
for choosing graduate work at San Diego State University, professional goals, special interests in the discipline, and background preparation. The student must be approved for admission by graduate faculty of Family Studies and Consumer Sciences.

**Advancement to Candidacy**

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin.

**Specific Requirements for the Master of Science Degree in Home Economics**

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units including at least 24 units from courses listed as acceptable on master's degree programs in home economics. At least 18 units must be in 600- and 700-numbered courses, including Family Studies and Consumer Sciences 790, Research Methods.

Students specializing in Child Development should complete a core sequence of four 600-level courses that are scheduled on a two-year cycle: Family Studies and Consumer Sciences 631, 634, 670, 671. Recommended electives to be approved by the program adviser include Family Studies and Consumer Sciences 536, 539, 541, 545, 546, 570, 579, 584, 596, 681, 682. In Plan A, all students will be expected to include Family Studies and Consumer Sciences 799A, Thesis.

In Plan B, students will be expected to (a) pass a comprehensive examination; and (b) complete Family Studies and Consumer Sciences 797, Research, culminating in a paper acceptable to the student's committee. Reservations must be made six weeks in advance of examination which is given mid-semester.

**MASTER OF SCIENCE DEGREE IN NUTRITIONAL SCIENCES**

**Admission to Graduate Study**

All students must satisfy the general requirements for admission to the university with classified graduate standing as described in Part Two of this bulletin. In addition, the student must have a bachelor's degree in foods and nutrition or a related field and satisfy the prerequisites of the courses selected. If a student's undergraduate preparation is deemed insufficient, the student will be required to complete specified courses in addition to the minimum of 30 units required for the master's degree in nutritional sciences. The student must have a grade point average of 3.0 in the last 60 semester units attempted, and a minimum score of 950 on the GRE General (aptitude) Test. The applicant must submit a letter stating reasons for choosing graduate work at San Diego State University, professional goals, special interests in the discipline, and background preparation. The student must be approved for admission by graduate faculty of Family Studies and Consumer Sciences.

**Advancement to Candidacy**

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin.

**Specific Requirements for the Master of Science Degree in Nutritional Sciences**

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units including at least 21 units from courses listed as acceptable on the master's degree program in nutritional sciences. At least 18 units must be in 600- and 700-numbered courses.
Required courses include six units selected from Family Studies and Consumer Sciences 605, 606, 607, 609; three units selected from Family Studies and Consumer Sciences 600, 603, and 700; Family Studies and Consumer Sciences 790; and one unit of Family Studies and Consumer Sciences 791. Family Studies and Consumer Sciences 507, or equivalent course, as approved by the nutrition graduate adviser, is required as part of the program. If it was not a part of the student's undergraduate work, all course selections for the graduate program must be approved by the student's nutrition faculty adviser.

In Plan A, all students will include Family Studies and Consumer Sciences 799A, Thesis. In Plan B, students will (a) pass a comprehensive examination; and (b) complete FSCS 797, Research, culminating in a paper acceptable to the student's committee. Reservations must be made six weeks in advance of the examination, which is given mid-semester.

Courses Acceptable on Master's Degree Programs in Home Economics and Nutritional Sciences

UPPER DIVISION COURSES

IN FAMILY STUDIES AND CONSUMER SCIENCES

GENERAL

596. Advanced Studies in Family Studies and Consumer Sciences (1-6)
Prerequisite: Nine 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 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.

HOME ECONOMICS

519. Textile Analysis and Testing (3) II
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 319
Analysis based on chemical and physical tests for differences due to variation in fiber, yarn, and fabric structure and suitability of various characteristics for specified end uses.

520. Clothing and Human Behavior (3) II
Prerequisites: Family Studies and Consumer Sciences 217, Psychology 101 and 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) I
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)
Insights through creative literature into the variations in relationships between the sexes and between generations in various cultures and subcultures. Fiction viewed as social documents which reveal changing expectations and ways of coping with stress.

541. Consumer Interest (3) II
Prerequisite: Family Studies and Consumer Sciences 240 or 440
Analysis of consumer legislation, consumer information, and consumer protection programs.

545. Family Housing (3) II
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) I
Prerequisite: Family Studies and Consumer Sciences 245
Problems of developing effective housing for families in various cultural situations. Investigation of sociopsychological, economic, and legislative factors of housing.

553. Supervised Field Work in Home Management (3)
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 271, 451, 536
Management and social problems as they relate to the home and family. Supervised field work with various community agencies and selected families.

570. Human Development: Infant/Toddler (2) I, II
Prerequisites: Family Studies and Consumer Sciences 270 or Psychology 330; Psychology 260.
Prerequisites: Family Studies and Consumer Sciences 270 or Psychology 330.
Physiological, psychological, social and cultural development of the human organism from birth through three years of age.

570L. Human Development: Infant/Toddler Laboratory (1) I, II
Prerequisite: Credit or concurrent registration in Family Studies and Consumer Sciences 570
Directed observation and laboratory demonstration with infants and toddlers.

578. Supervised Experiences with Young Children (3) I, II
One lecture and nine hours of field work.
Prerequisite: Nine units in child development.
Directed experiences in various community settings. Emphasis on application of child development principles in working with young children. May be repeated with new content. Maximum credit six units.

577. Advanced Administration of Child Development Programs (3) II
Prerequisite: Family Studies and Consumer Sciences 477.
Problems of organization in conducting programs for young children, interrelationships of staff, personal practices, communication with teaching staff, parents and community; records and reports.

579. Advanced Child Study (3)
Prerequisite: Nine units in child development courses.
Physical, social, and psychological factors which determine the direction of child development. Readings and interpretations of scientific literature which contribute to an understanding of theories of human development.

584. Occupational Home Economics Programs (3) II
Prerequisite: Twelve upper division units in Family Studies and Consumer Sciences.
Vocational education legislation; development and administration of occupational and career programs in all areas of home economics.

NUTRITIONAL SCIENCES

507. Processing Food and Nutrition Data (3)
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 302 and 309
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.
GRADUATE COURSES IN FAMILY STUDIES AND CONSUMER SCIENCES

GENERAL

790. Research Methods (3)
Prerequisite: Approval of graduate program adviser.
Analysis of research in the area of family studies and consumer sciences; criteria and procedures for conducting research.

791. Research Seminar (1)
Prerequisite: Consent of Graduate Faculty.
Discussion of current research by students, faculty and visiting scientists. Each student will participate and presentations will be based on current literature and research projects. Maximum credit three units applicable on a master's degree.

797. Research (3) Cr/NC/SP
Prerequisites: Family Studies and Consumer Sciences 790 and approval of graduate program adviser.
Research in one of the areas of family studies and consumer sciences. Completion of Plan B Project.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with the director and instructor and approval of graduate program adviser.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the University. Also, student must be registered in the course when the completed thesis is granted final approval.

HOME ECONOMICS

615. Seminar: Clothing (3)
Prerequisite: Nine units in the area of clothing. Selected problems in the field of clothing.

631. Family Life and Sex Education (3)
Prerequisite: Six upper division units in child development and family relations. Content, resources and alternative methods of presentation of family life and sex education for schools, colleges, churches and social agencies.

634. Seminar: Marriage Adjustment (3)
Prerequisite: Family Studies and Consumer Sciences 335. Individual study, seminar reports, and group discussion of selected topics in marriage adjustment.

670. Seminar: Child Development and Guidance (3)
Prerequisite: Six upper division units in family studies and consumer sciences.
Emphasis on personality theories and on research and clinical findings relevant to systematic study of human development and the guidance of children.

671. Seminar in Advanced Readings in Human Development (3)
Prerequisite: Six upper division units in family studies and consumer sciences.
Analysis of selected research in human development.

681. Seminar: Home Economics Education (3)
Prerequisite: Eighteen units in family studies and consumer sciences. Study and evaluation of home economics research and philosophical principles which have implications for the secondary homemaking teacher.

NUTRITIONAL SCIENCES

600. Seminar: Foods and Nutrition (3)
Prerequisites: Family Studies and Consumer Sciences 301 and 302. Introductory seminar of research and research publications in foods and nutrition.

603. Seminar in Food Science (3)
Prerequisite: Family Studies and Consumer Sciences 301. Reading and analysis of basic and applied research in food science.

605. Assay for Nutrients in Foodstuffs and Tissues (3)
Two lectures and three hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 301 and 302. Determination of energy values, organic nutrients, and minerals in foodstuffs and tissues by chemical, biological, and microbiological methods.

606. Physiological Bases of Diet Therapy (3)
Prerequisite: Family Studies and Consumer Sciences 406. Chemistry 361B or 560B recommended. Biochemical and/or physiological lesions in pathological states and modifications of diet which should accompany medical treatment to prevent or alleviate patient symptoms.

607. Child Nutrition (3)

609. Advanced Studies: Food Proteins (3)
Prerequisites: Food Proteins and Consumer Sciences 302 and 405. Availability, composition, structure, and physical chemical properties of conventional and new food proteins and protein-based products; methods of analysis; nutrition evaluation; processing-induced changes, and food project functionality.

700. Seminar in Nutrition (3)
Prerequisite: Family Studies and Consumer Sciences 302. Reading and analysis of basic and applied research in nutrition.
Advancement to Candidacy

the institution where the degree was granted.

Specific Requirements for the Master of Arts Degree

French given by the Department of French and Italian. In Part Two of this bulletin, students will be required to pass a qualifying examination in French. All students must satisfy the general requirements for advancement to candidacy as stated in Part Two of this bulletin. In addition, the student must satisfy the following requirements: (1) a GPA of 3.0 (on a 4-point scale) in all upper division French courses, (2) a recommendation from professors, at least two of which should be from professors of French at the university, (3) three letters of recommendation from professors, at least two of which should be from professors of French at the institution where the degree was granted.

Assistantships

Graduate teaching assistantships in French are available to a limited number of qualified students. Application blanks and additional information may be secured from the chair of the department.

General Information

The Department of French and Italian Languages and Literatures, in the College of Arts and Letters, offers graduate study leading to the Master of Arts Degree in French. The staff in charge of the graduate program in French consists of professors whose native tongue is French, or who have studied and traveled extensively in France and in other French-speaking areas, enabling them to represent authoritatively the French language and culture. Library facilities include rich resources in French literature and linguistics, including books, periodicals, and newspapers. A foreign language laboratory with modern equipment is available to both graduate and undergraduate students.

Admission to Graduate Study

The student must satisfy the general requirements for admission to the University as classified standing, as described in Part Two of this bulletin. In addition, the student must satisfy the following requirements: (1) an undergraduate major in French or its equivalent, including 24 upper division units, at least six of which must be in a survey course in French literature; (2) a GPA of 3.0 (on a 4-point scale) in all upper division French courses; (3) three letters of recommendation from professors, at least two of which should be from professors of French at the institution where the degree was granted.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as stated in Part Two of this bulletin. Students will be required to pass a qualifying examination in French given by the Department of French and Italian.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units which includes a major consisting of at least 24 units in French, of which at least 18 units must be in 600- and 700-numbered courses in French, including French 799A, Thesis, for those following Plan A. Students, with the consent of the graduate staff, may elect Plan A, which includes French 799A, Thesis, or Plan B, which includes a comprehensive examination in lieu of the thesis.

Courses Acceptable on Master’s Degree Programs

in French

Related courses (600 and graduate level) in other departments may be taken for a total of six units credit with prior approval of the Graduate Adviser.

GRADUATE COURSES

621. Seminar in Methods of Literary Criticism (3)
Prerequisite: Eighteen upper division units in French. Theory and practice of various traditional and modern critical approaches to specific literary texts.

701. Seminar in Medieval French (3)
Prerequisites: Eighteen upper division units in French. Language and literature of the Middle Ages.

711. Seminar in Literature of the French Renaissance (3)
Prerequisite: Eighteen upper division units in French. Literature and thought of the 16th century as represented in the works of Rabelais, Montaigne, Ronsard, Du Bellay, etc.

721. Seminar in Seventeenth Century French Literature (3)
Prerequisite: Eighteen upper division units in French. Directed study in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

731. Seminar in Eighteenth Century French Literature (3)
Prerequisite: Eighteen upper division units in French. Directed study in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

UPPER DIVISION COURSES

501. Translation (3)
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)
Prerequisite: French 302. Major seventeenth-century dramatists with emphasis on Corneille, Moliere and Racine.

531. Eighteenth Century French Literature (3)
Prerequisite: French 302. Major eighteenth-century writers of fiction, with emphasis on Voltaire, Diderot and Rousseau.

541. Nineteenth Century French Novel (3)
Prerequisite: French 302. Major novelists of the nineteenth century.

543. Modern French Theatre (3)
Prerequisite: French 302. Major dramatists of modern France.

545. Modern French Poetry (3)
Prerequisite: French 302. Representative French poets of the modern era.

551. Twentieth Century French Novel (3)
Prerequisite: French 302. Major novelists of twentieth-century France.

561. Methods in Teaching French as a Second Language (3)
Prerequisite: French 431. Teaching of French as a second language; contemporary theory and methods. Not open to students with credit or concurrent enrollment in Spanish 561.

596. Topics in French Studies (1-4)
Prerequisite: French 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

621. Seminar in Methods of Literary Criticism (3)
Prerequisite: Eighteen upper division units in French. Theory and practice of various traditional and modern critical approaches to specific literary texts.

701. Seminar in Medieval French (3)
Prerequisites: Eighteen upper division units in French. Language and literature of the Middle Ages.

711. Seminar in Literature of the French Renaissance (3)
Prerequisite: Eighteen upper division units in French. Literature and thought of the 16th century as represented in the works of Rabelais, Montaigne, Ronsard, Du Bellay, etc.

721. Seminar in Seventeenth Century French Literature (3)
Prerequisite: Eighteen upper division units in French. Directed study in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

731. Seminar in Eighteenth Century French Literature (3)
Prerequisite: Eighteen upper division units in French. Directed study in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.
741. Seminar in Nineteenth Century French Literature (3)  
Prerequisite: Eighteen upper division units in French.  
Directed research in the works of a representative author, genre or movement. May be 
repeated with new content. See Class Schedule for specific content. Maximum credit six units 
applicable on a master's degree.

751. Seminar in Twentieth Century French Literature (3)  
Prerequisite: Eighteen units of upper division French.  
Directed research in the works of a representative author, genre or movement. May be 
repeated with new content. See Class Schedule for specific content. Maximum credit six units 
applicable on a master's degree.

796. Seminar in Topics in French Literature (3)  
Prerequisite: Eighteen upper division units in French.  
Study of movement, genre, theme, myth or individual author. May be repeated with new 
content. See Class Schedule for specific content. Maximum credit six units applicable on a 
master's degree.

798. Special Study (1-3) Cr/NC/SP  
Prerequisites: Advancement to candidacy and approval of graduate adviser.  
Individual study. Maximum credit three units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP  
Prerequisites: An officially appointed thesis committee and advancement to candidacy.  
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC  
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.  
Registration required in any semester or term following assignment of SP in Course 799A in 
which the student expects to use the facilities and resources of the university; also student must 
be registered in the course when the completed thesis is granted final approval.

Geography

Faculty
Lawrence R. Ford, Ph.D., Professor of Geography
Ned H. Greenwood, Ph.D., Professor of Geography
Ernest C. Griffin, Ph.D., Professor of Geography, Chair of Department
Warren A. Johnson, Ph.D., Professor of Geography
Elmer A. Keen, Ph.D., Professor of Geography
Bob R. O'Brien, Ph.D., Professor of Geography
Philip R. Pryde, Ph.D., Professor of Geography (Graduate Adviser)
Imre E. Quastler, Ph.D., Professor of Geography
Frederick P. Stutz, Ph.D., Professor of Geography
Richard D. Wright, Ph.D., Professor of Geography
Charles C. Yahr, Ph.D., Professor of Geography
James D. Block, Ph.D., Associate Professor of Geography
Barbara E. Fredrich, Ph.D., Associate Professor of Geography
David S. McArthur, Ph.D., Associate Professor of Geography
Douglas A. Stow, M.A., Assistant Professor of Geography
Edward Aguado, Ph.D., Lecturer in Geography

Assistantships
Graduate teaching assistantships and graduate nonteaching assistantships in geography 
are available to a limited number of qualified students. Application blanks and additional 
information may be secured from the department.

General Information

The Department of Geography, in the College of Arts and Letters, offers graduate study 
leading to the Master of Arts degree in Geography. In addition to the standard program, it is 
possible to pursue an emphasis in either conservation of environmental quality or 
transportation. 

The Master of Arts degree is designed to provide advanced training for (a) students who 
plan to terminate their graduate studies at the master's level, and (b) those who anticipate 
additional work leading to the doctoral degree in geography or related fields. 

Research and instructional facilities provided by the Department of Geography include an 
excellent map library, a research center, laboratories for physical geography, soils, cartography, 
meteorology, and remote sensing and aerial interpretation and equipment for field studies. The 
Social Science Research Laboratory, located adjacent to the Department, provides specialized 
data collections in the social sciences and a well-equipped data processing center.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with 
classified standing as described in Part Two of this bulletin. Candidates whose preparation is 
deemed insufficient by the graduate advising committee will be required to complete specified 
courses in addition to the minimum of 30 units required for the degree.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as stated 
in Part Two of this bulletin. In addition, the student must pass a comprehensive oral examination 
administered by the Department of Geography covering the basic elements of the discipline 
and his/her area of specialization.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic 
requirements for the master's degree as described in Part Two of this bulletin, the student must 
complete a graduate program of at least 30 units of upper division and graduate courses 
selected with the approval of the Graduate Advising Committee.
Standard Program

Students electing the standard geography program must complete at least 24 units selected from courses in geography listed below as acceptable on master's degree programs. The student's program must include a minimum of 18 units in 600- and 700-numbered geography courses including Geography 600 and 610. Students in the program may elect one of two plans, A or B, to complete the requirements for the degree. Plan A requires the writing of a thesis under Geography 799A as part of the outlined course program. If Plan B is elected, the student must complete two research papers, a minimum of three units in Geography 797, and pass a comprehensive written examination in lieu of the thesis.

Emphasis in Conservation of Environmental Quality

The requirements for students electing an emphasis in conservation of environmental quality are as follows:
1. A minimum of 30 units, including 18 units of 600- and 700-numbered courses.
2. Geography 600, 610, 670, and 671.
3. Twelve units of courses numbered 500 or above as approved by the Geography Department Graduate Advising Committee. A maximum of nine of these units may be in departments other than Geography.
4. Three units of 700 level independent study in a department and on a subject approved by the Graduate Advising Committee. Geography 795. Geographic Internship, may be included.
5. Geography 799A Thesis (3) Cr/NC/SP if following Plan A or Geography 797 Research (3) Cr/NC/SP if following Plan B.
6. A student should have completed a quantitative methods course prior to initiating the program, or take Geography 585, Quantitative Methods in Geographic Research (3), or an equivalent course, concurrently.

Emphasis in Transportation

The requirements for students electing an emphasis in transportation are as follows:
1. A minimum of 30 units including 15 units of 600- and 700-numbered courses.
2. Geography 600, 610, 658, and at least nine additional units to be taken from 500- and 600-level geography courses, as approved by the Graduate Advising Committee.
3. At least six units selected from:
   - Civil Engineering 620 Traffic Engineering (3)
   - Civil Engineering 622 Mass Transit Engineering (3)
   - Civil Engineering 781 Seminar in Transportation Engineering (2 or 3)
   - City Planning 730 Seminar in Urban Transportation Planning (3)
   - Geography 798 Special Study (3) Cr/NC/SP
4. Graduate or 500-level courses in other departments that are not listed above may be taken if approved by the Graduate Advising Committee.
5. Geography 799A Thesis (3) Cr/NC/SP if following Plan A or Geography 797 Research (3) Cr/NC/SP if following Plan B.
6. A student should have completed a quantitative methods course prior to initiating the program, or take Geography 585, Quantitative Methods in Geographic Research (3), or an equivalent course, concurrently.

Courses Acceptable on Master's Degree

Programs in Geography

**UPPER DIVISION COURSES**

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; interpretation 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)
- prerequisite: Geography 101.
- The nature, properties and distribution of soils and their relationships to the influence of climates, 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, edaphology and structure related to empirical phenomena through laboratory experimentation and observation. Best suited to concurrent enrollment in Geography 605. 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 relationships to human activities. Maximum credit three units.
- A. Lecture course (occasional field trips may be arranged)
- B. Fieldwork course

508. Physical Climatology (3)
- prerequisite: Geography 102.
- 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)
- 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, rehabilitating, 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.
556. Advanced Transportation Geography (3)
Prerequisite: Geography 359 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 370.
Human ecology related to resource geography. Occasional field trips may be arranged.

574. Water Resources (3) II
Prerequisite: Geography 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 370.
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 uses 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. Geocoding systems, automated land use, land cover and land capability mapping. Directed field work.
**Thesis Extension** (0)

Cr/NC

234 / Geography

Schedule for specific content. Maximum credit six units applicable on a master’s degree.

A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

675. Seminar in Recreational Geography (3)

Prerequisites: Geography 575 and approval of departmental graduate advisory committee.

Design and management of recreational areas. Emphasis on man-land relationship in natural parks of San Diego County. Maximum credit three units applicable on a master’s degree.

A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

680. Seminar in Cartography (3)

Prerequisites: One course in cartography and approval of departmental graduate advisory committee.

Use of the map in geographic analysis. Problems and recent trends in cartography. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

687. Seminar in Remote Sensing of the Environment (3)

Prerequisites: Geography 587.

The use of remote sensing techniques in the study of man’s cultural and biophysical environment.

689. Techniques of Field Research (3)

Three lectures and three hours of laboratory.

Prerequisites: Geography 589 and approval of departmental graduate advisory committee.

Detailed and reconnaissance field work including classification of natural and cultural features and preparation of geographical reports and maps based on field data. Maximum credit six units applicable on a master’s degree.

A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

795. Geographic Internship (3)

Prerequisites: Approval of departmental graduate advisory committee, and consent of instructor.

Students will be assigned to various government agencies and industry and will work under the joint supervision of agency heads and the course instructor. Maximum credit six units three units applicable on a master’s degree.

797. Research (1-3) Cr/NC/SP

Research in one of the fields of geography. Maximum credit six units applicable on a master’s degree.

798. Special Study (1-3) Cr/NC/SP

Prerequisite: Consent of staff, to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master’s degree.

799A. Thesis (3) Cr/NC/SP

Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master’s degree.

799B. Thesis Extension (0) Cr/NC

Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.
San Diego State University. Undergraduate grade point average should be at least 2.5, with a 2.75 in the last 60 units. Students with degrees in majors other than geological sciences may be admitted with postbaccalaureate standing while deficiencies are being remedied.

2. Have successfully completed all courses listed as deficiencies.
3. Have a minimum GRE General (Aptitude) Test combined verbal and quantitative score of 1000, with no less than 450 in either verbal or quantitative sections.
4. Have a minimum Advanced GRE Subject (Advanced) Test (Geology) score of 650.
5. Have a minimum GPA of 3.0 in any courses taken as a postbaccalaureate student at San Diego State University.
6. Have two letters of reference submitted by individuals familiar with their professional background. Letters should be sent to the Graduate Adviser, Department of Geological Sciences.

All student applications are evaluated competitively and no fixed numerical standards automatically qualify or disqualify a student for graduate study in the Department of Geological Sciences. Students will be admitted on the basis of merit in relation to space and faculty availability.

NOTE: Some students with bachelor's degrees in geological sciences may be admitted with postbaccalaureate standing for one semester only during which time they must take senior-level classes and earn at least a 3.0 GPA and complete any missing qualifications for graduate study (e.g., GRE scores).

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as stated in Part Two of this bulletin.

Specific Requirements for the Master of Science Degree

In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master's degree as described in Part Two of this bulletin. The student's graduate program must include 24 units of approved 600- and 700-numbered courses to include Geological Sciences 797 (3 units Corequisite), and 799A, TheSIS (3 units Corequisite). Candidates must include Geological Sciences 799A, TheSIS (3 units Corequisite), and six units of upper division or graduate electives approved by the departmental adviser. Geology Sciences 308 and 508 or their equivalent as approved by the graduate adviser, are required as a part of the program if they were not a part of the student's undergraduate work. The student is required to pass a final oral examination on the thesis.

Courses Acceptable on Master's Degree Program in Geological Sciences

UPPER DIVISION COURSES

502. Geology of North America (3) I
Prerequisite: Geological Sciences 105.
A regional analysis of North American geology, its structural, stratigraphic, and tectonic patterns and hypotheses concerning their origin and evolution.

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.
545. Descriptive Physical Oceanography (3) I
Prerequisites: Mathematics 121 and 122 or 150, Physics 180A or 195.

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, and forces and dynamics of estuarine circulations and tides.

550. Engineering Geology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 305.
Relationships between geologic processes and works of humans. Topics include rock and soil mechanics, ground water flow, slope stability, seismicity, land 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)
Prerequisite: 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

600. Seminar (1-3)
Refer to Class Schedule for lecture/laboratory format.
Prerequisite: Consent of instructor.
An intensive study in advanced geology. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

609. Igneous Petrology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 525.
Investigation of problems in igneous petrology, using petrography, geochemistry, and experimental methods.

611. Metamorphic Petrology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 525.
Investigation of problems in metamorphic petrology using petrography, geochemistry, and experimental methods.

612. Petrology of Carbonates (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 524.
Thin-section and hand-specimen description and classification of carbonate and other nonterrigenous rocks. Emphasis on recent depositional processes, texture analysis, paleoenvironment interpretation, and diagenesis.

615. Geology of Clays (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 526 or 530.
Systematic mineralogy of clays and routine methods of identification. Geologic interpretation of clay minerals with respect to environmental conditions or origin, deposition, and diagenesis.

620. Biostratigraphy (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 507.
Development of concepts and practices in stratigraphic and geochronologic synthesis critically reviewed in context of current knowledge of the fossil record.

625. Paleoeocology (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 506 and Biology 411.
Problems and methods in the study of relationships between fossil organisms and their environment: interpretation of paleoenvironment, paleoclimate, and biologic relationships among fossil organisms.

629. Seminar: Advanced Studies in Stratigraphy (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 507.
Regional stratigraphic patterns in North America and their historical implications.

630. Selected Topics in Geophysics (3)
May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

633. Quaternary Geology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 314.
Quaternary climate, geochronometric dating, and soil stratigraphy.

635. Petrology of Terrigenous Rocks (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 524.
Thin-section and hand-specimen description and classification of sandstones, conglomerates, and mudrocks. Emphasis on mineralogy, provenance, diagenesis, and paleogeographic reconstructions.

640. Geotectonics (3)
Prerequisite: Geological Sciences 305.
A consideration of topics on continental genesis and evolution, orogeny, plate tectonics theory, and a survey of classic geologic provinces.

642. Neotectonics (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 305 and 314.
Observation, interpretation and significance of late Quaternary crustal deformation.

645. Advanced Structural Geology (3)
Prerequisites: Geological Sciences 305.
Topics in advanced structural geology in the light of petrographic, geophysical, and experimental data, combined with classic field observations.

646. Plate-Tectonic Development of California (3)
Prerequisite: Geological Sciences 305.
Analysis of sequential genesis of major tectonic terranes of California. Problem-oriented literature study will integrate structural, stratigraphic, and geochronologic development of California.

651. Advanced Ground-Water Geology (3)
Prerequisites: Geological Sciences 551 and computer programming.
Advanced topics in ground-water geology. Topics may include numerical modeling of ground-water flow, dispersion and contaminant transport, flow in fractured media, waste disposal, salt water intrusion and control, and geology of geothermal systems.
653. Exploration Techniques in Ground-Water Geology (4)
   One lecture, three hours of laboratory, and twelve Saturday field sessions.
   Prerequisites: Geological Sciences 551 and either 230, 510 or 512.
   Practical techniques of ground-water exploration and resource evaluation. Topics may
   include geophysical techniques, field aquifer testing, hydrochemistry, surface hydrologic
   measurements, photo interpretation, surface mapping, and subsurface correlation.

655. Paleomagnetism and Plate Tectonics (3)
   Prerequisites: Geological Sciences 100 and Physics 180B or 196.
   Contribution of paleomagnetism to origin and current models of plate tectonics, estimating
   paleolatitude, magnetostratigraphy, and structural deformation. Review of rock magnetism,
   magnetic mineralogy, and the geomagnetic field.

660. Isotope Geology (3)
   Two lectures and three hours of laboratory.
   A survey of isotopic and geochronologic topics with individual projects in isotopic analysis.

669. Depositional Systems (3)
   Two lectures and three hours of laboratory.
   Prerequisites: Geological Sciences 506 and 507.
   Analysis of sedimentologic and biologic characteristics of sediments and applications to the
   interpretation of the sedimentary rock record.

675. Ground Water Geochemistry (4)
   Three lectures and three hours of laboratory.
   Prerequisites: Geological Sciences 530 and 551.
   Theory and practical application of chemical, diffusion, and dispersion processes to the
   natural evolution of ground water and contaminant transport in the ground water environment.
   Applications to geothermometry, toxic waste disposal, heat flow in geothermal systems, and
   sea water intrusion.

680. Sedimentary Geochemistry (3)
   Two lectures and three hours of laboratory.
   Prerequisite: Geological Sciences 530.
   Problems in low temperature geochemistry, including clay mineralogy and diagenesis.

685. Genesis of Ore Deposits (3)
   Two lectures and three hours of laboratory.
   Prerequisites: Geological Sciences 529, and Geological Sciences 530 or four units of
   physical chemistry.
   Application of mineralogy, petrography, and chemistry to an understanding of the origin of
   ore deposits.

797. Research (1-3) Cr/NC/SP
   Prerequisite: Consent of the department.
   Supervised research in an area of geology. Maximum credit six units applicable on a
   master's degree.

799A. Thesis (3) Cr/NC/SP
   Prerequisites: An officially appointed thesis committee and advancement to candidacy.
   Preparation of a thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
   Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
   Registration required in any semester or term following assignment of SP in Course 799A in
   which the student expects to use the facilities and resources of the university; also student must
   be registered in the course when the completed thesis is granted final approval.

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German

Faculty
Elaine E. Boney, Ph.D., Professor of German
Vytais Dukas, Ph.D., Professor of Russian and German
Harry W. Paulin, Ph.D., Professor of German (Graduate Adviser)
Steven C. Schaber, Ph.D., Professor of German and Classics
Yoshio Tanaka, Ph.D., Professor of German
William O. Westervelt, Ph.D., Professor of German
Julian H. Wulbern, Ph.D., Professor of German, Chair of Department
Harvey I. Dunke, Ph.D., Associate Professor of German

General Information*

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

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with
classified graduate standing, as described in Part Two of this bulletin. An undergraduate major
in German, including 24 upper division units, must have been completed.

Advancement to Candidacy

In addition to meeting the requirements for advancement to candidacy as described in Part
Two of this bulletin, students may be required to pass a qualifying examination in German given
by the Department of German and Russian Languages and Literatures.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic
requirements for the master's degree as described in Part Two of this bulletin, the student must
complete a graduate program of at least 30 units which includes at least 24 units in German, of
which at least 18 units must be in 600- and 700-numbered courses including German 601 and
799A. If Plan B is followed, the student must pass a comprehensive examination in lieu of
German 799A.

Courses Acceptable on Master's Degree

UPPER DIVISION COURSES

503. 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.

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.

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.

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**

600. Research and Criticism (3)  
Prerequisite: Twelve upper division units in German.  
Purposes and methods of research in the language and in the literature; theories and practice of literary criticism. Recommended for the first semester of graduate study.

601. History of the German Language (3)  
Prerequisite: Twelve upper division units in German.  
The historical development of the German language, with source readings from the Gothic Bible to Luther's translation of the Bible.

700. Seminar in Germanic Linguistics (3)  
Prerequisite: Eighteen upper division units in German.  
Directed research in a specialized area of Germanic linguistics or philology. Maximum credit nine units applicable on a master's degree.

750. Seminar in a Literary Genre (3)  
Prerequisite: Eighteen upper division units in German.  
Lecture, discussion, and research in a selected literary genre, e.g., lyric, drama, novel, or novella. Maximum credit nine units applicable on a master's degree.

760. Seminar in a Major Author (3)  
Prerequisite: Eighteen upper division units in German.  
Lecture, discussion and research in a selected major author. See Class Schedule for specific content. Maximum credit nine units applicable on a master's degree.

770. Seminar in Literary Movement or Theme (3)  
Prerequisite: Eighteen upper division units in German.  
Lecture, discussion, and research in a selected literary movement (e.g., Classicism, Romanticism) or theme. See Class Schedule for specific content. Maximum credit nine units applicable on a master's degree.

788. Special Study (1-3) Cr/NC/SP  
Prerequisites: Eighteen upper division units in German and consent of staff, to be arranged with department chair and instructor.  
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP  
Prerequisites: An officially appointed thesis committee and advancement to candidacy.  
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC  
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.  
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.
Health Science

Faculty
Stephen J. Bender, H.S.D., M.P.H., Professor of Health Science and Public Health
William C. Burgess, Ed.D., Professor of Health Science
Aubrey C. MacTaggart, Ph.D., Professor of Health Science
Walter D. Sorochan, H.S.D., M.P.H., Professor of Health Science
Warren D. Boskin, Ed.D., Associate Professor of Health Science, Chair of Department (Acting)
Lois P. Kessler, M.A., Associate Professor of Health Science
James V. Noto, H.S.D., Associate Professor of Health Science
David A. Sleet, Ph.D., Associate Professor of Health Science
Karen L. Senn, Ed.D., M.P.H., Assistant Professor of Health Science

Assistantships
Graduate teaching assistantships and graduate nonteaching assistantships in health science are available to a limited number of qualified students. Application blanks and additional information may be secured from the chair of the department.

General Information
The Department of Health Science, in the College of Human Services, offers advanced course work in health science. Graduate courses in health science may be used to fulfill requirements for advanced degrees in other departments with the approval of the student's graduate adviser.

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.

552. 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.

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.

575. 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 COURSE

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department special study adviser and instructor.
Individual study. Maximum credit six units applicable on a master's degree.
History

Faculty
- Dennis E. Berge, Ph.D., Professor of History, Chair of Department
- William F. Cheek, Ph.D., Professor of History
- Paocin Chu, Ph.D., Professor of History
- Alvin D. Cox, Ph.D., Professor of History
- Thomas R. Cox, Ph.D., Professor of History
- Roger L. Cunniff, Ph.D., Professor of History
- Thomas M. Davies Jr., Ph.D., Professor of Public History
- Robert C. Detweiler, Ph.D., Professor of History, Dean of the College of Arts and Letters
- Ross E. Dunn, Ph.D., Professor of History
- Jessie L. Flemion, Ph.D., Professor of History
- Charles D. Hamilton, Ph.D., Professor of History
- William F. Hanchett, Ph.D., Professor of History
- Neil M. Heyman, Ph.D., Professor of History
- Oddvar K. Hoidal, Ph.D., Professor of History
- Howard J. Kusner, Ph.D., Professor of History
- Robert L. Munter, Ph.D., Professor of History
- Albert C. O'Brien, Ph.D., Professor of History
- Richard H. Peterson, Ph.D., Professor of History
- William D. Phillips Jr., Ph.D., Professor of History, Graduate Coordinator
- Stanley J. Pincell Jr., Ph.D., Professor of History
- Richard T. Ruetten, Ph.D., Professor of History
- Arthur W. Schatz, Ph.D., Professor of History, Assistant Dean, Graduate Division and Research
- Charles D. Smith Jr., Ph.D., Professor of History
- Ray T. Smith Jr., Ph.D., Professor of History
- Raymond G. Starr, Ph.D., Professor of History, Public History Adviser
- Richard W. Steele, Ph.D., Professor of History
- Francis N. Sipes, Ph.D., Professor of History
- Douglas H. Strong, Ph.D., Professor of History
- Paul J. Vanderwood, Ph.D., Professor of History
- Persewing Tartanian, Ph.D., Professor of History
- David V. DuFaut, Ph.D., Associate Professor of History
- Robert E. Filner, Ph.D., Associate Professor of History
- Philip F. Flemion, Ph.D., Associate Professor of History
- Harry C. McDean, Ph.D., Associate Professor of History
- Rinaldo A. Oades, Ph.D., Associate Professor of History
- Francis M. Bartholomew Jr., Ph.D., Assistant Professor of History

MASTER OF ARTS DEGREES IN HISTORY AND TEACHING SERVICE

General Information
The Department of History, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in History and to the Master of Arts degree for teaching service with a concentration in History. Master of Arts degree in Public History and Certificate in Public History.

The Master of Arts degree is designed to provide advanced training for (1) students who plan to terminate their graduate studies at the master's level, and (2) those who anticipate further study leading to a doctorate degree in history or related fields. The Master of Arts degree in Public History is designed to prepare students for nonacademic careers in history.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. As an additional requirement, the student must have completed a bachelor's degree with an undergraduate major in history. Applicants who do not have an undergraduate major in history, may be admitted to conditionally classified graduate standing on the recommendation of the department, but they will be held responsible for completing the minimum requirements for an undergraduate major in history. The GPA required for admission to the M.A. program in history is 2.75 for the last 60 units of the student's undergraduate work and 3.0 in the major (not necessarily history), plus a score of 950 on the GRE General (Aptitude) Test. Students with a GPA in the major of 2.75-3.0 will be admitted if their score on the GRE General (Aptitude) Test is 1050 or better. Conditional admission is possible pending the taking of the Aptitude Test during the first semester of enrollment and the attainment of a satisfactory score.

Applications for the Fall Semester Should be Received By the Admissions Office and By the History Department by April 1. Applications for the Spring Semester Should be Received by the Admissions Office and By the History Department By November 1. Applications Can Be Submitted After These Dates but Admissions May Be More Restrictive in Light of Previous Acceptances.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as stated in Part Two of this bulletin, as well as the specific requirements of the department. All students should consult the graduate coordinator.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units which includes a major consisting of at least 24 units in history from courses listed below as acceptable on the master's degree programs, at least 18 units of which must be in 600- and 700-numbered courses. Students may elect either Plan A, the normal option, requiring a thesis, or, in special circumstances and with the prior approval of the graduate adviser and the student's major professor, Plan B, requiring a comprehensive written and oral examination in both a major and minor field of history chosen in consultation with the graduate adviser. Required courses are History 601; six units selected from History 610, 620, 630, 640, 650, or 660; three units selected from History 615, 625, 635, 645, 655; History 797; and History 799A for those students electing Plan A. Students approved for Plan B shall meet the same course requirements as those enrolling in Plan A except that they may enroll in History 796 (three units) and one additional three-unit history course numbered from 610 to 680. Students for History 797 and 799A. Candidates for this degree must demonstrate knowledge of either a relevant foreign language or an approved substitute in computer language or statistical methods. Other substitutes may be approved where the skills involved are directly related to the student's research interests. Course selection and programs must be approved by the Graduate Coordinator prior to the student's registration.

Specific Requirements for the Master of Arts Degree for Teaching Service
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units which includes a major consisting of at least 24 units in history from courses listed below as acceptable on the master's degree programs, at least 18 units of which must be in 600- and 700-numbered courses. Students may elect either Plan A, the normal option, requiring a thesis, or, in special circumstances and with the prior approval of the graduate adviser and the student's major professor, Plan B, requiring a comprehensive written and oral examination in both a major and minor field of history chosen in consultation with the graduate adviser. Required courses are History 601; six units selected from History 610, 620, 630, 640, 650, or 660; three units selected from History 615, 625, 635, 645, 655;
History 797; and History 799A for those students electing Plan A. Students approved for Plan B shall meet the same course requirements as those enrolling in Plan A, except that they must enroll in History 795 (three units) and one additional three-unit history course numbered from 610 to 680 in lieu of History 797 and 799A.

No foreign language competency is required in this degree option.

MASTER OF ARTS DEGREE IN PUBLIC HISTORY

General Information

The Master of Arts degree in public history prepares specialists in applied history, who will receive intensive training in basic methods and skills of history, and the application of those methods and skills to a variety of nonacademic careers. Core courses provide rigorous training in the methods of historical research, analysis, synthesis, and written and oral communication. Additional courses offer the opportunity to apply historical skills to a variety of career situations, such as archival management, editing, historical preservation, local history, and museum management. Internships will give the student the opportunity to apply and further develop these historical skills. Course selection and program development must be approved by the public history adviser prior to student's registration.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. As an additional requirement, the student must have completed a bachelor's degree with an undergraduate major in history. Applicants who do not have an undergraduate major in history may be admitted to conditionally classified graduate standing on the recommendation of the department, but they will be held responsible for completing the minimum requirements for an undergraduate major in history. The GPA required for admission to the M.A. program in public history is 2.75 for the last 60 units of the student's undergraduate work and 3.0 in the major (not necessarily history), plus a score of 950 on the GRE General (Aptitude) Test. Students with a GPA in the major of 2.75-3.0 will be admitted if their score on the GRE General (Aptitude) Test is 1050 or better. Conditional admission is possible pending the taking of the GRE General (Aptitude) Test during the first semester of enrollment and the attainment of a satisfactory score.

Admission to the Master of Arts degree in Public History includes meeting all the requirements listed above, plus evidence of character and commitment to public history. Applicants must submit with their application three letters of recommendation and a 500-word statement explaining their interest and plans in public history. Students will be admitted to the public history program in the fall semester only.

Admission to the program will be limited to the number of students for which adequate facilities are available. Students who do not meet all above requirements for admission with classified graduate standing may be admitted with conditionally classified graduate standing at the discretion of the graduate coordinator. Students so admitted will be advised as to the nature of their deficiency and the time to be allowed to achieve full classified graduate standing.

Advancement to Candidacy

In addition to meeting the general requirements for advancement to candidacy as described in Part Two of this bulletin, students must have completed at least two of the core courses with a minimum grade of B (3.0) in each course.

Specific Requirements for the Master of Arts Degree in Public History

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program which includes 27 academic course units (of which at least 18 must be in 600-700 numbered courses) plus 3 units of internship. The 27 academic units must be selected as follows:

1. History 701, 705, 715 (9 units).
2. Six units selected from History 720, 722, 724, or Geography 555.
3. Nine units selected from History 720, 722, 724, or Geography 555 if not used to satisfy category 2 above. Anthropology 560, 621 (when content is historical archaeology), Art 560, 576, 577, Accountancy 600, Finance 624, Management 621, 722, Educational Technology and Librarianship 544 and either 541, 553, or 571, Geography 570, 575, 654 (when content is applicable), 670, 671, 675, History 540, 541A-541B, 543A-543B, 544A-544B, 548A-548B, and when content is applicable, 630, 635, 680, Recreation 705; Public Administration 510, 570, 640 (when content is applicable); City Planning 610.

The Stott Scholarship, in the amount of $100, is awarded each June to a student who has attended San Diego State University for at least two years and who is being graduated or who has been graduated by San Diego State University with a major in history. The recipient must continue work in San Diego State University, or in any other accredited college or university, toward a higher degree or credential. The selection is made by the Department of History with approval of the Committee on Scholarships.

A Copley Scholarship of $200 is awarded annually to a graduate student who is writing a thesis on some aspect of San Diego history. Selection is made by the Department of History with the approval of the Committee on Scholarships.

Certificate in Public History

A Certificate in Public History is available for students working in public history positions who need additional training, or for students with a Master of Arts degree in History who want to broaden their job opportunities. Students who possess or are pursuing the Master of Arts degree in Public History are not eligible for admission to the Certificate in Public-History program.

Admission requirements for the certificate program include meeting the admission requirements of the University as described in Part Two of this bulletin. In addition to the above, a Master of Arts degree in History applicants without a Master of Arts degree in History must have a bachelor's degree with a major in History with a GPA of 2.75 for the last sixty units of their undergraduate work and a 3.0 in the major. Applicants with a master's degree in a field other than history, or an undergraduate major other than history, may be admitted conditionally with the recommendation of the department, but they must complete prerequisites as prescribed by the Public History Committee. To remain in the program and to earn the Certificate, a GPA of 3.0 must be maintained.

The certificate requires 15 units to include: 3 units from History 701, 705, 715; 3 units from History 720, 722, 724; or Geography 555; and 9 units from any courses listed as acceptable for the Master of Arts degree in Public History, selected in consultation with the Graduate Coordinator prior to registration.

Courses Acceptable on Master's Degree

UPPER DIVISION COURSES

Field (a). Ancient, Medieval and Early Modern Europe

500A-500B. Ancient History (3-3)
Semester I: Greece to the Roman Conquest. Semester II: Rome to the fifth century A.D.

501. History of Ancient Near Eastern Civilizations (3)
Major periods of Near East from the origin of civilization to Roman Conquest, including Egyptians, Babylonians, Hebrews and Persians. Social, political, and religious problems.

503A-503B. Europe in the Middle Ages (3-3)
European social, cultural, and political developments from the fall of Rome to the Renaissance.
History I 251

Field (b). Modern Europe

UPPER DIVISION COURSES

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.

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 1690 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. Scandanavia (3)
The major political, social and economic developments in Scandinavia from the Viking Age to the end of the Napoleonic Wars.

512B. The Age of Dictators and Contemporary Europe (3)
Europe in the age of dictatorship, world war, decline, and recovery.

513A. Scandinavia (3)
The major political, social and economic developments in Scandinavia from 1814 to the present.

513B. Modern Italy (3)
The development of Italy from 1815 to the present.

514A. The French Revolution and Napoleonic Era (3)
Prerequisites: History 105 and 106. France on the eve of the Revolution; the Great Revolution, 1789-1799, the Napoleon 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.

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)
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.

527A-527B. Diplomatic History of Modern Europe (3-3)
Diplomatic relations of the various European states with European and non-European powers. Semester I: From the Congress of Europe (1815) to the Era of Realpolitik in the late nineteenth century. Semester II: The diplomatic backgrounds 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 1350 to the beginning of Industrial Revolution. Semester II: From the Industrial Revolution to the present.

Field (c). United States

UPPER DIVISION COURSES

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 Since World War II (3)
Major foreign and domestic issues confronting the United States, and the government policies and popular movements generated in response.
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, communications, 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 rule. Emphasis on frontier institutions and Indian policy. Semester II: 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.

543A-543B. The City in American History (3-3) I, II
Development, character and role of city in American history. Through study of the city as a social/cultural-organization and political-economic center, course will examine urban institutions, populations, problems, values, decision making, services.

544A-544B. American Foreign Policy (3-3)
Semester I: The development of American foreign policy from the Colonial Period to the First World War. Semester II: Developments from the First World War to the present. This year course meets the graduation requirement in American history, institutions, and ideals.

545A-545B. Constitutional History of the United States (3-3)
American constitutional history since the establishment of the federal government. This year course meets the graduation requirement in U.S. Constitution and in American history, institutions and ideals.

546A-546B. Development of American Capitalism (3-3)
The changes in agriculture, industry, labor, banking, transportation and commerce in a capitalist society with emphasis on the prominent personalities who made the changes possible.

547A-547B. Intellectual History of the American People (3-3)
Survey of American thought from 1620 to the present, focusing on the ideas of individuals, groups and movements in religion, politics, society, the arts and reform. Emphasis on liberal and conservative impulses and their role in the making of the modern American mind. This year course meets the graduation requirements in American institutions, U.S. Constitution, and California state and local government.

548A-548B. Social History of the United States (3-3)
Historical survey of American society emphasizing demographic trends, the changing role of the family, social structure, immigration patterns, religious movements, developments in education, the economy and entertainment.

Field (d). Latin America
UPPER DIVISION COURSES

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 minoring in Portuguese.

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.

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.

556. Guerrilla Movements in Latin America (3)
History of sociopolitical conditions which culminated in guerrilla movements in twenty-century Latin America. Use of guerrilla writings and accounts as well as recent Latin American films and U.S. Defense Department counter-insurgency training films.

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.

Field (e). South, Southeast and East Asia
UPPER DIVISION COURSES

561A-561B. Asia and the West (3-3)
History of Asian-Western relations with emphasis on China and Japan. Semester I: Through the nineteenth century. Semester II: The twentieth century.

562. Civilization of India: The Great Traditions (3)
Prerequisite: History 115A-115B or 415A-415B
Semester I: Cultural traditions of Southeast Asian peoples. Indigenous institutions and the influence of China. India and Islam. Semester II: Southeast Asia in the modern world. Patterns of foreign stimulus and local response among the peoples of the area.

565. Revolution and Social Change in Asia (3)
Comparative study of contemporary problems in Asia emphasizing how indigenous peoples responded to the challenges of nationalism, reform, revolution, modernization, and neo-colonialism. Topics include social structure, education, peasant movements, urbanization, search for cultural identity, and national integration.

566. Chinese Civilization: The Great Traditions (3)
China's institutional and cultural development from ancient to premodern times. Emphasis on traditional philosophy, religions, literature, and the arts.

567. China's Century of Modernization (3)
China's modernization process from the early nineteenth century Opium War through the People's Republic of China.

568. Communist Party and the Chinese Revolution (3)
Mac and the evolution of Chinese Communist Party since 1920, including Red Army, rural soviet, socialist economic and cultural systems, and foreign policy.

569. Japanese Civilization (3)
Japanese internal history and institutions during the period of indigenous development and Chinese influence including religions, philosophy, literature and the arts.
570. Modern Japan (3)  
Japan's development as a modern state, particularly in the nineteenth and twentieth centuries.

Field (f). Africa and Middle East

UPPER DIVISION COURSES

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.

596. Selected Studies in History (1-4)  
Topics in the various fields of history, such as biography, war, science, technology, urbanization, minority groups, immigration and capitalism. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. See Class Schedule for specific content. Maximum credit six units.

GRADUATE COURSES

All graduate courses in the Department of History have a prerequisite of 12 units of upper division courses in history, or consent of the instructor.

601. Seminar in Historical Method (3)  
General historical bibliography. The use of libraries and archives. Methods of critical historical investigation. The interpretations of history.

610. Directed Reading in Ancient, Medieval and Early Modern European History (3)  
Prerequisite: Six upper division units in Ancient, Medieval and Early Modern European history.  
Selected readings in source materials and historical literature in a designated area of Ancient, Medieval and Early Modern European history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

615. Seminar in Ancient, Medieval and Early Modern European History (3)  
Prerequisite: Six upper division units in Ancient, Medieval and Early Modern European history and History 601.  
Directed research on topics selected from a designated area of Ancient, Medieval and Early Modern European history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

620. Directed Reading in Modern European History (3)  
Prerequisite: Six upper division units in European history.  
Selected readings in source materials and historical literature in a designated area of European history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

625. Seminar in Modern European History (3)  
Prerequisite: Six upper division units in European history and History 601.  
Directed research on topics selected from a designated area of European history. Maximum credit six units applicable on a master’s degree.

630. Directed Reading in United States History (3)  
Prerequisite: Six upper division units in United States history.  
Selected readings in source materials and historical literature in a designated area of United States history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

635. Seminar in United States History (3)  
Prerequisite: Six upper division units in United States history and History 601.  
Directed research on topics selected from a designated area of United States history. Maximum credit six units applicable on a master’s degree.

640. Directed Reading in Latin American History (3)  
Prerequisite: Six upper division units in Latin American history.  
Selected readings in source materials and historical literature in a designated area of Latin American history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

645. Seminar in Latin American History (3)  
Prerequisite: Six upper division units in Latin American history and History 601.  
Directed research on topics selected from a designated area of Latin American history. Maximum credit six units applicable on a master’s degree.

650. Directed Reading in Asian History (3)  
Prerequisite: Six upper division units in Asian history.  
Selected readings in source materials and historical literature in a designated area of Asian history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master’s degree.

655. Seminar in Asian History (3)  
Prerequisite: Six upper division units in Asian history and History 601.  
Directed research on topics selected from a designated area of Asian history. Maximum credit six units applicable on a master’s degree.

660. Directed Reading in Selected Topics (3)  
Prerequisite: Consent of the instructor.  
Selected readings in source materials and historical literature of various fields of history such as war, science, technology, urbanization, minority groups, immigration, capitalism, conservation, and imperialism. May be repeated with new content. See class schedule for specific content. Maximum credit six units applicable on a master’s degree.

701. Seminar in Methods of Public History (3)  
Prerequisite: Admission to the Public History program.  
Methods of historical research and writing. Focus on methods and techniques most relevant to applied history, such as quantitative history, oral history, cartography and social statistics.

705. Seminar in Local History (3)  
Prerequisite: History 701.  
Theories, sources and methods of local history, using San Diego as an example. Includes research paper on a local history topic.

715. Seminar in Public History (3)  
Prerequisite: History 706.  
Group research and writing on a topic typical of public history.

720. Archives and Records Management (3)  
Prerequisite: Consent of instructor.  
Archival methods for collection, preservation, organization, management, and use of written, visual, and audible forms.

722. Historical Museums (3)  
Prerequisite: Consent of instructor.  
General functions and administrative components of museums, with focus on historical museums.

724. Historical Editing (3)  
Prerequisite: History 601 or 701.  
Principles and techniques of historical editing.

730. Internship in Public History (3)  
Prerequisite: Advancement to candidacy.  
Students will work in a public history position under supervision of agency head and course instructor. No units applicable toward any other history degree.

795. Area Studies in History (1-3) Cr/NC  
Preparation for the comprehensive examinations in the major and minor fields of history for those students taking the M.A. under Plan B. Maximum credit three units applicable on a master’s degree.
797. Research (3) Cr/NC/SP
Prerequisite: Advancement to candidacy and written approval of the History Department
graduate coordinator.
Independent research in a specialized subject in history.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master’s degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master’s degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in
which the student expects to use the facilities and resources of the university; also student must
be registered in the course when the completed thesis is granted final approval.

Industrial Studies

Faculty
Gerald D. Bailey, Ed.D., Professor of Industrial Studies
Dennis A. Dirksen, Ed.D., Professor of Industrial Studies, Chair of Department
William D. Guentzler, Ph.D., Professor of Industrial Studies
Gerald K. Hamm, Ed.D., Professor of Industrial Studies (Graduate Adviser)
James D. McMullen, Ed.D., Professor of Industrial Studies
Donald W. Thiell, Ph.D., Professor of Industrial Studies
G. W. Bailey, Ed.D., Associate Professor of Industrial Studies
Alvin E. Lybarger, Ed.D., Associate Professor of Industrial Studies
Harold L. Marsters, M.A., Associate Professor of Industrial Studies
R. Harold McEowen, Ph.D., Associate Professor of Industrial Studies

Assistantships
Graduate teaching assistantships in industrial arts are available to a limited number of
qualified students. Application blanks and additional information may be secured from the chair
of the department.

General Information
The Department of Industrial Studies, in the College of Professional Studies and Fine Arts,
offers graduate study leading to the Master of Arts degree in Industrial Arts. The Department of
Industrial Studies makes it possible for students to gain advanced experiences in two of the
most modern industrial arts buildings in the West. Well-equipped instructional facilities are
devoted to work in woods, metals, power technology, graphic arts, electricity-electronics,
photography, industrial drawing, and industrial crafts.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with
classified graduate standing, as described in Part Two of this bulletin. In addition, the student
must have completed a bachelor’s degree with an undergraduate major in industrial arts.
Applicants who do not have an undergraduate major in industrial arts may be admitted to
conditionally classified graduate standing on the recommendation of the department, but they
will be held responsible for completing the minimum requirements for an undergraduate major
in industrial arts.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as
described in Part Two of this bulletin.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic
requirements for the master’s degree as described in Part Two of this bulletin, the student must
complete a graduate program of at least 30 units which includes a major consisting of a
minimum of 24 units in industrial arts from courses listed below as acceptable on the master’s
degree program. The program must contain at least 24 units of 600- and 700-numbered
courses, including Industrial Arts 720 and 790, nine units selected from Industrial Arts 721, 722,
723, and 724, and other Industrial Arts 790A (Plan A) or 795 (Plan B). Students electing Plan B
must pass a comprehensive examination upon completion of Industrial Arts 795 and in lieu of
the thesis.
Please note: Graduate classes in Industrial Studies are scheduled on a two year cycle. If a student plans to complete the degree in less than two years, the GRE General (Aptitude) Test must be taken and the graduate adviser consulted prior to admission to the program.

Courses Acceptable on Master's Degree Programs in Industrial Arts

**UPPER DIVISION COURSES IN INDUSTRIAL ARTS**

503. Advanced Industrial Crafts (3)
   - Six hours of laboratory
   - Prerequisite: Industrial Arts 402
   - Advanced techniques of industrial crafts. Concentration on the design of craft projects with best utilization of materials. Development, in at least three areas specified by the instructor, of individual exhibits showing originality.

517. Thermoset Plastics (3)
   - Six hours of laboratory
   - Prerequisite: Industrial Arts 115
   - Composition and selection of materials; evaluation of physical and mechanical properties of various thermoset plastics; special techniques for processing and production of thermoset plastics.

523. Industrial Arts Drawing (3) I, II
   - Six hours of laboratory
   - Prerequisite: Industrial Arts 121
   - Theory of conventional and high energy industrial forming processes augmented with laboratory forming experiences.

540. Photography for Teachers (3)
   - Six hours of laboratory
   - Designed for more mature students to learn photographic skills useful in teaching. Not open to students with credit in Industrial Arts 140 or Journalism 350.

542. Advanced Photography (3) I, II
   - Six hours of laboratory
   - Prerequisite: Industrial Arts 140 or 540
   - A consideration of advanced negative control, projection printing techniques, composition and editorial content, architectural and illustrative photography, and flood photographic techniques.

553. Construction Woodworking (3) I, II
   - Six hours of laboratory
   - Prerequisite: Industrial Arts 351
   - Residential building construction techniques, and advanced machine operations.

563. Industrial Control Circuits (3)
   - Six hours of laboratory
   - Prerequisite: Industrial Arts 361
   - Advanced problems in industrial electronics circuit development, analysis, theory and application.

573. Power Systems Accessories (3) I, II
   - Six hours of laboratory
   - Prerequisite: Industrial Arts 371
   - Study of accessory power systems and technological innovations in education and power related industries.

583. Industrial Arts Graphic Arts (3)
   - Six hours of laboratory
   - Prerequisite recommended: Industrial Arts 381
   - Advanced techniques in developing skills involved in graphic arts facilities.

**GRADUATE COURSES IN INDUSTRIAL ARTS**

598. Experimental Topics in Industrial Arts (1 or 2)
   - Prerequisite: Consent of instructor
   - Individual laboratory work on complex projects on an experimental basis. See Class Schedule for specific content. Limit of nine units of any combination of 298, 496, 598 courses applicable to a bachelor's degree. Maximum credit six units.

600. Seminar (3)
   - An intensive study in industrial arts; topic to be announced in the class schedule.

601. Advanced Research (3)
   - Prerequisite: Consent of instructor
   - Materials and advanced techniques of research in specific activity areas, such as (a) industry-electronics; (b) transportation; (c) general woodwork; (d) general metalworking; (e) plastics. Stress on project design and visual materials. May be repeated with new content. Maximum credit six units applicable on a master's degree.

720. History and Philosophy of Industrial Education (3)
   - A study of the philosophical foundations and development of industrial education and its continuing role in American culture. Contemporary practices and trends will be given consideration.

721. Curriculum Construction in Industrial Arts Education (3)
   - Selection of teaching content for school situations in compliance with the best known procedures regarding analysis, objectives, methods and learning, and development of instructional devices related directly to course content.

722. Instructional Resources for Industrial Arts Education (3)
   - Survey selection, and compilation of materials used in the development of resource units for instruction in industrial education, involving publications, organized talks, field trips, visual materials, technical literature and related materials. Organization and evaluation of such materials.

723. Evaluation in Industrial Arts Education (3)
   - Principles, methods, and criteria of evaluation including the special problems of measuring growth, achievement, and performance in various phases of industrial education.

724. Organization, Administration and Supervision of Industrial Education Programs (3)
   - The principles, objectives, methods and techniques employed in the supervision of industrial education programs. Emphasis on organizing and administering programs at all levels in industry and education.

790. Research Procedures in Industrial Arts (3)
   - Location, selection and analysis of scientific and professional literature, research data and specialized bibliographies.

795. Selected Topics in Industrial Arts (3)
   - Prerequisites: Industrial Arts 790 and advancement to candidacy for the Master of Arts degree.
   - Study in selected topics of industrial arts culminating in a research paper.

796. Field Work in Industrial Arts (3)
   - Prerequisite: Consent of instructor
   - Application of the principles of laboratory organization, management and planning in reference to the objectives of industrial arts in development of school programs.

798. Special Study (1-3) Cr/NC/SP
   - Prerequisite: Consent of staff. To be arranged with department chair and instructor.
   - Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
   - Prerequisites: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis is granted final approval.
Latin American Studies

Faculty

Joseph W. Ball, Ph.D., Professor of Anthropology
Ernesto M. Barrera, Ph.D., Professor of Spanish
Thomas E. Case, Ph.D., Professor of Spanish
Clay B. Christensen, Ph.D., Professor of Spanish
Norris C. Clement, Ph.D., Professor of Economics
Roger L. Cunniff, Ph.D., Professor of History
Thomas M. Davies Jr., Ph.D., Professor of History
Janet B. Esser, Ph.D., Professor of Art History
Victor Goldkind, Ph.D., Professor of Anthropology
Ernst C. Griffin, Ph.D., Professor of Geography
Ricardo Griswold del Castillo, Ph.D., Professor of Mexican-American Studies
Gerald L. Head, Ph.D., Professor of Spanish
Joseph B. Kelley, D.S.W., Professor of Social Work
George Lemus, Ph.D., Professor of Spanish
Brian E. Loveman, Ph.D., Professor of Political Science
L. Vincent Padgett, Ph.D., Professor of Political Science
Gustav V. Segade, Ph.D., Professor of Spanish
Malcolm N. Silverman, Ph.D., Professor of Spanish
Israel Unterman, D.B.A., Professor of Management
Raul J. Vanderwood, Ph.D., Professor of History
William Vega, Ph.D., Professor of Mexican-American Studies
Lawrence C. Watson, Ph.D., Professor of Anthropology
John R. Weeks, Ph.D., Professor of Sociology
James D. Blick, Ph.D., Associate Professor of Geography
Joseph A. Flahsen, Ph.D., Associate Professor of Mexican-American Studies
Philip E. Fleming, Ph.D., Associate Professor of History
Barbara E. Friedrich, Ph.D., Associate Professor of Geography, Graduate Coordinator
Barbara W. Hartung, Ph.D., Associate Professor of Journalism
Theodore V. Higgs, Ph.D., Associate Professor of Spanish
Will C. Kennedy, Ph.D., Associate Professor of Sociology
Joe D. Rodriguez, Ph.D., Associate Professor of Mexican-American Studies
Jose P. Villanueva, Ph.D., Associate Professor of Mexican-American Studies
Maria Barbara Watson, Ph.D., Associate Professor of Women's Studies
Raymond D. Wexler, Ph.D., Associate Professor of Spanish
Ronald R. Young, Ph.D., Associate Professor of Spanish
Stephen A. Colston, Ph.D., Academic Specialist, Center for Regional History
Ililana L. Sonntag, M.L.S., M.A., Latin American Studies Bibliographer

Committee on Latin American Studies

J. B. Esser
P. F. Fleminson
B. E. Friedrich

Thomas M. Davies Jr., Chair
E. C. Griffin
R. Griswold
T. V. Higgs
G. V. Segade
I. L. Sonntag
P. J. Vanderwood

General Information

The Master of Arts degree in Latin American Studies is an interdisciplinary degree offered by designated faculty members in the departments of Anthropology, Art, Economics, Geography, History, Political Science, Sociology, Spanish and Portuguese Languages and Literatures, and Women's Studies. It is administered by the Center for Latin American Studies.

The program is designed to provide a systematic advanced training (a) for those planning to enter business or government service in the Latin American field, and (b) for those in a specific academic discipline who have a regional interest in Latin America. It is not intended as a complete vocational preparation.

Admission to Graduate Study

In addition to the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must present the Bachelor of Arts degree with not less than 18 units of courses of Latin American content in three areas. A student whose preparation is deemed insufficient by his graduate adviser or by the Latin American Studies Committee will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, students must demonstrate an oral and reading proficiency in either Spanish or Portuguese through either the satisfactory completion of an oral and written examination or (1) satisfactory completion of Spanish 201 and 202, and a reading examination administered by the Department of Spanish and Portuguese Languages and Literatures, or (2) satisfactory completion of three units of upper division or graduate course work in Spanish or Portuguese. Course work at or above the 500 level may be included as a part of the official program with the approval of the graduate coordinator. Students are further encouraged to acquire a reading knowledge of the alternate language.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Two of this bulletin, the student must complete at least 30 units of upper division and graduate course work with not less than 24 units in courses of Latin American content selected from those listed below and distributed as follows:

| Department A | 6 units | 6 units |
| Department B | 6 units | 3 units |
| Department C | 3 units | 3 units |
| Total | 12 units | 12 units |

The total program shall include a minimum of 18 units in 600- and 700-numbered courses. Students may select either Plan A or Plan B in consultation with the graduate adviser. In addition to meeting the distribution requirements given above, students electing Plan A must complete the 799A (Thesis) course offered by the department selected for the 12-unit concentration (Department A). Students electing Plan B must pass a comprehensive written and oral examination in lieu of the thesis.

All programs will be approved by the Latin American Studies Committee.

Courses Acceptable on Master's Degree Programs in Latin American Studies

UPPER DIVISION COURSES

Latin American Studies Course

580. Special Topics (1-4)

Prerequisite: Six upper division units in Latin American content courses. 

An 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.

Anthropology Course

582.Regional Anthropology (3)*

* Acceptable when of relevant content
Art Courses

561. Art of Pre-Hispanic America (3)
562. Art of Latin America (3)

Economics Courses

562. International Economic Expansion and Dependence (3)
565. U.S.-Mexico Economic Relations (3)

Geography Courses

521. Urbanization and Modernization in Latin America (3)
522. Historical Geography of Latin America (3) (Offered at IVC only)

History Courses

538A. The American Southwest (3)
551A-551B. Mexico (3-3)
552. Brazil (3)
553. Caribbean Island Nations (3)
554. The Andean Republics of South America (3)
555. Modernization and Urbanization in Latin America (3)
556. Guerrilla Movements in Latin America (3)
557. History of Latin American Popular Culture and Social Thought (3)
558. Latin America in World Affairs (3)
596. Selected Studies in History (1-4)*

Political Science Courses

566. Political Change in Latin America (3)
567. Political Systems of Latin America (3)
568. The Mexican Political System (3)

Portuguese Course

535. Brazilian Literature (3)

Public Administration Course

580. Comparative Public Administration (3)

Sociology Courses

506. Modernization of Traditional Societies (3)
519. Topics in Comparative Societies (3)
558. Urbanization and Modernization in Latin America (3)

Spanish Courses

515A-515B. Mexican Literature (3-3)
520. Caribbean Area Countries Literature (3)
522. Andean Countries Literature (3)
524. River Plate Literature (3)
596. Selected Studies in Spanish (3)*

Telecommunications and Film Course

590. International Broadcasting (3)

GRADUATE COURSES

Latin American Studies Course

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with the director and instructor. Individual study. Maximum credit six units applicable on a master’s degree.

Anthropology Courses

600. Seminar (3)*
797. Research (3) Cr/NC/SP

* Acceptable when of relevant content.
Linguistics

Faculty
Thomas S. Donahue, Ph.D., Professor of Linguistics (Graduate Adviser)
Leonard H. Frey, Ph.D., Professor of Linguistics
Zev Bar-Lev, Ph.D., Associate Professor of Linguistics
Orin D. Seright, Ph.D., Associate Professor of Linguistics
Robert Underhill, Ph.D., Associate Professor of Linguistics
Charlotte Webb, Ph.D., Associate Professor of Linguistics, Chair of Department
Jeffrey P. Kaplan, Ph.D., Assistant Professor of Linguistics

Assistantships
Graduate teaching assistantships in linguistics are occasionally available to a limited number of qualified students. Application blanks and additional information may be obtained from the chair of the department.

General Information
The Department of Linguistics, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Linguistics. The program, interdisciplinary in nature, is designed to provide systematic advanced training in the field of linguistics, which is increasingly relevant to our humanistic-scientific culture.

Admission to Graduate Study
In addition to meeting the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must present the Bachelor of Arts degree in Liberal Arts and Sciences at San Diego State University, or an equivalent with a grade point average of 3.0 in the last 60 semester units attempted. A student whose preparation is deemed insufficient by his graduate adviser will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

Advancement to Candidacy
All candidates must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin. In addition, a reading knowledge of at least one foreign language must be demonstrated prior to advancement to candidacy.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Two of this bulletin, the student must complete at least 30 units of upper division and graduate course work to include the following required courses:

1. Linguistics 621, Phonology; and Linguistics 622, Advanced Syntax.
2. Three units of graduate seminar—Linguistics 756, Seminar in Linguistics.
3. From 9 to 18 units in linguistics from courses listed below as acceptable on master's degree programs.
4. A maximum of nine units selected from Anthropology 604; German 505, 510, 601, 700; Philosophy 531; Russian 580, 581, 610, 650A, 650B, 680; Spanish 610, 770; or other electives outside of linguistics approved by the graduate adviser.
5. Linguistics 799A, Thesis (3 units Cr/NC/SP).
6. At least 15 units, including the thesis, must be from 600- and 700-numbered courses. All programs will be approved by the graduate adviser.

Certificate in Applied Linguistics and English as a Second Language (ESL)
The Linguistics Department offers a Basic and an Advanced Certificate in Applied Linguistics and English as a Second Language (ESL). The Advanced Certificate requires 12 units to include Linguistics 525, 621, 622, and 650. The prerequisite to the Advanced Certificate is the Basic Certificate or its equivalent. Under certain circumstances comparable courses taken at other institutions may count towards the Certificate. Such courses must be evaluated and approved by the Certificate adviser. For information on the Basic Certificate, please see the General Catalog.

Courses Acceptable on Master's Degree Programs in Linguistics

UPPER DIVISION COURSES IN LINGUISTICS

520. Structure of English (3) I, II
The structure of modern English, including the various approaches to linguistic analysis.
521. Phonology (3) I, II
Pre-requisite: Linguistics 420 or 520.
Introduction to the theoretical principles of transformational-generative phonology.
522. Syntax (3) I, II
Pre-requisite: 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.
Introduction to the theoretical principles of transformational-generative semantics and pragmatics.
550. Theory and Practice of English as a Second Language (3) I, II
Pre-requisite: 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
Prerequisite: 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.
554. Linguistics and Computers (3) I, II
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.

593. 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.

German Courses
505. Applied German Linguistics (3)
510. German Phonetics (3)

Russian Courses
580. Russian Syntax and Stylistics (3)
581. Russian Phonetics and Morphology (3)

GRADUATE COURSES IN LINGUISTICS

610. Indo-European (3)
Prerequisite: Anthropology 304 or Linguistics 622
Phonology, morphology, and syntax of the Indo-European language community, with special attention to "Centum" and "Satem" relationships.

611. Early English (3)
Prerequisite: Linguistics 520 or 521
Phonology, morphology, and syntax of Old and/or Middle English. Reading and analysis of selected texts. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

621. Phonology (3)
Prerequisite: Linguistics 520 or 521
Phonetics, phonetic transcription, theories of phonology and phonological description.

622. Advanced Syntax (3)
Prerequisite: Linguistics 522
Advanced study of linguistic theory and its application to the analysis of English.

640. Field Methods in Linguistics (3)
Prerequisites: Three units of linguistics, including some knowledge of phonetic transcription and consent of instructor.
Principles and techniques of linguistic analysis working directly with native informants, including phonemic, grammatical, and syntactic analysis and text collection and interpretation.

650. Materials Development in Applied Linguistics (3)
Prerequisite: Linguistics 550.
Materials development and adaptation for teaching English as a second language and foreign language. Reading and composition in a variety of approaches.

660. History of Linguistics (3)
Prerequisite: Two courses in linguistics or equivalent background.
Background and development of modern linguistic theory.

750. Directed Language Study (3)
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 applying the techniques of intensive linguistic analysis to the syntax, phonology and semantic structure of that language. No instruction in speaking or understanding the spoken language is included in this course. Maximum credit six units applicable to a master's degree.

790. Bibliography and Methods of Linguistic Research (3)
Prerequisite: Twelve upper division units in linguistics.
Basic reference works, scholarly and critical journals; introduction to bibliographical techniques; exercises and problems in methods and exposition of research, including editorial procedures. Recommended for the first semester of graduate work.

795. Seminar in Linguistics (3)
Prerequisite: Completion of three units of 600- and 700-numbered courses in the master's program for linguistics.
Research in linguistics, course content varying according to instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the University; also student must be registered in the course when the completed thesis is granted final approval.

Anthropology Course
604. Seminar in Linguistics (3)

German Courses
601. History of the German Language (3)
700. Seminar in Germanic Linguistics (3)

Philosophy Course
631. Seminar in Semantics and Logical Theory (3)

Russian Courses
610. History of the Russian Language (3)
650A-650B Old Church Slavic (3-3)
680 Seminar in Slavic Linguistics (3)

Spanish Courses
610. History of the Spanish Language (3)
770. Applied Spanish Linguistics for Teachers (3)
Mass Communications

For faculty members in other departments participating in the degree program (Journalism, Psychology, Sociology, Speech Communication, and Telecommunications and Film), see the appropriate sections of this bulletin.

Faculty Committee for Mass Communications
Robert L. Benjamin, Ph.D., Professor of Speech Communication
Glen M. Broom, Ph.D., Professor of Journalism, Chair of Committee and Graduate Coordinator
Mohamed M. E. El-Assal, Ph.D., Professor of Sociology
Robert Penn, Ph.D., Professor of Psychology
Michael R. Real, Ph.D., Professor of Telecommunications and Film
John P. Witherspoon, M.A., Professor of Telecommunications and Film
Barbara W. Hartung, Ph.D., Associate Professor of Journalism
Myron W. Lustig, Ph.D., Associate Professor of Speech Communication

General Information
The Master of Science degree in Mass Communications is an interdisciplinary degree offered by designated faculty members of the departments of Journalism, Psychology, Sociology, Speech Communication, and Telecommunications and Film. It is administered by the Mass Communications Committee.

The program is designed to offer systematic training for students (1) who plan to continue their study in doctoral or other advanced programs in mass communications or in disciplines emphasizing areas of mass communications; (2) who plan a career in secondary or community college teaching; or (3) who seek a broad background for careers in the mass media, business, or government service.

Admission to Graduate Study
Students will be admitted to the graduate program in mass communications only after careful consideration of their qualifications by the Mass Communications Committee. Initial applications must be received prior to March 1 for the fall semester, and November 1 for the spring semester, in order to be considered.

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, a student applying for admission to the graduate program in mass communications must meet the following requirements:

1. A bachelor's degree in journalism, radio-television, advertising, communications, sociology, or psychology.
2. A grade point average of not less than 2.75 overall, and 3.0 in the last 60 units of the undergraduate program.
3. A minimum score (verbal and quantitative) on the GRE General (Aptitude) Test of 950.
4. Two copies of all undergraduate transcripts as required by Part Two of this bulletin.
5. Three letters of recommendation, one of which must be from an academic reference and another from an occupational reference.
6. A written personal statement by the applicant discussing background, interests, abilities, and career goals as they apply to the applicant's desire for an advanced degree, and in particular a graduate degree in mass communications.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin.

Specific Requirements for the Master of Science Degree
In addition to meeting the requirements for the Master of Science degree as described in Part Two of this bulletin, the student must complete a minimum of 30 units in coursework acceptable on master's degree programs. At least 18 units of the total program must be in courses numbered 600-799. Twenty-seven units must be distributed between two of the departments cooperating in the degree program, with 18 units in one department (Department A) and nine units in another (Department B). The remaining three units can be taken in any department (other than Department A), provided the units are acceptable for graduate credit in the department in which they are taken and approved by the student's graduate adviser and the Mass Communication Committee.

Of the 18 units taken in Department A, at least 12 units must be at the 600 and 700 levels. At least six units in Department B must be numbered 600 to 799. A student whose preparation is deemed insufficient by his adviser or by the Mass Communication Committee for graduate level study in his selected A and B departments will be given conditionally classified graduate standing. Students with conditionally classified graduate standing will be required to complete specified courses to remove any deficiencies in addition to the minimum of 20 units required for the degree. All such deficiencies must be completed within one year after admission to the graduate program and with a minimum grade average of "B" before the student will be given full classified graduate standing.

Candidates may elect to follow Plan A, requiring a thesis, or Plan B, which requires a comprehensive examination agreed upon by the Mass Communication Committee in lieu of the thesis.

All programs must be approved by both the A and B departments, and the Mass Communication Committee.

Courses Acceptable on Master's Degree Programs in Mass Communications

UPPER DIVISION COURSES

Journalism Courses

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.

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.

509. Research Methods in Mass Communication (3)
Prerequisites: Journalism 320 or 450 or 460 or 470 or 480. Upper division standing.

526. Advanced Editing Techniques (3)

One lecture and four hours of activity.

Prerequisite: Journalism 326.

Principles of typography, page and publication design, use of graphics and other pictorial material. Selection, evaluation, editing and display of news. Attention to electronic editing.
529. Investigative Reporting (3)
    One lecture and four hours of activity.
    Prerequisite: Journalism 320.
    Development of articles of substance and depth in specialized areas. Research, analysis
    and interpretation of complex issues in the news. Special problems of the sustained, reportorial
    effort. Field and laboratory practice.

585. Problems and Practices in Public Relations (3)
    Prerequisite: Journalism 481.
    Current public relations practices and problems in a wide variety of commercial, industrial,
    financial, governmental, cultural and social organizations.

Sociology Courses

General Sociology Area

520. Industrial Sociology (3)
521. Sociology of Occupations and Professions (3)
527. Political Sociology (3)
545. Sociology of Mass Communication (3)

Family and Intimate Relations Area

527. Sociology of Aging (3)

Health and Social Behavior Area

523. The Sociology of Mental Illness (3)
526. Sociology of Health and Illness (3)

Law and Society Area

510. Sociology of Deviance (3)
515. Criminology (3)

Social Change Area

519. Topics in Comparative Societies (3)
547. Protests, Reforms and Revolutions (3)
557. Urban Sociology (3)

Speech Communication Courses

530. Semantics (3)
535. Theories of Human Communication (3)
580. Communication and Politics (3)
589. Ethics of Speech Communication (3)
590. Empirical Study in Speech Communication (3)
592. Persuasion (3)

Telecommunications and Film Courses

500. Broadcast Management (3)
505. Government and Broadcasting (3)
510. Script Writing for Broadcasting and Film (3)
530. Radio Programming (3)
540. Broadcast Advertising (3)
570. Public Telecommunications (3)
580. Advanced Television Producing and Directing (3)
590. International Broadcasting (3)

GRADUATE COURSES

Journalism Courses

600A-600B. Seminar in Theory and Method of Mass Communications (3-3)
    Preparation in theory and research methods applicable to studies of the press, journalism
    and mass communication. Analysis of previous research, concepts, models and theory
    construction. Research design, observation, measurement and data analysis. (Formerly
    numbered Journalism 600.)

700. Seminar: Media Problems (3)
    Prerequisite: Six units in courses applicable to the Master of Science degree in mass
    communications. Reading, investigation, and research concerning current topics in problems of mass media.

702. Seminar: Mass Media and the Law (3)
    Prerequisite: Journalism 502 or Telecommunications and Film 505.
    Case studies of legal restrictions and guarantees affecting radio, television, motion pictures,
    advertising, and printed media.

703. Seminar: History of Journalism (3)
    Prerequisite: Journalism 503.
    Directed research on topics of history of American journalism.

705. Seminar in International Journalism (3)
    In-depth exploration of the foreign press and cross-cultural communication; the place of
    the press in national development and international stability, national images and world opinion,
    censorship, propaganda and other barriers to international understanding.

707. Seminar in Mass Communications and Public Opinion (3)
    Prerequisite: Journalism 509.
    Analysis of media and their opinion-shaping role; methods and effects of pressure groups;
    propaganda analysis; creation and perpetuation of images and stereotypes.

708. Seminar: Mass Communications and Society (3)
    Prerequisite: Journalism 406.
    Rights, responsibilities and characteristics of mass media and mass communications
    practitioners; characteristics and responsibilities of audiences and society.

740. Major Projects in Mass Communications (1-6)
    Prerequisite: Journalism 500 or Telecommunications and Film 540.
    Design and execution of an in-depth project in one of these areas: advertising campaign,
    series of detailed expository articles or news stories, or model public relations campaign. May
    be repeated with new content. Maximum credit six units applicable on a master's degree.

760. Seminar in Print Advertising Problems (3)
    Prerequisite: Journalism 463 or 466.
    Investigation of the practice, responsibility, and philosophy of advertising in print media
    with individual projects, cases, and current literature.

782. Seminar in Public Relations (3)
    Prerequisite: Journalism 585.
    Analysis and critique of contemporary public relations programs and theory Development
    of a comprehensive public relations project involving original research.

798. Special Study (1-3) Cr/NC/SP
    Prerequisite: Consent of staff; to be arranged with the department, chair and instructor.
    Individual study. Maximum credit six units applicable on a master’s degree.

798A. Thesis (3) Cr/NC/SP
    Prerequisite: An officially appointed thesis committee and advancement to candidacy.
    Preparation of a project or thesis for the master’s degree.

799B. Thesis Extension (0) Cr/NC
    Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP
    Registration required in any semester or term following assignment of SP in Course 799A in
    which the student expects to use the facilities and resources of the University; also student
    must be registered in the course when the completed thesis is granted final approval.

Psychology Courses

621. Seminar in Personality Psychology (3)
622. Seminar in Organizational Psychology (3)
700. Seminar (3)
745. Seminar in Social Psychology (3)
746. Seminar in Political Psychology (3)
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP
799B. Thesis Extension (0) Cr/NC
Sociology Courses

602. Advanced Research Methods: Core Course (3)
603. Advanced Social Psychology (Sociological Approaches): Core Course (3)
710. Seminar in Social Disorganization (3)
740. Seminar in Social Psychology: Sociological Approaches (3)
760. Seminar in Research Methods (3)
797. Research (3) Cr/NC/SP
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP
799B. Thesis Extension (0) Cr/NC

Mathematical Sciences

Sociology Courses

602. Advanced Research Methods: Core Course (3)
603. Advanced Social Psychology (Sociological Approaches): Core Course (3)
710. Seminar in Social Disorganization (3)
740. Seminar in Social Psychology: Sociological Approaches (3)
760. Seminar in Research Methods (3)
797. Research (3) Cr/NC/SP
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP
799B. Thesis Extension (0) Cr/NC

Speech Communication Courses

700. Seminar in Research and Bibliography (3)
706. Seminar in Organizational Communication (3)
730. Seminar in the Analysis of Language (3)
735. Seminar in Communication Theory (3)
775. Seminar in Intercultural Communication (3)
790. Seminar in Experimental Procedures in Speech Communication (3)
791. Seminar in Group Communication (3)
792. Seminar in Persuasion (3)
798. Special Study (1-3) Cr/NC/SP
799A. Thesis or Project (3) Cr/NC/SP
799B. Thesis or Project Extension (0) Cr/NC

Telecommunications and Film Courses

600. Seminar in Research and Bibliography (3)
602. Seminar in Mass Communication Theory (3)
610. Seminar in Writing for Broadcast and Film (3)
615. Seminar in Criticism of Broadcasting and Cinema (3)
620. Seminar in the Development of Telecommunications Systems (3)
640. Seminar in Broadcast Advertising Problems (3)
670. Seminar in Public Telecommunications (3)
680. Seminar in Programming and Production (3)
700. Seminar in Broadcast Management (3)
702. Seminar in Media Message Design and Production (3)
705. Seminar in Government and Broadcasting (3)
770. Seminar in Teaching Broadcast and Film (3)
798. Special Study (1-3) Cr/NC/SP
799A. Thesis or Project (3) Cr/NC/SP
799B. Thesis or Project Extension (0) Cr/NC

Mathematics and Applied Mathematics

602. Seminar in Research and Bibliography (3)
603. Seminar in Social Psychology (Sociological Approaches): Core Course (3)
710. Seminar in Social Disorganization (3)
740. Seminar in Social Psychology: Sociological Approaches (3)
760. Seminar in Research Methods (3)
797. Research (3) Cr/NC/SP
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP
799B. Thesis Extension (0) Cr/NC

Mathematics Education

Faculty

Computer Science

Sara Baase, Ph.D., Professor of Mathematics
Leland L. Beck, Ph.D., Professor of Mathematics
Nenad Marovac, Ph.D., Professor of Mathematics
Kasi Ananthanarayanan, Ph.D., Associate Professor of Mathematics
John L. Carroll, Ph.D., Associate Professor of Mathematics
John D. Donald, Ph.D., Associate Professor of Mathematics
Carl F. Eckberg, Ph.D., Associate Professor of Mathematics (M.S. Computer Science Graduate Adviser)
Vernor S. Vinge, Ph.D., Associate Professor of Mathematics
Sevki Serkan Erdogan, Ph.D., Assistant Professor of Mathematics
Goker Gursel, Ph.D., Assistant Professor of Mathematics

Mathematics and Applied Mathematics

Henry G. Bray, Ph.D., Professor of Mathematics
Ronald W. Davis, Ph.D., Professor of Mathematics
Edmund I. Deaton, Ph.D., Professor of Mathematics
Saul I. Drobinis, Ph.D., Professor of Mathematics
Kurt Eisenmann, Ph.D., Professor of Mathematics, Director of the University Computing Center
Francis J. Flanagan, Ph.D., Professor of Mathematics
Leonard D. Fountain, Ph.D., Professor of Mathematics
Betty B. Garrison, Ph.D., Professor of Mathematics
Herbert A. Gindler, Ph.D., Professor of Mathematics
Hung-Ta Ho, Ph.D., Professor of Mathematics
Colvin V. Holmes, Ph.D., Professor of Mathematics
Edgar J. Howard, Ph.D., Professor of Mathematics (M.A. Graduate Adviser)
Frank D. Lesley, Ph.D., Professor of Mathematics
James E. Ross, Ph.D., Professor of Mathematics
Daniel Saltz, Ph.D., Professor of Mathematics
Peter W. Shaw, Ph.D., Professor of Mathematics
Donald R. Short, Ph.D., Professor of Mathematics, Dean of the College of Sciences
Newton B. Smith, Ph.D., Professor of Mathematics
Arnold L. Villone, Ph.D., Professor of Mathematics
LeRoy J. Warren, Ph.D., Professor of Mathematics
Richard A. Hager, Ph.D., Associate Professor of Mathematics
William R. Hirtzman, Ph.D., Associate Professor of Mathematics
Genovero C. Lopez, Ph.D., Associate Professor of Mathematics
Bernard Marcus, Ph.D., Associate Professor of Mathematics
Peter Salmair, Ph.D., Associate Professor of Mathematics (M.S. Applied Mathematics Graduate Adviser)
David G. Whitman, Ph.D., Associate Professor of Mathematics

Mathematics Education

Gerald A. Becker, Ph.D., Professor of Mathematics
Nicholas A. Branca, Ed.D., Professor of Mathematics
Douglas B. McLeod, Ph.D., Professor of Mathematics (M.A.T. Graduate Adviser)
Wanda A. Marosz, M.A., Associate Professor of Mathematics, Executive Assistant to the President
Edward A. Silver, Ed.D., Associate Professor of Mathematics
Patrick W. Thompson, Ed.D., Assistant Professor of Mathematics

Statistics
Charles B. Bell, Ph.D., Professor of Mathematics (M.S. Statistics Graduate Adviser)
Joseph M. Moser, Ph.D., Professor of Mathematics
C. J. Park, Ph.D., Professor of Mathematics
Albert Romano, Ph.D., Professor of Mathematics
David L. Burdick, Ph.D., Associate Professor of Mathematics
David W. Macky, Ph.D., Associate Professor of Mathematics
Amanda L. Golbeck, Ph.D., Assistant Professor of Mathematics

Assistantships
Graduate teaching assistantships in mathematics are available to a limited number of qualified students. Application blanks and additional information may be secured from the chair of the department.

General Information
The Department of Mathematical Sciences, in the College of Sciences, offers graduate study leading to the Master of Arts degree in Mathematics, to the Master of Arts degree for teaching service with a concentration in Mathematics, to the Master of Science degree in Applied Mathematics, to the Master of Science degree in Statistics, and to the Master of Science degree in Computer Science.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, the student must have passed a qualifying examination in his/her area.

Specific Requirements for the Master of Arts Degree in Mathematics
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must meet the following requirements:

1. Complete 21 units in Mathematics and at most 6 from any other single department selected with prior approval of the Graduate Adviser. At least 15 units must be 600 level or higher.
   a. Twelve units must be selected from the four core courses: Mathematical Modeling (536); Optimization Theory (562); Numerical Analysis (693A or 541B); Statistics (699A or 551B).
   b. Three units must be selected from an applied mathematics project (798).
   c. The remaining units except on special approval must be selected from the following:
      i. Computer Science Related: 670A, 670B, 672, 675, 676, 576, 580, 693B, 700
      ii. Statistics Related: 553, 670B, 672, 675, 676, 576, 580, 693B, 700

2. Pass an examination demonstrating proficiency in the four core courses.

Specific Requirements for the Master of Science Degree in Computer Science
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must meet the following departmental requirements:

1. Complete 15 units of 600- and 700-numbered courses. At least 15 units must be 600 level or higher.
   a. Twelve units must be selected from the four core courses: Mathematical Modeling (536), Optimization Theory (562), Numerical Analysis (693A or 541B), Statistics (699A or 551B).
   b. Three units must be selected from an applied mathematics project (798).

2. Complete nine additional units of graduate level or approved upper division mathematics courses, not including Mathematics 799A.

3. Complete six units of approved electives.

4. Pass two written examinations as determined by the department.

5. Pass a final oral examination. With the approval of the department, a student may select Plan A. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.

in mathematics. The student's program must include at least 15 units in 600- and 700-numbered courses in mathematics. The student is required to pass the departmental comprehensive examinations in mathematics. With the approval of the department, a student may select Plan A. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.
Specific Requirements for the Master of Science Degree in Statistics

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must meet the following departmental requirements:

1. Complete 18 units of 600- and 700-numbered mathematics courses including:
   a. Mathematics 670A and 670B
   b. Six units selected from Mathematics 672, 673, 674, 675, and 677
   c. Six units of other 600- and 700-numbered mathematics courses, except that Mathematics 600, 602, and 799A may not be used to fulfill these units required.

2. Complete six additional units of graduate level or approved upper division mathematics courses, not including Mathematics 799A.

3. Complete six units of approved electives.

4. Pass the departmental comprehensive examinations in mathematical statistics. With the approval of the department, a student may select Plan A and complete Mathematics 799A. In other cases, Plan B will follow, and the student must complete three units of Mathematics 797.

Courses Acceptable on Master's Degree Programs in Applied Mathematics, Computer Science, Mathematics and Statistics

UPPER DIVISION COURSES IN MATHEMATICS

GENERAL

510. Introduction to the Foundations of Geometry (3) I
Prerequisite: Mathematics 122 or 142 or 151.
The foundations of Euclidean and hyperbolic geometries. Highly recommended for all prospective teachers of high school geometry.

511. Projective Geometry (3) I
Prerequisite: Mathematics 122 or 142 or 151 and consent of instructor.
A study of projective geometry, including theorems of Desargues, Pappus, and Menelaus. Not open to students with credit in Mathematics 331.

512. Non-Euclidean Geometry (3) I
Prerequisite: Mathematics 122 or 142 or 151.
A study of hyperbolic and elliptic geometries. Not open to students with credit in Mathematics 331.

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) I
Prerequisite: Mathematics 520A.
Jordan forms, vector and matrix norms, condition numbers, generalized inverses, linear programming, analysis of algorithms, and an introduction to linear algebra.

521A-521B. Modern Algebra (3-3) I, II
Prerequisites: Mathematics 142 or 152.
A study of abstract algebra, including groups, rings, and fields. Not open to students with credit in Mathematics 340A.

530. Differential Equations (3) I, II
Prerequisite: Mathematics 107 or 142 or 151.
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 331.
Study of boundary-value problems via separation of variables, eigenfunction expansions, Green's 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, theorems of Cauchy and 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 theorems of integral calculus. 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, Jacobian's, Green's and Stokes' Theorems.

535. Introduction to Topology (3)
Prerequisite: Mathematics 334A.
Topological spaces, functions, mappings, and homeomorphisms. Connectivity, compactness, metric spaces.

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.

551. 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)
Prerequisite: Mathematics 520A.
Formulation 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 108
Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Multilinked structures.

572. Programming Languages (3)
Prerequisite: Mathematics 108.
Formal definition of programming languages including specification of syntax and semantics. Structure of algorithmic languages. Special purpose languages.

573. Automata Theory (3)
Prerequisite: Mathematics 371 or 521A.
Definition and algebraic description of finite automata. Reduced forms for sequential machines. Regular sets and expressions. Introduction to context-free languages.

574. Introduction to Computability (3)
Prerequisite: Mathematics 371 or 523.
Definition of algorithm by abstract (Turing) machines and by recursion. Application of this definition to the limitations and capabilities of computing machines. Applications to logic, algebra, analysis.

575. Compiler Construction (3)
Prerequisites: Mathematics 570 and 572.

576. Artificial Intelligence (3)
Prerequisite: Mathematics 371 or 523.

577. Probability and Statistics (3)
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 596, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

COMPUTER SCIENCE

578. Algorithms and Their Analysis (3)
Prerequisite: Mathematics 570.
Algorithms for solving frequently occurring problems. Sorting, merging, fast matrix multiplication, graph problems (e.g., finding shortest paths), the assignment problem and others.

579. Combinatorics (3)
Prerequisites: Mathematics 122 or 142 or 151.
Permutations, combinations, generating functions, recurrence relations, inclusion-exclusion counting. Polya's theory of counting, other topics and applications.

580. Systems Programming (3)
Prerequisite: Mathematics 371 or 570.
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.

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)
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, DBTG, IMS, S2000, TOTAL); data security and integrity.
622. Theory of Fields (3)
Prerequisite: Mathematics 521B.
A study of both finite and infinite fields and field extensions.

623. Linear Algebra and Matrix Theory (3)
Prerequisite: Mathematics 520A.
A study of matrices, determinants, and vector spaces.

630A-630B. Functions of a Real Variable (3-3)
Point sets, functions and limits, continuity, differentiations, Riemann and Lebesgue integration.

631A-631B. Functions of a Complex Variable (3-3)
Prerequisites: Mathematics 532 and 534B. Mathematics 631A is prerequisite to 631B.
Analytic continuation, elliptic functions, conformal mapping, Riemann surfaces.

632. Theory of Computability and Algorithms (3)
Prerequisites: Mathematics 570, 572 and 573 or 574.
Definition of formal grammars; arithmetic expressions and precedence grammars, context-free and finite-state grammars. Algorithms for syntactic analysis. Relationship between formal languages and automata.

Prerequisites: Mathematics 570, 572 and 580.
Topics to include computer architecture, operating systems, performance analysis techniques, time sharing systems and security and protection of information.

633. Topology (3)
Prerequisites: Mathematics 535.
Metric spaces, separation axioms, product and identification spaces, homotopic maps and the fundamental group.

634. Mathematical Modeling (3)
Prerequisite: Mathematics 520A.
Advanced models from the physical, natural, and social sciences. Emphasis on classes of models and corresponding mathematical structures.

635. Functions of a Complex Variable (3-3)
Prerequisites: Mathematics 532 and 534B. Mathematics 631A is prerequisite to 631B.
Analytic continuation, elliptic functions, conformal mapping, Riemann surfaces.

636. Mathematical Modeling (3)
Prerequisite: Mathematics 520A.
Advanced models from the physical, natural, and social sciences. Emphasis on classes of models and corresponding mathematical structures.

642. Optimal Control Theory (3)
Prerequisites: Mathematics 562.
Convexity, advanced topics in duality in finite dimensions, calculus of variations, optimal control theory and dynamic programming.

662. Distributed Systems (3)
Prerequisite: Mathematics 572.
Principles of distributed systems; mechanisms for interprocess communication; rules for distribution of computer software and data.

663. Topology (3)
Prerequisites: Mathematics 535.
Metric spaces, separation axioms, product and identification spaces, homotopic maps and the fundamental group.

682. Seminar (1-3)
Prerequisite: Consent of instructor.
An intensive study in advanced mathematics. May be repeated with new content. Topic to be given the

700. Applications of Computer Science (3)
Prerequisite: Classified graduate standing in mathematics of computer science.
Topic to be chosen from such applications as theorem proving simulation, learning theory, graphics, definition languages. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisite: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university. Also student must be registered in the course when the completed thesis or project is granted final approval.

MATHEMATICS EDUCATION

600. Geometrical Systems (3)
Prerequisites: Mathematics 521A and an upper division course in geometry.
Onedimensional, affine, and non-Euclidean geometries, decompositions, dilations. Projectivities and projective space. Absolute geometry, isometries, groups generated by inversions.

601. Topics in Algebra (3)
Prerequisites: Mathematics 521A and 534A.
Unique factorization domains, rings and ideals, groups, algebraic field extensions. A course designed for secondary school teachers.

602. Topics in Analysis (3)
Prerequisites: Mathematics 521A and 534A.
Topics in analysis, including real number system, convergence, continuity, differentiation, the Riemann-Stieltjes integral, complex analysis, designed to give the secondary teacher a broad understanding of the fundamental concepts.
STATISTICS

670A-670B. Advanced Mathematics Statistics (3-3)
Prerequisites: Mathematics 534A and 550 or 551A. Mathematics 670A is prerequisite to 670B.
Distribution of random variables, characteristic functions, limiting distributions, sampling distributions. Hypothesis testing and estimation: optimality considerations, applications of the linear hypothesis, invariance and unbiasedness to analysis of variance and regression problems; sequential techniques, decision theory.

671. Statistical Computing (3)
Prerequisites: Mathematics 551B, 554, 583.
Machine computation of various entities related to development, application, and evaluation of advanced statistical techniques. Multivariate probability integrals; power functions; multiway contingency tables; advanced nonparametric statistics simulation; random number generation; Monte Carlo methods.

672. Nonparametric Statistics (3)
Prerequisite: Mathematics 551B.
Tolerance regions, randomness problems, most powerful rank tests, the invariance methods, consistency and efficiency of tests.

673. Sample Surveys (3)
Prerequisite: Mathematics 551A.
The methods and applications of sample surveys, stratification and sampling, subsamples of clusters.

674. Multivariate Analysis (3)
Prerequisites: Mathematics 520A and 551B.
Multivariate normal distributions, multivariate analysis of variance, factor analysis, canonical correlation.

675. Linear Statistical Hypothesis Testing (3)
Prerequisites: Mathematics 520A and 551A.
The multivariate normal distribution; distribution of quadratic forms; linear and curvilinear models; general linear hypothesis of full rank, regression models.

677. Design of Experiments (3)
Prerequisites: Mathematics 520A and 551A.
Experimental design models, a basic approach as well as a matrix algebra approach.

678. Statistical Analysis of Large Data Sets (3)
Prerequisites: Mathematics 551B, 554, 570.
Collection, storage and retrieval for large data sets. Classical nonparametric and robust statistical techniques employed in conjunction with advanced research designs and advanced sampling protocols.

Microbiology

Faculty
William L. Baxter, Ph.D., Professor of Microbiology
Harold B. Moore, Ph.D., Professor of Microbiology, Chair of Department
James F. Steenbergen, Ph.D., Professor of Microbiology (Graduate Adviser)
Henry A. Walsh Jr., Ph.D., Professor of Microbiology
Barbara B. Hemmingsen, Ph.D., Associate Professor of Microbiology
Leroy N. Pheips, Ph.D., Associate Professor of Microbiology

Assistantships
Graduate teaching assistantships in microbiology are available to a limited number of classified graduate students. Application blanks and additional information may be secured from the Graduate Adviser of the Department of Microbiology.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. To qualify for admission to classified graduate standing in the Department of Microbiology the student must also:
1. have completed the minimum requirements equivalent to the baccalaureate degree in microbiology at San Diego State University.
2. have an undergraduate grade point average of 2.75 or better, or demonstrate the ability to do superior graduate work.
3. have a grade point average of 3.0 or better in upper division courses (at least 24 units) acceptable for the major.
4. have a score of 1100 or better for the combined verbal and quantitative portions of the GRE General (Aptitude) Test.
5. pass a comprehensive departmental written and oral examination after all other requirements for classification have been completed.
6. submit two references from science faculty members attesting to capability to do graduate work in microbiology.
7. have been accepted by a research adviser in the Department of Microbiology who can supply the necessary space and guidance.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin.

Specific Requirements for the Master of Science Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least thirty units of upper division and graduate courses selected, with the approval of the graduate adviser, from the biological sciences as listed below or from closely related fields. Not less than 18 units must be selected from courses offered in the Department of Microbiology to include not less than 15 units of 600- and 700-numbered courses. Among the 600- and 700-numbered courses selected, the student's program must include courses Microbiology 790, Bibliography; 791, Research Techniques; 799A, Thesis or Project, and at least four units of seminar. A maximum of six units of the required 30 units may be selected from acceptable courses offered in other related areas including the College of Education. A final oral examination on the field of the thesis and its implication in the broad fields of microbiology is required.
Courses Acceptable on Master's Degree Programs in Microbiology

UPPER DIVISION COURSES

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) II
Prerequisite: 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.

515L. Bacterial and Viral Genetics Laboratory (2) I, II
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Microbiology 515.
Experimental techniques in prokaryote and bacteriophage genetics.

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.
Mycotic 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.
Virology, 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.
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Chemistry Courses

501. Chemical Oceanography (3)
550. Instrumental Methods of Chemical Analysis (2)
577. Radiochemical Analysis (4)

Zoology Courses

508. Histology (4)
522. Special Topics in Entomology (3-4)
526. Medical Entomology (4)
535. Parasitology (4)

GRADUATE COURSES IN MICROBIOLOGY

600. Seminar (2-3)
Prerequisite: Consent of instructor.
An intensive study in advanced microbiology; topic to be announced in the Class Schedule.
May be repeated with new content. Maximum credit six units applicable on a master's degree.

610. Seminar in General Microbiology (2)
Prerequisite: Microbiology 505 or 510.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

620. Seminar in Microbial Physiology (2)
Prerequisite: Microbiology 505.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

630. Seminar in Immunology and Serology (2)
Prerequisite: Microbiology 540.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

650. Seminar in Pathogenic Bacteriology (2)
Prerequisite: Microbiology 520.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

660. Seminar in Medical Mycology (2)
Prerequisite: Microbiology 525.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

670. Seminar in Virology (2)
Prerequisite: Microbiology 535.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

680. Seminar in Aquatic Microbiology (2)
Prerequisite: Microbiology 505 or 560 or Biology 531.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

720. Advanced Pathogenic Bacteriology (3)
Prerequisites: Microbiology 520 and consent of instructor.
Biological and chemical nature of disease-producing bacteria. Application of experimental information to diagnostic laboratory procedures.

725. Biology of Animal Pathogenic Fungi (3)
Prerequisite: Microbiology 525.
Distribution and pathogenesis of fungi-causing disease in man and other animals.

790. Bibliography (1)
Use of basic reference books, journals, pertinent bibliographies preparatory to the writing of a master's thesis.

791. Research Techniques (3)
Prerequisites: Major in a biological science and two upper division courses in the area of microbiology or consent of instructor.
Analysis of research procedures in microbiology.

797. Research (1-3) Cr/NC/SP
Research in one of the fields of microbiology.
Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval.

Biology Courses

601. Seminar in Phycology (2)

602. Seminar in Mycology (2)

Botany Courses

640. Seminar in Genetics (2)

672. Molecular Biophysics (3)

Chemistry Courses

760. Advanced Topics in Biochemistry (1-3)

762. Enzymology (2)

763. Cellular Regulation (2)

764. Membrane Biochemistry (3)

767. Advanced Biochemical Techniques (2)
Scholarships

Scholarship Committee, Music Department, San Diego State University. The department is a member of the National Association of Schools of Music.

Administrative Office, 40-1145

Graduate study leading to the Doctor of Music is offered as a terminal degree and as a degree that can be transferred to other programs of study. The program is designed for students who wish to make significant contributions to music education and to the advancement of the field of music. The program is designed for students who wish to make significant contributions to music education and to the advancement of the field of music.

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program which includes a major consisting of at least 24 units from courses listed below as acceptable on master's degree programs in music, of which at least 18 must be in 600- and 700-numbered courses.

Students whose emphasis is in musicology, music history and literature, theory, and music education, in which case the student is required to enroll in Music 690 and 799A. Thesis or Project, and to pass a final oral examination on the thesis.

Students whose emphasis is in performance may elect Plan A, and in lieu of the comprehensive examination, choose to give a full recital, or a lecture-recital with a supporting document in thesis form, which is presented to the Department of Music. A maximum of 4 units of Music 650 is applicable on the degree. Students should check the department's guidelines, rules, and procedures.

Students whose emphasis is in composition may elect either Plan A which requires enrollment in Music 799A and submission of an extended original composition in the form of a project with analysis, or Plan B whereby the student will present a full recital of original compositions in lieu of the comprehensive examination.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must satisfy the following requirements:

1. As a part of the application for admission to the University, applicants will submit a one-page statement to set forth aims and goals in their graduate studies.
2. Applicants who plan to emphasize music education will be required to provide evidence of successful teaching experience or submit letters from two master teachers or supervisors of practice teaching.
3. Applicants admitted to the department will be accepted with conditional graduate standing. Placement examinations will be administered in music history, music theory, and performance studies. Normally two semesters will be allowed to remove deficiencies indicated by the examinations through no-credit remedial work in the form of undergraduate courses or other projects and instruction.

In addition to the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, students must satisfy the following requirements before they will be recommended for classified graduate standing.

1. Complete a bachelor's degree with a major in music including full preparation in performance, theory, music history and literature, or hold a bachelor's degree from an accredited institution and present sufficient evidence of study and experience in music to demonstrate the equivalency of a bachelor's degree with a major in music.
2. Satisfactorily complete placement examinations in theory, music history and literature, and performance. Details may be obtained from the Department of Music.
3. Be accepted in the degree and emphasis of their choice by the departmental graduate committee.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin, and must have removed any deficiencies assigned on the basis of the placement examinations.

Specific Requirements for the Master of Music Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program which includes a major consisting of at least 24 units from courses listed below as acceptable on master's degree programs in music, of which at least 18 must be in 600- and 700-numbered courses.

Plan A is required of those students whose emphasis is in musicology, music history and literature, theory, and music education, in which case the student is required to enroll in Music 690 and 799A. Thesis or Project, and to pass a final oral examination on the thesis.

Students whose emphasis is in performance may elect Plan B, and in lieu of the comprehensive examination, choose to give a full recital, or a lecture-recital with a supporting document in thesis form, which is presented to the Department of Music. A maximum of 4 units of Music 650 is applicable on the degree. Students should check the department's guidelines, rules, and procedures.

Students whose emphasis is in composition may elect either Plan A which requires enrollment in Music 799A and submission of an extended original composition in the form of a project with analysis, or Plan B whereby the student will present a full recital of original compositions in lieu of the comprehensive examination.

Specific Requirements for the Master of Music Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units from courses listed below as acceptable on master's degree programs in music, of which at least 18 must be in 600- and 700-numbered courses.

Music 650 (9 units), Advanced Performance Studies, and Music 767 (3 units), Graduate Recital project with analysis, or Plan B whereby the student will present a full recital of original compositions in lieu of the comprehensive examination.

Courses Acceptable on Master's Degree

Program in Music

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.

A. Piano
B. Strings
C. Voice

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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 358B. 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 musicoqupological resources through individual assignments.

553. Proseminar in Ethnomusicology (3) I
Prerequisite: Music 258B.
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 268A.
A concentrated study of the literature in the several areas listed. Analysis by use of scores and of recordings, when available.
A. Chamber Music Literature (See Class Schedule for specific content.)
B. Symphonic Literature (See Class Schedule for specific content.)
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 the performance of specialized traditional genres of world music, social and environmental context in which they exist. Relationship of music, dance, and theater. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

566A-566B. Jazz Arranging and Composition (2-2) I, II
Prerequisite: Music 466.
Analysis of jazz compositions and arrangements; arranging and composing for large and small jazz ensembles.

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 repertoire 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 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES

600. Seminar in Music Education (3)
Prerequisite: Consent of instructor.
Seminars in music education are offered to provide an opportunity for concentrated study in the several areas listed.
A. Development and Teaching of Strings
B. Choral and Vocal Techniques
C. General Music

601. Seminar in Foundations of Music Education (3)
History and philosophy of music education in relation to current trends in the teaching of music.

602. Seminar in Administration and Supervision of Music Education (3)
Curriculum, scheduling, finance, human relations, organizational aspects, and the role of the supervisor-consultant.

604. Seminar in Comparative Music Education (3)
Various international philosophical and technical approaches to teaching music to include the Orff, Kodaly, Suzuki and other systems.

607. Seminar in Composition (2-3)
Three hours of laboratory and public performance of an extended original work as a project.
Prerequisite: Music 507.
Advanced composition for various media, development of original idioms, intensive study of modern music.

608. Seminar in History and Development of Music Theory (3)
Prerequisite: Music 552B.
Survey of important theoretical approaches to music from pre-Socratic writers to the present.

609. Theory and Methodology in Ethnomusicology (3)
Prerequisite: Music 553.
A. Notation and Transcription. World systems of musical notation. Transcription practice in a variety of styles.

611. Seminar in Analytical Studies of Music (3)
Melodic, formal, contrapuntal and harmonic analysis of music.

613. Seminar: Music Theory (3)
Prerequisite: Consent of instructor.
Principles of traditional harmony and ear training.

614. Seminar in Electronic Music (3)
Prerequisite: Undergraduate concentration in composition.
Theory, techniques and composition of various kinds of electronic music.

648A. Seminar in Advanced Choral Conducting (2)
Prerequisite: Music 449A.
Course designed to develop skills at professional level; study of different styles of choral literature and their relationship to conductor's art; score analysis and experience in conducting.

648B. Seminar in Advanced Instrumental Conducting (2)
Prerequisite: Music 449A.
Course designed to develop skills at professional level; study of conducting style as related to band and orchestra literature; score analysis and experience in conducting.
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650. Advanced Performance Studies (2) (1-3 units for 650D) (3 units for Master of Music candidates)
Fifteen one-hour private lessons (2 units); twenty-two hours private lessons (3 units).
Prerequisite: Audition before music faculty. Music 650D for one unit limited to MFA in Drama students.
Advanced studies in technical, stylistic and aesthetic elements of artistic performance culminating in a graduate recital. Maximum credit nine units, four of which are applicable on a master of music degree.
A. Piano
B. Harpsichord
C. Organ
D. Voice
E. Flute
F. Oboe
G. Clarinet
H. Saxophone
I. Medieval or Renais. Instruments
J. Bassoon
K. French Horn
L. Trumpet
M. Trombone
N. Baritone Horn
O. Tuba
P. Percussion
Q. Violin
R. Viola
S. Cello
T. Contrabass
U. Harp
V. Classical Guitar
X. Classical Accordion
Y. Composition
Z. Non-Western Instruments

652. Seminar in Music History (3)
Prerequisites: Music 552B and consent of instructor.
Seminars in music history are offered for intensive study in each of the historical eras as listed below.
A. Music of the Middle Ages and Renaissance
B. Music of the Baroque Era
C. Music of the 18th and 19th Centuries
D. Twentieth Century Music
E. American Music

655. Seminar in Musicology (3)
Prerequisite: Music 552B.
Problems and research in musicology. Projects in bibliography, source materials, music history, criticism, aesthetics and related fields. Writing and presentation of a scholarly paper.

656. Seminar in Ethnomusucology (3)
Prerequisite: Music 553.
Variable topics. Maximum credit nine units applicable on a master's degree.

658. Comprehensive Musicianship Practicum (3)
One lecture and six hours of activity.
Prerequisite: Completion of undergraduate CM requirements, and consent of CM Director. Students will be assigned to different sections of undergraduate Comprehensive Musicianship as instructional assistants under staff supervision. Maximum credit six units applicable on a master's degree.

660. Seminar: A Major Composer (3)
Prerequisite: Music 552B. Completion of a seminar in Music 652A is recommended. The life, milieu and works of a major composer, such as Bach, Mozart or Schubert will be studied. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

665. Seminar: Notation of Polyphonic Music (3)
Prerequisite: Music 552B. Completion of Music 652A is recommended. Selected problems related to the notation of Medieval, Renaissance, and Baroque music: Scores and Tablatures; White Mensural Notation; Black Notation to the End of Francoist Notation; French, Italian, Mixed and Mannered Notation. Examples will be transcribed into modern notation. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

670. Seminar: Interpretation of Early Music (3)
Prerequisites: Completion of Music 652A and 652B is recommended. Performance practice in Medieval, Renaissance and Baroque music; projects in music editing; reports; performance on historical instruments. Participation in the Collegium Musicum required.

690. Seminar in Research Procedures in Music (3)
Reference materials, bibliography, investigation of current research in music, processes of thesis topic selection and techniques of scholarly writing.
Natural Science

Faculty
Norman F. Dessel, Ph.D., Professor of Natural Science (Graduate Adviser)
Michael J. Dowler, Ph.D., Professor of Natural Science
Dale E. Ingmarson, Ed.D., Professor of Natural Science, Chair of Department
Robert P. Metzger, Ph.D., Professor of Natural Science
Charles F. Phleger, Ph.D., Professor of Natural Science
Elsa Fisher, Ph.D., Associate Professor of Natural Science
Thomas L. May, Ph.D., Associate Professor of Natural Science
Arthur Springer, Ph.D., Associate Professor of Natural Science
William J. Wallace Jr., Ph.D., Associate Professor of Natural Science
Willis H. Thompson Jr., M.A., Assistant Professor of Natural Science

Assistantships
Graduate teaching assistantships in natural science are available to a limited number of qualified students. Application blanks and additional information may be secured from the chair of the department.

General Information
The Department of Natural Science, in the College of Sciences, offers advanced course work in natural science. Graduate courses in natural science may be used to fulfill requirements for advanced degrees in other departments with the approval of the student's graduate adviser.

UPPER DIVISION COURSES IN NATURAL SCIENCE

500. Seminar in Curriculum and Instruction in Science (3)
Prerequisite: Secondary Education 400.
Factors directing the changing science curriculum in secondary schools; recent trends and current research in the teaching of science in secondary schools and in science curriculum development. Current practices in science teaching in secondary schools.

596. Special Topics in Natural Science (1-4) I, II, S
Selected topics in natural science for preservice and inservice elementary and secondary teachers and candidates for the MA in Education. May be repeated with consent of instructor. See Class Schedule for specific content. Maximum credit six units. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

GRADUATE COURSES

700. Seminar (1-3)
An intensive study in advanced natural science. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master's degree.

Nursing

Faculty
Dolores A. Wozniak, Ed.D., Professor of Nursing, Associate Dean of the College of Human Services
Claire Quinn, Ed.D., Associate Professor of Nursing
Janet R. Heineken, Ph.D., Associate Professor of Nursing (Graduate Adviser)
Catherine Loveridge, Ph.D., Associate Professor of Nursing
Muriel V. Standeven, Ph.D., Associate Professor of Nursing
Mary Anne Sweeney, Ph.D., Associate Professor of Nursing
Anne Lederstern, Ph.D., Associate Professor of Nursing
Olive Burner, Ph.D., Lecturer in Nursing
Hope L. Isaacs, Ph.D., Lecturer in Nursing

General Information
The School of Nursing in the College of Human Services offers a two-year graduate curriculum leading to the Master of Science in Nursing. The graduate program requires a minimum of 42 units.

Graduates of the program will be prepared to function as executive-level nursing administrators or clinical specialists.

Application for Admission
Appropriate application materials to obtain tentative admission to the program leading to the Master of Science degree in Nursing can be secured by writing directly to the School of Nursing. Detailed instructions including information concerning application procedures will accompany the application form.

STUDENTS ARE ADMITTED IN THE FALL SEMESTER OF EACH YEAR AND APPLICATIONS MUST BE RECEIVED NOT LATER THAN MARCH 15. THE APPLICANT MUST FILE AN APPLICATION FOR ADMISSION TO THE SAN DIEGO STATE UNIVERSITY OFFICE OF ADMISSIONS.

Admission to Graduate Study
In addition to the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, a student must satisfy the following requirements before being recommended for admission to a program with classified standing:

1. Have a baccalaureate degree with a major in nursing from a program accredited by the National League for Nursing. Graduates from baccalaureate programs not having an upper-division major in nursing or who have deficiencies will be considered on an individual basis and may be required to enroll in designated undergraduate courses and graduate courses beyond the minimum credits necessary for advanced degrees.

2. Have a minimum cumulative grade point of 3.0 in undergraduate upper-division nursing courses.

3. Have a minimum score of 950 on the GRE General (Aptitude) Test (verbal and quantitative sections).

4. Have a license to practice registered nursing.

5. Have a minimum of one year full-time nursing experience in a hospital, large ambulatory care facility or public health agency.

6. Have satisfactorily completed Nursing 500, Client Assessment, or equivalent.

7. Have satisfactorily completed a course in statistics. (Mathematics 250 or equivalent.)

8. Submit three references attesting to capability to do graduate work in nursing.

Conditional Admission
Students who do not satisfy all admission requirements to the School of Nursing may, with special consideration, be admitted in a conditionally classified graduate standing. At the completion of the student's first semester's course work in designated undergraduate or graduate courses, the faculty of the School of Nursing shall recommend to the Graduate Dean that the student:
1. Be disqualified from further study in the program; or
2. Be continued in conditionally classified status for a second semester; or
3. Be granted full graduate classified standing.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. Students must take the four 600-level core courses (Nursing 602, 604, 606, 608) and must complete each course with a minimum B (3.0) grade and be recommended by the graduate faculty.

Special Instructions
Students enrolled in the graduate program in nursing are required to provide their own professional liability insurance (minimum $200,000-$600,000) and transportation to off-campus health care agencies.

Specific Requirements for the Master of Science Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree, as described in Part Two of this bulletin, the student must complete an officially approved 42-unit course of study including: (1) twelve units of core courses, Nursing 602, 604, 606, and 608; and (2) a minimum of 21-27 units of graduate courses in the area of concentration, 4-6 units of electives, and Nursing 799A, Thesis. Up to twelve semester units may be accepted in transfer from an accredited School of Nursing.

Community Health Nursing Concentration
Required courses for the Master of Science degree with a concentration in Community Health Nursing are as follows:

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing 602</td>
<td>Issues in Nursing and Health Care</td>
</tr>
<tr>
<td>Nursing 604</td>
<td>Theory Development and Nursing Theories</td>
</tr>
<tr>
<td>Nursing 606</td>
<td>Research Methods in Nursing</td>
</tr>
<tr>
<td>Nursing 608</td>
<td>Nursing Care System as an Organization</td>
</tr>
</tbody>
</table>

Total Units 12

Area of Concentration Courses

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health 601 Epidemiology</td>
</tr>
<tr>
<td>Nursing 630 Community Health Nursing Theory</td>
</tr>
<tr>
<td>Nursing 631 Community Health Nursing Practicum</td>
</tr>
<tr>
<td>Nursing 730 Advanced Community Health Nursing</td>
</tr>
<tr>
<td>Nursing 732 Advanced Community Health Nursing Practicum</td>
</tr>
<tr>
<td>Nursing 734 Community Health Nursing Research Seminar</td>
</tr>
<tr>
<td>Nursing 736 Seminar in Community Health Problems</td>
</tr>
<tr>
<td>Three units of electives selected from Public Health 603, 605, 622, 641, 645, 646, 651A, 664, 742</td>
</tr>
</tbody>
</table>

Electives
Nursing 799A Thesis | 3
Nursing 799B Thesis Extension | 3

Total Units 42

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 on Teacher Credentialing.

Requirements for the Health Services Credential
1. Baccalaureate degree in Nursing or related field (including community health nursing).
2. Current California Registered Nurse License.
3. Required admission and planning interview with program adviser.

Program
The following program elements are required of all health services credential candidates:

(31 units)

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 500 Client Assessment</td>
</tr>
<tr>
<td>NURS 502 School Nursing Management Practices</td>
</tr>
<tr>
<td>NURS 504 Primary Health Care of the School-Aged Child</td>
</tr>
<tr>
<td>NURS 504L Primary Health Care of School-Aged Child Practicum</td>
</tr>
<tr>
<td>HS 574 Habit-Forming Substances</td>
</tr>
<tr>
<td>HS 575 Sex Education</td>
</tr>
<tr>
<td>PH 601 Epidemiology</td>
</tr>
<tr>
<td>C Dis 540 Hearing Conservation and Audiometry for School Nurses</td>
</tr>
<tr>
<td>SPED 500 Exceptional Individuals</td>
</tr>
<tr>
<td>Electives 3 units selected from Nursing 630, 637, 638, 639, Health Science 520, 552, Public Health 621, 661, 753, Social Work 550, Special Education 505</td>
</tr>
</tbody>
</table>

* Prerequisites waived for students in this program.
Courses Acceptable on Master's Degree Program in Nursing

UPPER DIVISION COURSE

500. Client Assessment (4)
Prerequisite: Permission of graduate adviser.
Three lectures and two hours of laboratory.
Physical diagnosis and psychosocial assessment of clients with health problems. Nursing process emphasis to include biopsychosocial health history and nursing diagnosis.

502. School Nursing Management Practices (3) II
Prerequisite: Nursing 412
Professional and organizational systems and structures which influence health care practices of the school nurse. Health services administration; legal responsibility; role and function of the school nurse in the school, home, and community. Current practices in school health setting. (Formally numbered Nursing 480.)

504. Primary Health Care of the School-Aged Child (3) I
Prerequisite: Nursing 500.
Primary health care of the school-aged child and adolescent. Major health problems, chronic illnesses, communicable diseases, traumatic injuries, learning and behavior disorders. (Formerly numbered Nursing 481A.)

504L. Primary Health Care of School-Aged Child Practicum (3) II
Twelve hours of practicum.
Prerequisite: Nursing 504.
Application of theory to a select population of school-aged children and adolescents. Provides direct experience in clinical nursing management of common health problems and developmental disabilities. (Formerly numbered Nursing 481B.)

596. Special Topics in Nursing (1-3)
Prerequisites: Completion of 30 upper division units in nursing or graduate status; 3.0 grade point average.
Selected topics in the practice of nursing. 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. Maximum credit three units applicable to a master's degree.

GRADUATE COURSES

602. Issues in Nursing and Health Care (3)
Analysis of current issues and trends in the profession of nursing and the health delivery system.

604. Theory Development and Nursing Theories (3) I
Development of theory, critique of current nursing theories and theories used by nursing such as interaction, systems and developmental theories. Process of developing a theoretical framework.

606. Research Methods in Nursing (3)
Prerequisite: Mathematics 250.
Research process in nursing including identification of research problems, research design, data analysis and reporting. Adaptations of methodology to nursing care systems and ethical issues involving human subjects.

608. Nursing Care System as an Organization (3)
Principles of organizational structure and function in nursing care systems. Uses of human resources, motivation, power, and values within these organizations.

620. Current Nursing Clinical Practice (3)
Prerequisite: Nursing 400.
Recent nursing developments in acute and ambulatory care.

622. Nursing Systems Administration (3)
Prerequisite: Nursing 608.
Administrative theories and concepts within organizations of nursing. Nature of nursing care systems administration, role of nurse administrator and administrative process in nursing care agencies.

624. Nursing Care Systems and Personnel Management (3)
Prerequisite: Management 611.
Issues related to personnel resources, staff development, staff utilization and collective bargaining in health care agencies and nursing care systems.

630. Community Health Nursing Theory (3)
Prerequisite: Nursing 500.
Theoretical frameworks used in community health nursing such as group dynamics, family theory, group teaching techniques, facilitating group behavior change, evaluation, problem-solving process and mobilization of community resources.

631. Community Health Nursing Practicum (3-6)
Nine hours per week for 3 units; eighteen hours per week for 6 units.
Prerequisite: Concurrent registration in Nursing 630.
Experience working with individuals and families of a selected community group applying theoretical knowledge within framework of nursing process. May be repeated with different client populations. Maximum credit six units applicable on a master's degree.

635. Self Health Care (3)
The philosophy, economics, psychology and community organization of self health care.

637. Legislation and Policy in Community Health Nursing (3)
County, state, national and international legislative and political influences on Community Health Nursing practice. Political process related to election to office and the legislative process from bill to law.

638. Health Beliefs, Needs and Care of Selected Groups (3)
Focus on the health belief, needs and care of one local, social or ethnic group.

639. Seminar in International Health (3)
Interdisciplinary consideration of special problems involved in world health planning and interventions.

683. Peer Evaluation of Clinical Competencies (3)
Prerequisite: Credit or concurrent registration in area of clinical concentration.
Methods of performance appraisals and criteria development in evaluation of nursing clinical practice.

684. Computer Applications for Human Services and Health Care Professionals (3)
Emerging trends in health care computer systems including applications to biological monitoring, quality assurance programs, research, budgeting and staffing patterns. Ethics of computer use and influence of technology on client care. User skills.

722. Nursing Systems Administration Research Seminar (3)
Prerequisites: Nursing 608 and 622. Concurrent registration in Nursing 724.
Analysis of research findings related to assessment variables and their impact on decision making and staffing patterns. Role of administrator given internal and external constraints.

724. Nursing Systems Administration Practicum (3-6)
Prerequisites: Nursing 608, 622; Accountancy 600, Management 611 and concurrent registration in Nursing 722.
Provides direct guided administrative experience appropriate to role and function of a nurse executive administrator in a select health care setting. May be repeated within a different health care setting. Maximum credit six units applicable on a master's degree.

730. Advanced Community Health Nursing (3)
Prerequisites: Nursing 630 and 631. Concurrent registration in Public Health 601 and Nursing 732.
Nursing assessment and analysis of community characteristics, including social, cultural and psychological factors, and their interrelationships. Strategies of planning and introducing change.
732. Advanced Community Health Nursing Practicum (3-6)
Prerequisite: Concurrent registration in Nursing 730.
Leadership role and planning function of a community health nurse specialist in a selected community setting.

734. Community Health Nursing Research Seminar (3)
Prerequisites or corequisites: Nursing 630 and 631.
Analysis of current nursing research reports, critique of specific research findings through its application to community health nursing practice.

736. Seminar in Community Health Problems (3)
Prerequisite: Advancement to candidacy in health related disciplines.
Interdisciplinary analysis of community based health practice problems.

796. Seminar In Selected Topics In Nursing (1-3)
Prerequisite: Consent of instructor.
Specialized study of selected topics relevant to nursing practice. May be repeated with new content. Topic to be announced in Class Schedule. Maximum credit six units.

797. Research (1-3) Cr/NC/SP
Prerequisite: Advancement to candidacy.
Independent research in a specialized subject. Maximum six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of instructor.
Independent study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisite: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0)
Prerequisite: Prior registration in Nursing 799A with an assigned grade symbol of S.P.
Registration required in any semester or term following assignment of S.P. in the course, Nursing 799A, in which the student expects to use the facilities and resources of the University. Also, student must be registered in the course when the completed thesis is granted final approval.

730 / Nursing

Philosophy

Faculty
- Michael J. Carella, Ph.D., Professor of Philosophy, Chair of Department
- Andrew L. Feenberg, Ph.D., Professor of Philosophy
- Roy J. Howard, Ph.D., Professor of Philosophy
- Jack McClurg, Ph.D., Professor of Philosophy
- Leon Rosenstein, Ph.D., Professor of Philosophy
- William S. Snyder, Ph.D., Professor of Philosophy
- Edward W. Warren, Ph.D., Professor of Philosophy and Classics
- Stanley N. Weissman, Ph.D., Professor of Philosophy
- Mary J. Gregor, Ph.D., Associate Professor of Philosophy
- Eugene A. Troxell, Ph.D., Associate Professor of Philosophy
- Thomas S. Weston, Ph.D., Associate Professor of Philosophy (Graduate Adviser)

General Information
The Department of Philosophy, in the College of Arts and Letters, offers a program of graduate studies leading to the Master of Arts degree in Philosophy. This curriculum is designed to provide advanced study in the field of philosophy as a basis for further graduate work and to meet the needs of students who plan to teach in colleges or hold other positions of leadership.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Two of this bulletin. Students may be admitted to the graduate program in philosophy in one of two ways.

1. Admission with classified graduate standing requires:
   a. An undergraduate major in philosophy or a minimum of 24 units of upper division work in philosophy
   b. A minimum GPA of 3.0 in upper division work in philosophy.

2. Admission with conditional classified graduate standing requires:
   a. Twelve units of upper division work in philosophy
   b. A minimum GPA of 3.0 in upper division work in philosophy.

Students admitted under 2. acquire classified graduate standing by completing sufficient units of upper division work in philosophy to yield a total, with previous work, of at least 24 such units. Units earned to complete this undergraduate requirement do not fulfill unit requirements for the master’s degree. A minimum GPA of 3.0 is required for all units attempted after admission.

Units earned to satisfy requirements for a major do not fulfill unit requirements for the master’s degree. Other units may fulfill such requirements if earned in courses acceptable on master's degree programs in philosophy.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy as stated in Part Two of this bulletin.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Two of this bulletin, the student must complete a program of at least 30 units of upper division and graduate courses selected with the approval of the graduate adviser.

Students must complete a minimum of 24 units from courses in philosophy listed below as acceptable on master's degree programs. At least 15 of these units must be in 600- and 700-numbered courses. Philosophy 798 may not be used to fulfill this 15-unit requirement. The
remaining electives (six units) must be selected with the approval of the adviser from courses in philosophy in related disciplines.

Students in the program may elect one of two plans, A or B, to complete the requirements for the degree. Plan A requires the writing of a thesis under Philosophy 799A as part of the outlined course program. If Plan B is elected, the student must pass a comprehensive examination, consisting of two written and one oral, and complete three units in Philosophy 798.

The master's examination shall be conducted by a committee of at least three members selected by the graduate adviser after consultation with the student. Each of the written parts of the examination will be based on a bibliography drawn up by the committee administering the examination after consultation with the student. The oral part of the examination will be in a specific problem area or on a major philosopher. At least three weeks prior to the end of the semester preceding the semester of the examination, the student will consult with his or her committee to determine the bibliographies for the written exams and the subject matter for the oral exam. This consultation must be completed no later than three days after the official close of the semester. A student will not be permitted to enroll in Philosophy 796 if this consultation has not been completed. The master's examination may be repeated only once.

Courses Acceptable on Master's Degree

Programs in Philosophy

UPPER DIVISION COURSES

502. History of Philosophy II (3)
Prerequisite: Philosophy 301.
Plotinus 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. Not open to students with credit in Mathematics 523.

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.

536. Philosophy of Mind (3)
Prerequisite: 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 documents in the history of aesthetics.

542. Philosophy of Art (3)
Prerequisite: Six units of philosophy.
The nature of aesthetic experience. Principal contemporary theories of art in relation to actual artistic production and to the function of art in society.

564. American Philosophy (3)
Prerequisite: Six units of philosophy.
American philosophy from 1860 to the 1920s: idealism, pragmatism, new and critical realism.
GRADUATE COURSES

601. Seminar in Ancient Philosophy (3)
   Prerequisite: Twelve upper division units in philosophy including Philosophy 301.
   Directed research in a major author (e.g., Plato or Aristotle), or a school (e.g., the
   Pythagoreans or the Stoics), or a problem (e.g., causation or the state). See Class Schedule
   for specific content. Maximum credit six units applicable on a master's degree.

602. Seminar in Medieval Philosophy (3)
   Prerequisite: Twelve upper division units in philosophy including Philosophy 502.
   Directed research in a major author (e.g., Augustine or Aquinas), or a school (e.g., the
   neo-Aristotelianism), or a problem (e.g., political philosophy or reason and authority). See Class
   Schedule for specific content. Maximum credit six units applicable on a master's degree.

603. Seminar in Modern Philosophy (3)
   Prerequisite: Twelve upper division units in philosophy including Philosophy 303.
   Directed research in a major author (e.g., Hume or Kant), or a school (e.g., the
   continental rationalists or the British empiricists), or a problem (e.g., the nature of substance). See Class
   Schedule for specific content. Maximum credit six units applicable on a master's degree.

605. Seminar in Contemporary Philosophy (3)
   Prerequisite: Twelve upper division units in philosophy including Philosophy 506 or 507.
   Directed research in a major author (e.g., Dewey or Wittgenstein), or a school (e.g., the
   pragmatists or the language analysts), or a problem (e.g., perception or personhood). See Class
   Schedule for specific content. Maximum credit six units applicable on a master's degree.

611. Seminar in Legal Philosophy (3)
   Prerequisite: Twelve upper division units in philosophy.
   Directed research in recurrent themes of philosophical significance in jurisprudential
   literature.

612. Seminar in Political Philosophy (3)
   Prerequisite: Twelve upper division units in philosophy.
   Directed research in a major problem in political philosophy or the work of a major political
   philosopher.

623. Seminar in Epistemology (3)
   Prerequisite: Twelve upper division units in philosophy.
   Basic problems concerning meaning, perception and knowledge.

625. Seminar in Metaphysics (3)
   Prerequisite: Twelve upper division units in philosophy.
   An inquiry into the search for significant qualities of reality.

628. Seminar in Ethics (3)
   Prerequisite: Twelve upper division units in philosophy.
   Contemporary ethical issues. Critical analysis of the works of some leading theorists, such
   as Moore, Dewey, Stevenson and Toulmin.

631. Seminar in Semantics and Logical Theory (3)
   Prerequisite: Twelve upper division units in philosophy including Philosophy 521 and 531.
   Contemporary issues in the foundations of logic and theories of language.
Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing the student must satisfy the basic requirements for the master's degree, described in Part Two of this bulletin. The 30-unit program includes a minimum of 21 units in physical education selected from courses listed in this bulletin as acceptable on master's degree programs, of which at least 18 units must be in 600- and 700-numbered courses. Physical Education 791, Seminar in Research Techniques, and Physical Education 799A, Thesis or Project are required. Each candidate will be required to choose an area of specialization after consulting with the graduate adviser. Students seeking a master's degree in Physical Education are required to develop and sign a formal plan of study which must be approved by the Graduate Division. The approved plan of study should include coursework preparing the student to complete the required thesis. Therefore, the plan of study should be developed in consultation with a faculty member who teaches graduate coursework of interest to the student. The student is required to pass a final oral examination on the thesis.

Certificate in Exercise Leadership

This program is designed to prepare individuals interested in working in preventive and rehabilitative exercise programs for the certifications of 1) exercise technologist, 2) fitness instructor, and 3) exercise specialist which are awarded by the American College of Sports Medicine (ACSM). Prerequisites for the program are an undergraduate degree in any major and previous work in physical activity programs. Applications should be made to the director of the certificate program.

Thirty units are required to include Biology 572, Physical Education 562, 663, 666, 668, 669, 706 (6 units with SDSU Adult Fitness Program), and 796 (6 units). Applications should be made to the director of the certificate program. The 30 units must be applied to a graduate degree program in physical education. Recommendations for application to the American College of Sports Medicine for ACSM Certifications will be made based on completion of course work with a GPA of 3.0 or better and fulfilling basic requirements for specific certification set by ACSM.

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 the entire student teaching experience. (Premilinary credential.) The student must have a 3.0 average and no grade lower than C in all the academic classes required to be certified. A revised course in which a grade lower than C is earned may be repeated only with prior approval of the coordinator.

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: Physical Education 567, 568, 672, 667, 398* (1 unit), and Special Education 501.

2. Practical Experience and Student Teaching: The candidate must complete four units of Physical Education 368 Adapted and Special Physical Education Laboratory and a full-time student teaching experience in adapted physical education.

* Approved by Coordinator, Adapted Physical Education.
Courses Acceptable on Master's Degree Programs in Physical Education

### UPPER DIVISION COURSES

<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>Four hours of activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prerequisite: Completion of preparation for the major in physical education with emphasis in dance</td>
</tr>
<tr>
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<td>Using concepts of space, time, and energy to investigate and explore basic elements of choreography, studies and compositions emphasizing solo and small group works.</td>
</tr>
<tr>
<td>551</td>
<td>Choreography: Large Groups</td>
<td>2</td>
<td>Four hours of activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prerequisite: Physical Education 550</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Introducing large group works, solo and small group work in organizing more complex arrangements of the basic elements of dance composition. Utilizing music and sound as aural contributions to choreography.</td>
</tr>
<tr>
<td>552</td>
<td>Choreography: Form and Content</td>
<td>2</td>
<td>Four hours of activity</td>
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<td></td>
<td></td>
<td></td>
<td>Prerequisite: Physical Education 551</td>
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<tr>
<td></td>
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<td></td>
<td>Approaching dance as a fundamental means of communication. Recognizing the relationship between form and content.</td>
</tr>
<tr>
<td>553</td>
<td>Choreography: Recital</td>
<td>2</td>
<td>Four hours of activity</td>
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<td></td>
<td></td>
<td>Prerequisite: Physical Education 552</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Choreography of solo and group works utilizing symbiotic relationship of movement, sound, lighting, costuming, and other interdisciplinary media. Presentation of a recital.</td>
</tr>
<tr>
<td>557</td>
<td>Dance Criticism</td>
<td>2</td>
<td>Prerequisite: Physical Education 376B</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Artistic aspects of dance in general and specifically modern dance. Professional preparation and function of the dance critic.</td>
</tr>
<tr>
<td>560</td>
<td>Applied Anatomy and Kinesiology</td>
<td>3</td>
<td>Prerequisites: Biology 362 and Zoology 108</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Anthropology, syndromology and myology, with emphasis on movement analysis. Muscle groups and their functional relationships. Application of simple mechanical principles to movement analysis.</td>
</tr>
<tr>
<td>561</td>
<td>Physiology of Exercise</td>
<td>3</td>
<td>Prerequisites: Biology 362 and Zoology 108</td>
</tr>
<tr>
<td></td>
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<td>Effects of physical activities on the physiological functions of the body.</td>
</tr>
<tr>
<td>562</td>
<td>Cardiopulmonary Laboratory</td>
<td>2</td>
<td>One lecture and three hours of laboratory</td>
</tr>
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<td></td>
<td></td>
<td>Prerequisites: Physical Education 362 and 561</td>
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<td></td>
<td>Cardiopulmonary evaluation of human subjects for rehabilitative and preventive cardiology including electrocardiography, blood chemistry, ergometry, central and peripheral vascular assessment, body composition, and lifestyle change.</td>
</tr>
<tr>
<td>563</td>
<td>Biomechanics of Human Movement</td>
<td>2</td>
<td>Prerequisite: Zoology 108.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Mechanical principles as applied to movement, analysis and application to selected motor skills.</td>
</tr>
<tr>
<td>564</td>
<td>Prevention, Cause, and Basic Care of Sports Injury</td>
<td>3</td>
<td>Prerequisites: Physical Education 265, 560, 561</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Sports injury: prevention, causation, and basic management.</td>
</tr>
<tr>
<td>565</td>
<td>Evaluation and Rehabilitation of Sports Injury</td>
<td>3</td>
<td>Two lectures and three hours of laboratory</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Prerequisite: Physical Education 564</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Theoretical and practical experience in athletic injury. Evaluation techniques, practical considerations in selecting and applying physical modalities and therapeutic exercises.</td>
</tr>
<tr>
<td>567</td>
<td>Corrective and Orthopedic Physical Education</td>
<td>3</td>
<td>Prerequisites: Physical Education 560 and 561</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Etiology, characteristics, and programs for children with corrective and/or physically handicapping conditions will be discussed. This includes evaluating and implementing prescribed activities for individuals with these types of conditions.</td>
</tr>
<tr>
<td>568</td>
<td>Special Physical Education</td>
<td>2</td>
<td>Prerequisites: Psychology 101 and Physical Education 371</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Etiologies, characteristics, and education programs for mentally retarded, emotionally disturbed, blind and hearing impaired individuals. Specific programs and activities are discussed relevant to each of disabled groups mentioned.</td>
</tr>
<tr>
<td>570</td>
<td>Psychological Bases of Physical Education</td>
<td>3</td>
<td>Prerequisite: Psychology 101.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Psychological parameters related to physical performance and the acquisition of motor skills.</td>
</tr>
<tr>
<td>596</td>
<td>Selected Topics in Physical Education</td>
<td>1-3</td>
<td>Selected topics in physical education. May be repeated with new content and 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 applicable to a bachelor's or master's degree.</td>
</tr>
</tbody>
</table>

### GRADUATE COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>Seminar</td>
<td>3</td>
<td>An intensive study in advanced physical education. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.</td>
</tr>
<tr>
<td>651</td>
<td>Administrative Professional/Educational Dance</td>
<td>3</td>
<td>Planning, implementing, financing, staffing, supervising, and evaluating dance in both the academic and consumer mode.</td>
</tr>
<tr>
<td>652</td>
<td>Dance Ethnology and Research</td>
<td>3</td>
<td>Prerequisites: Physical Education 133B and 154. Role of traditional dance in selected cultures. Research techniques used in study and classification of these dance forms. Research techniques used by dance scholar, historian, and archivist.</td>
</tr>
<tr>
<td>653</td>
<td>Seminar in Dance</td>
<td>3</td>
<td>Advanced study of selected topics such as effort-shape, current trends in dance, multimedia, environmental, experimental dance, dance in relation to the other arts, and stylistic analysis of classical ballet. Maximum credit six units applicable on a master's degree, provided that repeated units are taken in alternate option. See Class Schedule for specific content.</td>
</tr>
<tr>
<td>654A</td>
<td>Graduate Dance Company</td>
<td>3</td>
<td>Twelve hours. Prerequisite: Admission to graduate program in physical education with specialization in dance. Production of choreographic works, lecture-demonstration and mini-concerts. Maintenance of technical dance skills. Promotion of dance and audience development. Understudy dance roles from the Graduate Dance Company's repertoire. Participate in major production. (Formerly numbered Physical Education 654.)</td>
</tr>
</tbody>
</table>
654B. Graduate Dance Company (3)
Concert performances of graduate dance company's repertory, production of choreographic works, design and presentation of master classes and workshops, maintenance of technical dance skills and participation in major production. (Formerly numbered Physical Education 655.)

660. Seminar in Advanced Kinesiology and Biomechanics (3)
Prerequisites: Physical Education 560, 563. Recommended: Physical Education 364.

661. Seminar in Advanced Physiology of Exercise (3)
Prerequisites: Physical Education 560 and 561.

662. Advanced Exercise Physiology Laboratory (3)
Nine hours of laboratory.
Prerequisites: Physical Education 362 and 561.
A laboratory course designed to develop competency in respiratory metabolism pulmonary function, gas analysis, blood chemistry and ergometry. Experience in the application of exercise procedures with human subjects and analysis and interpretation of results.

663. Seminar in Exercise Electrocardiography (3)
Principles of resting and exercise electrocardiography with emphasis on ergometric methods and application to exercise physiology.

664. Seminar in Anthropometry and Motor Performance (3)
Prerequisites: Physical Education 371 and 560.
Relationships between body structure and motor performance as compared through the techniques of anthropometry, somatotyping and body composition.

665. Advanced Sports Medicine (3)
Prerequisite: Physical Education 564 or a physical therapy major.
Clinical sports medicine. Relationship of biomechanics, nutrition, environment and conditioning to medical problems of athletes.

666. Adult Fitness: Exercise Prescription (3)
Prerequisites: Physical Education 562, Biology 572.
Physical conditioning programs for the prevention, rehabilitation, and control of diseases associated with aging adults. Topics include disease etiology, health/disease evaluation, and exercise prescription for apparently healthy and diseased adults.

667. Seminar in Adapted Physical Education (3)
Prerequisites: Physical Education 567 and 568.
Trends, programs and crucial problem areas in Adapted Physical Education as they relate to the organization, planning and implementation of these programs.

668. Adult Fitness: Exercise Leadership and Administration (3)
One lecture and six hours of laboratory.
Prerequisite: Physical Education 666.
Administration of and role of exercise programs in preventive medicine, corporate fitness, and Phase I, II, and III of Cardiac Rehabilitation, and other disease rehabilitation. Development of skills in exercise leadership in traditional and experimental exercise programs for the apparently healthy and diseased adult.

669. Cardiopulmonary Physiology, Pathology and Exercise (3)
Prerequisite: Physical Education 561 or upper division course in human physiology.
Selected cardiovascular and pulmonary disease problems, their etiology, symptoms, physical limitations, and physiology as affected by exercise in therapy and rehabilitation.

670. Seminar in Motor Learning and Motor Performance (3)
Prerequisite: Physical Education 570.
A review of research in physical education and related fields plus experimental laboratory experiences in motor learning.

671. Sport Psychology (3)
Prerequisite: Physical Education 570.
Behavior in sport and physical activity. Personality and motivational determinants of sport performance and motivation.

672. Perceptual Motor Learning (3)
Prerequisite: Physical Education 570.
Basic psychological parameters underlying perceptual motor impairment. Emphasis on utilizing these concepts to evaluate and remediate perceptual motor problems in the young child.

673. Philosophy of Sport and Physical Education (3)
Major philosophies and their application in sport and physical education.

675. History of Sport and Physical Education (3)
Historical forces guiding the development of sport and physical education from ancient to modern times.

676. Seminar in Current Trends and Issues in Physical Education (3)
A critical appraisal of contemporary trends and issues. Investigation and analysis of professional literature.

678. Comparative Physical Education and Sport (3)
Prerequisite: Physical Education 376A.
Comparative analysis of developments and emergent characteristics of systems of physical education and sport in representative countries analyzed cross-nationally and the investigation of the comparative method including its history and research techniques.

680. Curriculum in Physical Education (3)
Prerequisite: Major or minor in physical education.
Curricula in physical education. Special emphasis on curriculum construction and evaluation.

681. Seminar in Analysis of Teaching Physical Education (3)
Prerequisite: Physical Education 347
Study of teaching in physical education settings. Review of research and development of systemic observation systems to analyze teaching effectiveness.

682. Administration of Physical Education in the Secondary Schools (3)
Topics include personnel problems, selection and maintenance of equipment and facilities, program organization and evaluation, budget and related items.

683. Applied Behavior Analysis in Physical Activity Settings (3)
Prerequisite: Physical Education 570.
Principles and methods of planning and carrying out the investigation of problems related to physical education. The development of research designs and practice in formulating and testing hypotheses as well as the interpretation of results. (Prerequisite to thesis.)

791. Seminar in Research Techniques (3)
Prerequisites: Major in physical education and Physical Education 385.
Principles and methods of planning and carrying out the investigation of problems related to physical education. The development of research designs and practice in formulating and testing hypotheses as well as the interpretation of results. (Prerequisite to thesis.)

796. Exercise Specialist Internship (1-3) Cr/NC
Three hours of laboratory per unit.
Prerequisites: Physical Education 661, 662, 666, 666, 669 and consent of instructor.
Supervised application of exercise laboratory testing, test interpretation, exercise prescription and exercise leadership in adult fitness, corporate fitness, preventative medicine and/or hospital disease rehabilitation setting. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of department chair.
Individual study. Maximum credit six units applicable on a master's degree.
799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master’s degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university. Also, student must be registered in the course when the completed thesis or project is granted final approval.

Physics

Faculty
Lowell J. Burnett, Ph.D., Professor of Physics, Chair of Department
Jeffrey A. Davis, Ph.D., Professor of Physics
Thomas B. Day, Ph.D., Professor of Physics, University President
Roger A. Lilly, Ph.D., Professor of Physics
Michael B. Monami, Professor of Physics, Director of Radiological Health Physics
Richard H. Morris, Ph.D., Professor of Physics
Paul F. Nichols, Ph.D., Professor of Physics
Robert J. Piserchio, Ph.D., Professor of Physics
Donald E. Rehluss, Ph.D., Professor of Physics
Stephen B. Roeder, Ph.D., Professor of Physics and Chemistry
Herbert B. Shors, Ph.D., Professor of Physics
Jerry E. Solomon, Ph.D., Professor of Physics
Alan R. Sweedler, Ph.D., Professor of Physics
Jacques D. Templin, Ph.D., Professor of Physics, Graduate Coordinator
Don M. Cottrell, Ph.D., Associate Professor of Physics
Willard M. Cronyn, Ph.D., Associate Professor of Physics
Saul B. Oseroff, Ph.D., Associate Professor of Physics

Assistantships
Graduate teaching assistantships in physics are available to a limited number of qualified students. Application blanks and additional information may be secured from the chair of the department.

General Information
The Department of Physics, in the College of Sciences, offers graduate study leading to the Master of Arts degree in Physics, the Master of Science degree in Physics, and the Master of Science degree in Radiological Health Physics. The Master of Arts degree in Physics is designed primarily for those students who anticipate additional work leading to the doctorate degree in physics. The Master of Science degree is designed to augment the student’s undergraduate training by more advanced studies and is best suited for those students who plan to terminate their graduate work at the master’s level. Experimental facilities are available for studies in such fields as acoustics, nuclear physics, quantum optics, minicomputers and microprocessors, solid state physics, atomic physics, low temperature physics, and high energy physics. The Master of Science degree in Radiological Health Physics is designed to train radiological (health) physicists in the use of radioactive materials and other radiation-producing devices as required in hospitals and related medical facilities, colleges and universities, industry, public health services, nuclear power installations, the military, the Department of Energy and the Nuclear Regulatory Commission.

Master of Arts and Master of Science Degrees in Physics

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, the undergraduate preparation in physics must have substantially satisfied the undergraduate requirements for the bachelor’s degree in physics. (Refer to the General Catalog for a description of these majors.) If the student’s undergraduate preparation is deficient, he/she will be required to take courses for the removal of the deficiency. These courses, taken by the student as an unclassified graduate, are in addition to the minimum of 30 units for the master’s
degree. The results of the advanced test in physics are used as part of the evaluation of deficiencies. Attention is called to the status of an unclassified student as described in Part Two of this bulletin under Unclassified Student Enrollment.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, including the foreign language requirement, as stated in Part Two of this bulletin.

Specific Requirements for the Master of Arts Degree in Physics
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program which includes the following courses in physics: Physics 602A, 604A, 606, 610, 797 (3 units), and 799A. The remaining nine units must be approved by the student's departmental graduate committee. Students must demonstrate a reading knowledge of scientific French, German or Russian. The student is required to pass a final oral examination on his thesis.

Specific Requirements for the Master of Science Degree in Physics
In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master's degree as described in Part Two of this bulletin. Normally Plan A, Thesis will be required, but those students who have demonstrated research experience may elect, with the approval of the graduate adviser, Plan B with a written comprehensive examination. In either case, the student must complete a graduate program which includes Physics 602A and 604A-604B. The remaining 21 units must be approved by the departmental adviser and, for those students electing Plan A, must include Physics 797 (3 units) and 799A. The student is required to pass a final oral examination on his thesis.

Master of Science Degree in Radiological Health Physics

Admission to Graduate Study
All students must satisfy the general requirements for admission to the Graduate Division with classified graduate standing, as described in Part Two of this bulletin under Admission to the Graduate Division. In addition, the undergraduate preparation in biology, chemistry, mathematics, and physics must have substantially satisfied the undergraduate requirements for a baccalaureate degree in the life sciences or the physical sciences so that satisfactory progress can be made toward the master's degree. If the student's undergraduate preparation is deficient, he will be required to take courses for the removal of the deficiency. These courses, taken by the student as an unclassified graduate, are in addition to the minimum of 30 units for the master's degree.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin.

Specific Requirements for the Master of Science Degree in Radiological Health Physics
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units which includes the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 570, Radiation Biology</td>
<td>3</td>
</tr>
<tr>
<td>Biology 570L, Radiation Biology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Physics 665, Radiation Physics</td>
<td>3</td>
</tr>
<tr>
<td>Physics 669, Health Physics</td>
<td>3</td>
</tr>
<tr>
<td>Physics 797, Research</td>
<td>3</td>
</tr>
<tr>
<td>Physics 799A, Thesis</td>
<td>3</td>
</tr>
<tr>
<td>Four units selected from Physics 515, 560, 563, 565, 657, 667, and 669</td>
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</tbody>
</table>

The remaining nine units of the minimum 30 units required for the degree must be selected from upper 500-, 600- or 700-numbered courses approved by the departmental graduate committee. Of the 30 units, nine units must be selected from outside the Department of Physics. Biology 571, Radiisotope Techniques in Biology (4 units) is strongly recommended. The student is required to pass a final oral examination on his thesis.

Courses Acceptable on Master's Degree

Programs in Physics

UPPER DIVISION COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>510. Quantum Mechanics (3)</td>
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<tr>
<td>Prerequisites: Physics 350A, 354B. Mathematics 340B or 531.</td>
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</tr>
<tr>
<td>The mathematical and physical foundations of the quantum theory in terms of Schroedinger's wave mechanics. Applications to the properties of atoms, quantum chemistry, and nuclei.</td>
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<tr>
<td>513. Electronic Instrumentation (2)</td>
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<tr>
<td>Six hours of laboratory. Prerequisite: Physics 313.</td>
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<tr>
<td>Transducer principles and applications; theory and design of active filters, modern signal detection and enhancement techniques, instrumentation design. (Formerly numbered Physics 413.)</td>
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</tr>
<tr>
<td>515. Electronics of Nuclear Instrumentation (1)</td>
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</tr>
<tr>
<td>Prerequisites: An electronics course and credit or concurrent registration in Physics 561. Operation and utilization of modern solid-state devices as used in nuclear instrumentation.</td>
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<tr>
<td>516A-516B. Theory of Scientific Instrumentation (3-2)</td>
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<tr>
<td>Prerequisites: Physics 313; Mathematics 340B or 531. Physics 516A is prerequisite to 516B. Linear system analysis using Fourier techniques. Introduction to the stochastic treatment of signals and noise, using concepts from probability and statistics. Optimization of detection systems with respect to signal-to-noise ratio. Applications to spectroscopy.</td>
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</tr>
<tr>
<td>518. Minicomputer Interfacing (3)</td>
<td></td>
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<tr>
<td>Two lectures and three hours of laboratory. Prerequisite: Credit or concurrent registration in Physics 513. Theory and practice of minicomputer interfacing and control techniques, including minicomputer architecture on a block-diagram level, bus structure, and I/O signals. Assembly language programming and applications to I/O involving instrumentation peripherals.</td>
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<tr>
<td>520. Microprocessor Instrumentation (3)</td>
<td></td>
</tr>
<tr>
<td>Two lectures and three hours of laboratory. Prerequisite: Credit or concurrent registration in Physics 513. 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.</td>
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</tbody>
</table>
662. Seminar in Radiological Health Physics (1)
Seminar in selected topics in Radiological Health Physics. May be repeated with new content. Maximum credit three units applicable on a master's degree.

667. Reactor Health Physics (1) II
Three hours of laboratory. Prerequisites: Physics 655 and 659. Topics and experimental problems in Health Physics in nuclear reactor facilities.

669. Accelerator Health Physics (1) I
Three hours of laboratory. Prerequisites: Physics 655 and 659. Topics and experimental problems in Health Physics in accelerator facilities.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of graduate adviser. Research in one of the fields of physics. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a thesis in physics for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.

Political Science

Faculty
Charles F. Andrain, Ph.D., Professor of Political Science
James J. Conniff, Ph.D., Professor of Political Science, Chair of Department
Ivo K. Feierabend, Ph.D., Professor of Political Science
Richard Y. Funston, Ph.D., Professor of Political Science
Richard G. Gripp, Ph.D., Professor of Political Science
C. Richard Hofsetter, Ph.D., Professor of Political Science
Henry L. Jansen, Ph.D., Professor of Political Science
David H. Johns, Ph.D., Professor of Political Science
Tae Jin Kahng, Ph.D., Professor of Political Science
D. Richard Little, Ph.D., Professor of Political Science (Graduate Adviser)
Brian E. Lowenard, Ph.D., Professor of Political Science
E. Walter Miles, Ph.D., Professor of Political Science
Betty A. Nesvold, Ph.D., Professor of Political Science
L. Vincent Padgett, Ph.D., Professor of Political Science
William A. Schultze, Ph.D., Professor of Political Science
Louis M. Terrell, Ph.D., Professor of Political Science
Dwight G. Anderson, Ph.D., Associate Professor of Political Science
Charles H. Custer, Ph.D., Associate Professor of Political Science
Lyndale D. Fairlie, Ph.D., Associate Professor of Political Science
Edward V. Heck, Ph.D., Associate Professor of Political Science
John A. Hobb, Ph.D., Associate Professor of Political Science
Woodrow Jones, Ph.D., Associate Professor of Political Science
Harlan J. Lewin, Ph.D., Associate Professor of Political Science
John W. Soule, Ph.D., Associate Professor of Political Science
Paul J. Strand, Ph.D., Associate Professor of Political Science
K. Robert Keiser, Ph.D., Assistant Professor of Political Science

General Information
The Department of Political Science, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Political Science. For graduate study in connection with the Master of Arts degree in Social Science, refer to this bulletin under Social Science. Research facilities provided by the Department of Political Science include the Political Science Research Center and the Social Science Research Laboratory. The Department of Political Science is an associate member of the Inter-University Consortium for Political Research.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in Political Science must have completed 30 units of social science, including at least 12 upper division units in political science, as approved by the department and must have earned a grade point average of 2.75 for the last 60 units of undergraduate work, and a 3.00 grade point average for upper division courses in political science as well as a 3.00 grade point average for all work taken in political science.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as stated in Part Two of this bulletin. In addition, students must have received credit for a three-unit course in statistics.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units of upper division and graduate courses approved by the graduate adviser.
Students must complete a minimum of 24 units in political science from courses listed below as acceptable on master’s degree programs. At least 21 units must be in 600- and 700-numbered courses including Political Science 601 (Seminar in the Scope and Method of Political Science) and five other graduate seminars in political science.

To fulfill the requirements for the M.A. degree in political science, students may select either Plan A or Plan B. Plan A requires the writing of a thesis under Political Science 799A and the taking of a final oral examination on the general field of the thesis. Plan B requires (1) a written comprehensive examination, (2) a substantial research paper, and (3) Political Science 279.

The comprehensive examination shall be constructed and evaluated by a committee of three faculty members chosen by the graduate adviser after consultation with the student. The examination will be based on a bibliography prepared by the faculty committee which will also evaluate the research paper.

Courses Acceptable on Master’s Degree
Programs in Political Science

UPPER DIVISION COURSES

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, censuses, roll call records, sample survey data and biographical information.

522. Urban Politics (3)
Prerequisite: Political Science 101 or 102.
The processes by which social conflicts in American urban areas are represented and regulated. Urban political culture, ecology, group development and activity, power structures, and reform movements are surveyed. The character of the urban political "problem" and proposed solutions are evaluated. Meets graduation requirement in California state and local government. When taken with Political Science 205 or 250, will also meet all requirements in American Institutions.

523. Community Political Analysis (3)
Prerequisite: Political Science 101 or 102.

The processes by which social conflicts in American urban areas are represented and regulated. Urban political culture, ecology, group development and activity, power structures, and reform movements are surveyed. The character of the urban political "problem" and proposed solutions are evaluated. Meets graduation requirement in California state and local government. When taken with Political Science 205 or 250, will also meet all requirements in American Institutions.

530. Political Parties (3)
Prerequisite: Political Science 102 or 320.
The political party as a part of the process of government; party organization and activities; nominating and campaign methods; theories and functions of the party system; party responsibility. The functioning of political parties in the American political system. May include a substantial amount of material about foreign political systems.

531. Interest Groups and Political Movements (3)
Prerequisite: Political Science 101 or 102.

Pressure group activity, lobbies, mass movements; factors which explain origins and motivations of group behavior; votes, money, information, protest as political resources; theories of pluralism, power elite and mass society, class and ethnic politics. May include a substantial amount of material about foreign political systems.

536. The American Presidency (3)
Prerequisites: Political Science 101 and 102.
Analyses of presidential institutions, functions and problems of the presidency and the federal executive branch. Attention given to presidential leadership, staffing, executive-legislative relations and policy formulation.

537. The Politics of Bureaucracy (3)
Prerequisites: Political Science 101 and 102.
An analysis of the bureaucracy as an actor in the political system. May include a substantial amount of material about foreign political systems.

555. Comparative Political Systems (3)
Prerequisite: Political Science 103.

An examination of selected political and governmental systems for purposes of comparative study and analysis to determine similarities, differences and general patterns and universals among political systems.

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. 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.

The Mexican political system; party organization and policy process; to estimate probable consequences of alternative decisions, and to appraise government performance.

577. Principles of International Law (3)
The function of law in the international community. The historical development of the ideas and rules of international law and their place in the modern diplomatic and legal structure.

579. National Security Policy (3)
Prerequisite: Six upper division units in political science, three units of which must come from Political Science courses 320 through 338, 522 through 537.

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.

GRADUATE COURSES

601. Seminar in the Scope and Method of Political Science (3)
Prerequisite: Political Science 103.

The discipline of political science and systematic training in its methodology. Required of all applicants for advanced degree programs in political science.

602. Seminar in Empirical Theory and Politics of Public Policy (3)
Prerequisite: Political Science 601.

Application of theoretical principles to public policies. Use of quantitative data and models to test theories. Stress on appropriate analytical methods for explaining government decisions and evaluating policy performance.

605. Seminar in Political Theory (3)
Maximum credit six units applicable on a master's degree.

620. Seminar in American National Government (3)
Prerequisite: Political Science 102.

An examination of selected political and governmental systems for purposes of comparative study and analysis to determine similarities, differences and general patterns and universals among political systems.

630. Seminar in Politics (3)
Prerequisite: Six upper division units in political science, three units of which must come from Political Science courses 320 through 338, 522 through 537.

Process by which individuals and groups make demands upon political decision makers; emphasis on the styles, structures, channels and consequences of interest articulation. Maximum credit six units applicable on a master's degree.

635. Seminar in Politics of Public Policy (3)
Prerequisite: Political Science 601.

Examination of public policy, e.g., energy, environment, protection, taxation, income maintenance, population, health care, education, housing. Use of research findings to analyze policy processes and evaluate potential consequences of alternative decisions and to appraise governmental programs.

646. Seminar in Public Law (3)
Maximum credit six units applicable on a master's degree.
655. Seminar in General Comparative Political Systems (3)
Prerequisites: Political Science 555, and three additional upper division units in political science.
The field of comparative politics, including historical developments, major theoretical approaches, substantive concerns, uses and limitations of the comparative method, methodological innovations in study of foreign political systems.

658. Seminar in Communist Political Systems (3)
Prerequisites: Six upper division units in political science.
The differences and similarities among Communist nations in Europe and Asia, with particular reference to instruments of power and ideology. A comparison of Communist ruling techniques and processes.

661. Seminar in the Political Systems of the Developing Nations (3)
Prerequisites: Political Science 555 or 556.
Theoretical analysis of political development, modernization and industrialization in the emerging nations. Search for valid generalizations about the non-Western political process. Political trends and developments in the developing nations.

667. Seminar in Latin American Political Systems (3)
Prerequisites: Political Science 555 or 566.
Political developments in selected Latin American nations. May be repeated with new content. Maximum credit six units applicable on a master's degree.

675. Seminar in International Relations (3)
Maximum credit six units applicable on a master's degree.

795. Problem Analysis (3)

797. Research in Political Science (3) Cr/NC/SP
Prerequisites: Consent of department chair.
Research in political theory, political parties, comparative government, international relations, public law or American government.

798. Special Study (1-3) Cr/NC/SP
Prerequisites: Consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.

Faculty
Edward F. Alf Jr., Ph.D., Professor of Psychology
Marilyn A. Borges, Ph.D., Professor of Psychology
Jeff B. Bryson, Ph.D., Professor of Psychology
Rebecca B. Bryson, Ph.D., Professor of Psychology
Charles F. Dicken, Ph.D., Professor of Psychology
Louis R. Franzini, Ph.D., Professor of Psychology
Philip S. Gallo Jr., Ph.D., Professor of Psychology
Richard G. Graf, Ph.D., Professor of Psychology
William K. Graham, Ph.D., Professor of Psychology
John M. Grossberg, Ph.D., Professor of Psychology (Graduate Adviser)
Herbert Harari, Ph.D., Professor of Psychology
Robert C. Harrison, Ph.D., Professor of Psychology
William A. Hillix, Ph.D., Professor of Psychology
William A. Huntrichs, Ph.D., Professor of Psychology
Robert M. Kaplan, Ph.D., Professor of Psychology
Robert L. Karen, Ph.D., Professor of Psychology
Norman Kass, Ph.D., Professor of Psychology
Jerry W. Koppman, Ph.D., Professor of Psychology
Bruce T. Leckart, Ph.D., Professor of Psychology
Joseph R. Levine, Ph.D., Professor of Psychology
Ailan J. Lithwick, Ph.D., Professor of Psychology, Chair of Department
Rosalind A. Loring, Ph.D., Professor of Psychology
Roy D. McDonald, Ph.D., Professor of Psychology
Sandra O. Mollenaer, Ph.D., Professor of Psychology
Edward F. O'Day, Ph.D., Professor of Psychology
Robert Penn, Ph.D., Professor of Psychology
Rod Pidnik, Ph.D., Professor of Psychology
Robert Radlow, Ph.D., Professor of Psychology
Miriam J. Rodin, Ph.D., Professor of Psychology
Dennis P. Saccozetto, Ph.D., Professor of Psychology
Jerome M. Satier, Ph.D., Professor of Psychology
Richard H. Schulte, Ph.D., Professor of Psychology
John P. Shaposh, Ph.D., Professor of Psychology
John J. Spandel, Ph.D., Professor of Psychology
Walter R. Stevens, Ph.D., Professor of Psychology
Robert M. Yaremko, Ph.D., Professor of Psychology
James W. Brown, Ph.D., Associate Professor of Psychology
Richard H. Defran, Ph.D., Associate Professor of Psychology
Larry Fenson, Ph.D., Associate Professor of Psychology
Dorothy M. Fragarz, Ph.D., Associate Professor of Psychology
Frederick W. Hornbeck, Ph.D., Associate Professor of Psychology
Raymond Lee, Ph.D., Associate Professor of Psychology
Elizabeth Lyn, Ph.D., Associate Professor of Psychology
Sharon M. McCorl, Ph.D., Associate Professor of Psychology
Judy M. Price, Ph.D., Associate Professor of Psychology
Patricia A. Scolay, Ph.D., Associate Professor of Psychology
John R Smith, Ph.D., Associate Professor of Psychology
Rick E. Ingram, Ph.D., Assistant Professor of Psychology

Assistantships
Graduate teaching assistantships and graduate nonteaching assistantships in psychology are available to a limited number of qualified students. Application forms and further information may be obtained from the Chair, Graduate Assistantships Committee, Department of Psychology.
General Information

The Department of Psychology, in the College of Sciences, offers graduate study leading to the Master of Arts degree in Psychology and the Master of Science degree in Psychology. The Master of Arts program is a general psychology program emphasizing predoctoral preparation in one or more areas of psychology. The master of science degree programs offer a choice of study in two concentrations: clinical psychology, and industrial and organizational psychology. The master of science programs are intended to serve a dual purpose of preparation of the student for employment upon completion of the master's degree, as well as preparation for doctoral work in specified areas. The doctorate in psychology is not offered at San Diego State University.

Modern resources are available on campus, at the San Diego Zoo and other community facilities for graduate education and research in comparative, experimental, and physiological psychology. Facilities for clinical practicum and community psychology field work are available on campus in our psychology clinic and in selected local mental health agencies. Opportunities for experience in industrial and organizational psychology are available at nearby military research and personnel-processing units as well as in other local industries. Experimental cubicles, equipment and supplies are available in the department for graduate research. Adequate computer facilities and services are available at the Computer Center.

Admission to Graduate Study

In seeking admission to the graduate program in psychology, the student should write directly to the Graduate Studies Adviser, Department of Psychology, requesting application materials. Detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms.

To be considered for admission to the graduate programs in psychology, all students must meet the general requirements for admission to the University with classified graduate standing as described in Part Two of this bulletin. In addition, applicants must submit a copy of all transcripts of previous college work, three letters of recommendation from persons familiar with higher academic performance, and score reports for the GRE General (Aptitude) Test and the GRE Subject (Advanced) Test in Psychology. These materials must be submitted to the Department of Psychology by March 1 and are in addition to any materials requested by the Admissions office and the Department of Psychology:

Specific Requirements for the Master of Arts Degree

The Master of Arts program requires the completion of at least 30 units of course work in psychology (no more than seven of which may be at the 500 level) including Psychology 580 or 597, 605, 621, or 622, 4 units of Psychology 798 (Colloquium), and 799A (Thesis). In special cases, by petition to the Graduate Committee and the Graduate Council, students may take up to six units of the required 30 units in 500 and above level courses in other departments. All new Master of Arts students are expected to sign up for one unit of 797 during their first semester. This class will provide an overview of current faculty research and will also furnish students with sufficient information to select faculty members with whom they wish to do supervised independent research.

Specific Requirements for the Master of Science Degree

Within the 30-unit (36 units for clinical psychology) general requirement set forth above, the master of science degree may be obtained with the following concentrations:

1. Clinical Psychology: At least 36 units of courses in psychology; no more than seven units of which may be at the 500 level, including Psychology 650, 651 or 652, 654, 655 or 656, 670, 796 (Clinical Practicum), 798 (Colloquium), and 799A (Thesis). Psychology 551 is also required for this program if similar content has not been completed as an undergraduate. Registration for six units of Psychology 796 (Clinical Practicum) is contingent upon prior cooperative arrangement by the student and the Department of Psychology Practicum Committee, and is exempt from the University's requirement that psychology 796 (Clinical Practicum) be limited to 30 percent of units for the master's degree.

2. Industrial and Organizational Psychology: At least 30 units, 24 units of which must be in psychology. Psychology 621, 622, 670, 675, 797, 798 (Colloquium), and 799A (Thesis). Six units of graduate electives may be selected from other departments with prior approval of the Graduate Adviser. No more than seven units may be taken from 500-level courses.

Area Requirement Courses

The courses listed below constitute core courses required for the various graduate programs as listed in the Specific Requirements:

- Clinical Psychology: Theory and Practice (4)
- History of Psychology (3)
- Advanced Principles of Learning and Cognition (3)
- Theoretical Psychology (3)
- Seminar in Personnel Psychology (3)
- Seminar in Organizational Psychology (3)
Additional Courses

The following courses are not part of area requirements and are offered as electives to complete the master of arts and master of science programs. The student is advised to consult the current class schedule since some of the courses may not be offered every semester.

570. Advanced Statistics (3)
571. Correlational Analysis (3)
596. Selected Topics in Psychology (3)
700. Seminar (3)
746. Seminar in Political Psychology (3)
757. Seminar in Selected Topics in Clinical Psychology (3)
764. Seminar in Psychopharmacology and Behavioral Disorders (3)

Courses Acceptable on Master's Degree

UPPER DIVISION COURSES

551. Clinical Psychology: Theory and Practice (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Psychology 250.
Principles of assessment, theory and practice of behavioral 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 and Cognition (3) I, II
Prerequisites: Psychology 210 and 270.
Empirical data, basic principles and theoretical positions of major theorists in learning and cognitive psychology.

596. Selected Topics in Psychology (3)
Prerequisite: 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

Graduate courses in psychology are not open to baccalaureate unclassified students. Priority for enrollment in graduate courses in psychology is given to psychology students who have the courses as requirements in their respective programs.

605. Seminar in Theoretical Psychology (3)
Prerequisite: Consent of graduate adviser.
Basic nature of theories, their relationships to data, and the characteristics of various types of constructs used in psychological theories.
Course may be repeated provided it is offered by a different instructor and the subject matter is substantially different. To enroll in the seminar for the second time, the student must submit a petition to be approved by the professor of the course and the graduate adviser.
Maximum credit six units applicable on a master's degree.

621. Seminar in Personnel Psychology (3)
Prerequisites: Psychology 320 and consent of graduate adviser.
Problems and procedures in selection, classification, and performance appraisal, focusing on testing in industry, the interview, and other selection and assessment devices. Criterion development and measurement methods.

622. Seminar in Organizational Psychology (3)
Prerequisites: Psychology 320 and consent of graduate adviser.
Applications of psychological principles and methods of investigation to problems of industrial relations and motivation of employees. Factors influencing morale and employee productivity; criteria of job proficiency; psychological aspects of worker-management relationships and leadership.

650. Seminar and Laboratory in Counseling and Psychotherapy (4)
Two lectures and six hours of laboratory.
Prerequisite: Psychology 551 and consent of graduate adviser.
Practiced in the application of psychodynamic and counseling techniques from selected cognitive, dynamic, interpersonal, and behavioral approaches.
This course is open only to students accepted in the clinical psychology concentration.

651. Seminar in Behavior Disorders of Childhood and Adolescence (3)
Prerequisites: Psychology 350 and consent of graduate adviser.
Consideration of developmental, cognitive and social variables as well as theory and treatment.

652. Seminar in Behavior Disorders of Adults (3)
Prerequisites: Psychology 350 and consent of graduate adviser.
Contemporary approaches to emotional and behavioral problems of adulthood.

653. Seminar in Psychological Assessment I (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 554 and consent of graduate adviser.
Theoretical approaches to the assessment of intelligence and special abilities.

654. Seminar in Psychological Assessment II (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 505, 405, and consent of graduate adviser.
Theory and practice in assessment of intelligence and special abilities.

655. Seminar in Psychological Assessment III (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 505, 405, and consent of graduate adviser.
Theory and practice in assessment of special abilities, personality and behavior disorders.

656. Seminar in Behavior Therapy and Laboratory (4)
Two lectures and six hours of laboratory.
Prerequisites: Consent of graduate adviser. Recommended: Psychology 587.
Supervised practice in the application of behavior therapy (individual treatment) and behavior modification (group method).
This course is open only to students accepted in the clinical psychology concentration.

670. Experimental Design (3)
Prerequisites: Psychology 410, consent of graduate adviser.
Principles and methods of planning and carrying out systematic investigations to answer questions concerning human behavior with stress on the interdependence of experimental design and statistical evaluation of results. Practice in formulation of testable hypotheses, techniques of equating groups, solution of sampling problems, and interpretation of results.
675. Seminar in Psychological Measurement (3)
Prerequisites: Psychology 405 and consent of graduate adviser. Recommended: Psychology 571 and 670.
General principles, theory and methods underlying measurement in studies of group and individual differences in controlled experiments.

700. Seminar (3)
Prerequisite: Consent of graduate adviser.
An intensive study in advanced psychology. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master’s degree.

745. Seminar in Social Psychology (3)
Prerequisite: Consent of graduate adviser. Recommended: Psychology 340 or 412.
Issues of contemporary importance in the field. See Class Schedule for specific content.
Course may be repeated provided it is offered by a different instructor and the subject matter is substantially different. To enroll in the seminar for the second time, the student must submit a petition to be approved by the professor of the course and the graduate adviser. Maximum credit six units applicable on a master’s degree.

746. Seminar in Political Psychology (3)
Prerequisite: Consent of graduate adviser. Recommended: Psychology 340.
Psychological factors of the individual’s political behavior; psychological theory as it applies to political variables such as ideology, conflict, consensus, and participation.

757. Seminar in Selected Topics in Clinical Psychology (3)
Prerequisite: Consent of graduate adviser. Recommended: Psychology 551.
Advanced study of such clinical topics as community mental health, forensic psychology, ethics, and autogenic training. Topics will vary on a semester basis.
Course may be repeated provided it is offered by a different instructor and the subject matter is substantially different. To enroll in the seminar for the second time, the student must submit a petition to be approved by the professor of the course and the graduate adviser. Maximum credit six units applicable on a master’s degree.

760. Seminar in Physiological Correlates of Behavior (3)
Prerequisites: Psychology 260 or six units of biology, and consent of graduate adviser.
An exploration of current research and theory in physiological psychology with emphasis on behavioral correlates and psychophysiology.
Course may be repeated provided it is offered by a different instructor and the subject matter is substantially different. To enroll in the seminar for the second time, the student must submit a petition to be approved by the professor of the course and the graduate adviser. Maximum credit six units applicable on a master’s degree.

761. Seminar in Ethology and Comparative Psychology (3)
Prerequisites: Psychology 414 or 417 or Biology 411, or Zoology 570, and consent of graduate adviser.
Current problems in ethology and comparative animal behavior. Maximum credit six units applicable on a master’s degree. Not open to students with credit in Zoology 625.

764. Seminar in Psychopharmacology and Behavioral Disorders (3)
Prerequisites: Psychology 260 and consent of graduate adviser.
Drugs as cause and cure of behavioral problems. A review of drugs commonly used to change behavior in primary schools, psychiatric centers, in-home programs and mental hospitals.

796. Clinical Practicum (3 or 5) Cr/NC/SP
Prerequisites: Psychology 650 and 654 and consent of the Department of Psychology Practicum Committee.
The student must arrange his practicum setting in cooperation with the chairman of the Psychology Department Practicum Committee and with the express approval of that committee during the semester prior to enrolling for credit in this course. Maximum credit six units applicable on a master’s degree.
This course is open only to students accepted in the Clinical Psychology concentration.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of graduate adviser.
Research in one of the fields of psychology. Maximum credit six units of 797 and 798 combined applicable on a master’s degree.
Public Administration and Urban Studies

Faculty
- James A. Clapp, Ph.D., Professor of Public Administration and Urban Studies
- James A. Gazelli, Ph.D., Professor of Public Administration and Urban Studies
- Stuart H. Gilbreath, Ph.D., Professor of Public Administration and Urban Studies
- G. Thomas Gitchoff, Dr. Crim., Professor of Public Administration and Urban Studies
- Louis M. Rea, Ph.D., Professor of Public Administration and Urban Studies (M.C.P. Graduate Adviser), Director of School
- Ronald L. Bionetter, Dr. Crim., Associate Professor of Public Administration and Urban Studies
- Dipak K. Gupta, Ph.D., Associate Professor of Public Administration and Urban Studies
- Joyce D. Ross, Ph.D., Associate Professor of Public Administration and Urban Studies
- Glen W. Sprowl, Ph.D., Associate Professor of Public Administration and Urban Studies (M.P.A. Graduate Adviser)
- Robert L. Stock, Ph.D., Associate Professor of Public Administration and Urban Studies
- L. Paul Sutton, Ph.D., Associate Professor of Public Administration and Urban Studies
- Nico Calavita, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Roger W. Cavos, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Joel H. Henderson, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Darrell L. Pugh, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Marco G. Walshok, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Robert J. Waste, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Itzhak Winh, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Dipak K. Gupta, Ph.D., Associate Professor of Public Administration and Urban Studies
- Itzhak Winh, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Marco G. Walshok, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Robert J. Waste, Ph.D., Assistant Professor of Public Administration and Urban Studies
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- Joel H. Henderson, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Darrell L. Pugh, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Marco G. Walshok, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Robert J. Waste, Ph.D., Assistant Professor of Public Administration and Urban Studies
- Itzhak Winh, Ph.D., Assistant Professor of Public Administration and Urban Studies

General Information
Public Administration and Urban Studies, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Public Administration degree, and the Master of City Planning degree. Research facilities provided include the Institute of Public and Urban Affairs and the Public Administration Center. The San Diego metropolitan community affords significant internship opportunities for the graduate student in federal, state, and local government agencies.

Public Administration and Urban Studies MPA degree appears on the Roster of the National Association of Schools of Public Affairs and Administration (NASPAA) programs found to be in substantial conformity with standards established for professional master's degrees in public affairs and administration.

Master of Public Administration Degree
This degree permits the selection, under advisement, of a program of course and seminar work which may be oriented toward a generalist approach or toward an emphasis on organizational behavior and development, public policy analysis, and administration, or urban administration. Also offered are concentrations in Criminal Justice Administration, Public Telecommunications Administration and City Planning, each consisting of 15 units within the required program for the Master of Public Administration. Since management responsibilities are shared by administrators in a number of professional areas in the public service, the student is encouraged to supplement the study of government and administration with graduate courses in economics, sociology, psychology, business administration, and other related areas.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. The student must also satisfy the following requirements: (1) a 3.0 grade point average in the undergraduate major and a 2.75 overall average; (2) an acceptable score on the GRE General (Aptitude) Test; (3) two letters of reference from individuals who have known the student's academic work and/or employment performance, and (4) satisfactory completion of Public Administration 301, 330, 450 or equivalent courses, and a course in quantitative analysis or statistics.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as described in Part Two of this bulletin and be recommended by the faculty. One must also (1) have achieved a grade point average of 3.5 in Public Administration 600 and three additional courses from among Public Administration 604, 605, 606, 630, 650, 660, with no grade below B; or (2) pass satisfactorily a general written examination in public administration. The examination will be offered each semester for all students who have completed 12 or more units of study toward the master's degree.

Specific Requirements for the Master of Public Administration Degree
In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master's degree as described in Part Two of this bulletin. Students must also complete as a part of their programs: (1) at least 27 units of 600- and 700-numbered courses including Public Administration 600, 604, 605 or 606, 630, 650 and 660; (2) a minimum of nine additional units of upper division or graduate courses in public administration or related fields selected under advisement. An internship of 12 units (one semester) beyond the 36 units of course work is required of students who have not had equivalent experience. The internship normally will be served in a governmental agency where the intern will perform duties of an administrative nature. Placements typically will be made in the office of a city manager, a budget office, a personnel office or in the office of the head of a major operating department. Public Administration 799A Thesis, must be included in the program unless Plan B with a comprehensive examination in lieu of the thesis is selected by the student with the approval of a graduate adviser.

The student in the concentration in Criminal Justice Administration must complete the following courses as part of the MPA degree: Criminal Justice Administration 601, 602, 604, 605, and 701 and 971.

The student in the concentration in Public Telecommunications Administration must complete 12 units from the following courses as part of the MPA degree: six units from Telecommunications and Film 650, 750, 775, 780 and six units from Telecommunications and Film 550, 555, 560, 570, 575, 590, 670, 700, 750, and 775.

The student in the concentration in City Planning must complete 15 units in the following courses as part of the MPA degree: City Planning 610, 630, 640, 670, 700.

Master of City Planning Degree
Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. The student must possess a bachelor's or higher degree in geography, political science, public administration, urban administration, landscape architecture, or any fields related to planning. Students with degrees in architecture or landscape architecture, or any fields related to planning (students with degrees in landscape architecture, or any fields related to planning). In the event that deficiencies occur in a student's background and training, the graduate committee will examine the student's past record and recommend a program to make up the deficiencies.

Students seeking admission to the graduate program in urban planning which leads to the Master of City Planning degree should address their inquiries to the director of the program. Detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms. As there are specific requirements for the program, it is not sufficient merely to file the general university admission forms. Students are admitted to the program in the fall and spring semesters of each year.
Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, as described in Part Two of this bulletin and be recommended by faculty. In order to be recommended for advancement, a student must have (1) achieved a grade point average of 3.0 in 15 units of City Planning courses, or (2) passed satisfactorily a written examination in areas of deficiency. The examination will be offered at the end of the spring semester for all students who have completed 12 or more units of study toward the master's degree.

Specific Requirements for the Master of City Planning Degree

In addition to meeting the requirements for classified graduate standing for the purpose of pursuing the Master of City Planning degree, the student must complete an approved program of studies consisting of at least 57 units of approved upper division and 600- and 700-numbered courses, to include:

1. City Planning 610, Seminar in Urban Planning (3)
   City Planning 625, Quantitative Techniques in Urban Planning (6)
   City Planning 630, Seminar in Urban Planning Implementation (3)
   City Planning 640, Seminar in Urban Planning Theory (3)
   City Planning 650, Seminar in Urban Theory (3)
   City Planning 670, History of Urban Planning (3)
   City Planning 700, Urban Design and Land Use Planning Studio (3)

2. Nine units of 600- and 700-numbered courses in planning elective courses, readings and research.

3. City Planning 796, Internship in Urban Planning (3-6) Cr/NC

4. Public Administration 604, Methods of Analysis in Public and Urban Affairs (3)

5. Other electives to complete program selected with the approval of adviser.

6. Students in Plan B are required to pass comprehensive examinations in five areas of study. Students who have approval of the graduate adviser to pursue Plan A must include on their programs City Planning 799A. Thesis.

At least 30 units must be completed in residence at San Diego State University, and at least 24 units of program courses shall be enrolled in and completed after advancement to candidacy.

Not more than a total of nine units in courses 797 and 798 will be accepted for credit toward the degree.

Courses Acceptable on Master's Degree Programs in Public Administration and Urban Studies

UPPER DIVISION COURSES

CRIMINAL JUSTICE ADMINISTRATION 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 321.
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.
Basic concepts, history, legislation, and practices used in work with juveniles and adults who have been placed on probation or parole; criteria of selection, methods of supervision, and elements of case reporting.

Prerequisite: Criminal Justice Administration 301.
Application of planning, research and program development and evaluation principles to the field of criminal justice.

543. Community Resources in Criminal Justice Administration (3)
Prerequisite: Criminal Justice Administration 301.
Exploration of present and probable roles of public and private agencies and volunteers in criminal justice administration.

550. Crime Prevention Administration and Social Control (3)
Prerequisite: Criminal Justice Administration 301.
Examination of policies and probable consequences of both public and private crime prevention efforts from a social control perspective.

PUBLIC ADMINISTRATION COURSES

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 grants-in-aid.

512. The Metropolitan Area (3), 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.

525. The U.S. City Planning Process (3), I
Prerequisite: Public Administration 320 or graduate standing.
Description and critique of traditional city planning process; styles and roles of city planner; city planning values and ethics.

530. Negotiation and Bargaining in the Public Service (3)
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)
Prerequisite: Public Administration 330.
Historical development, legal basis and organizational implications of governmental employer-employee relations; emphasis on California local government.

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.

550. Budgetary and Financial Administration in the Public Sector (3)
Prerequisites: Public Administration 301 and 450.
Management trends in public sector financial administration; budgetary procedures and techniques; control and monitoring systems. Cash management, capital projects management, debt administration, disbursement, funds management, and auditing.

570. Administrative Law (3)
Prerequisite: Public Administration 301.
The law of public office and public officers, powers of administrative authorities, scope and limits of administrative powers, remedies against administrative action.
GRADUATE COURSES

580. Comparative Public Administration (3)
Prerequisite: Public Administration 301.
Analysis of the cultural basis of administrative systems.

600. Scope of Public Administration (3)
Prerequisite: Six upper division units in public administration.
The development of public administration as an academic discipline; a systematic evaluation of the rise and operations of large-scale public bureaucracies.

604. Methods of Analysis in Public and Urban Affairs (3)
Prerequisite: Credit or concurrent registration in Public Administration 600.
Research design for problems and cases in public affairs; summarizing/organizing data; methods of projection; sampling theory and application; using census and other secondary data sources.

605. Seminar in Research Methods in Public Administration (3)
Prerequisites: Public Administration 600 and 604.
Examination of basic research approaches, i.e., legal, historical, and small-group, etc.

606. Seminar in Quantitative Approaches to Public Administration (3)
Prerequisites: Public Administration 600 and 604.
Advanced techniques for analyzing problems in public and urban affairs; emphasis on computer applications.

620. Seminar in Management of Urban Governments (3)
Selected problems in the management of urban governments. Maximum credit six units applicable on a master's degree.

621. Seminar in the Metropolitan Area (3)
Prerequisite: Public Administration 310, 512 or 520.
Selected problems in the government and administration of the world's major metropolitan areas.

630. Seminar in Public Personnel Administration (3)
Prerequisite: Public Administration 600.
Analysis of selected problems in personnel administration; special emphasis on organizational development and consultation skills as emerging personnel functions. Maximum credit six units applicable on a master's degree.

632. Seminar of Organization Development in the Public Sector (3)
Prerequisite: Public Administration 600.
Organization development theory and practice. Emphasis on organizational diagnosis, intervention theory, team building and process consultation skills as they apply to public sector organizations.

633. Collective Bargaining in the Public Sector (3)
Prerequisite: Public Administration 530 or 531.
Simulation of public sector collective bargaining. Students will participate in all facets of the bargaining process including data collection, proposal preparation, formal/informal negotiation, fact-finding and mediation. Videotape feedback will be used extensively.

640. Seminar in Public Administration (3)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

642. Seminar in Administrative Theory (3)
Prerequisite: Public Administration 600.
Organization and management, the executive role, decision making, bureaucracy, authority and power, communication and control and organizational systems, goals and strategies in effective management.

643. Seminar in Administrative Behavior (3)
Prerequisite: Public Administration 340.
Intrapersonal, interpersonal and group development knowledge which enhances the administrator's effectiveness. Simulations and structured experiential designs examine behaviors encountered in public bureaucracies.

650. Seminar in Public Financial Management (3)
Prerequisite: Public Administration 450.
Problems in the administration and budgeting of public revenues.

660. Administration and Public Policy Development (3)
Prerequisite: Public Administration 600.
Social, political and administrative problems involved in governmental program development and change.

670. Seminar in Administrative Law (3)
Prerequisite: Public Administration 570.
Legal aspects and problems of administration at the federal, state and local levels.

680. Seminar in Comparative Administration (3)
Prerequisite: Public Administration 301.
Selected problems in administration, organization, and processes of foreign and international governments. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

791. Readings in Public Administration (3)
Prerequisite: Public Administration 600.
Selected Readings in the literature of public administration.

792. Problem Analysis (3)

796. Internship in Public Administration (3-12) Cr/NC
Prerequisites: Consent of instructor.
Stipends will be assigned to various government agencies and will work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences. Admission by consent of instructor.
The 12 units of 796 will be exempt from the University's requirement that courses graded Cr/NC be limited to 30 percent of units for the master's degree.

797. Research in Public Administration (3) Cr/NC/SP
Prerequisite: Consent of Director, Public Administration and Urban Studies.
Research in one of the areas of public administration. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with the Director and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university, also student must be registered in the course when the completed thesis is granted final approval.

GRADUATE COURSES IN CITY PLANNING

610. Seminar in Urban Planning (3)
Introductory seminar to the Master of City Planning Program, focusing on the planner's perspective of urban problems and goal formation.

620. Seminar in Urban Planning Methodologies (3)
Prerequisite recommended: City Planning 610.
Procedures and analytical techniques for advanced urban planning analysis.
625. Quantitative Techniques in Urban Planning (6)  
Three lectures and nine hours of laboratory.  
Prerequisites: City Planning 610 and Public Administration 604.  
Contemporary techniques and methodologies of planning analysis; a practicum emphasizing survey research, environmental impact techniques, case studies in demographic and economic analysis.

630. Seminar in Urban Planning Implementation (3)  
Prerequisite recommended: City Planning 620.  
Analysis of the content and function of zoning, subdivision regulation, codes, capital budgetting, urban renewal, model cities, and other implementation methods and programs.

635. Seminar in Housing and Housing Policy (3)  
Study, definition and analysis of housing needs and problems. Public policies and programs addressed to housing issues. Alternative solutions and the role of the private and public sectors.

640. Seminar in Urban Planning Theory (3)  
Prerequisite recommended: City Planning 630.  
Alternative theories of planning and organization of the planning function. Emphasis on conceptual foundations, relationship to governmental structure, decision making, and ideological and ethical orientations.

650. Seminar in Urban Theory (3)  
Study of the various empirically and normatively based theories of the city and urbanization process, with emphasis on communication and transaction and institutional approaches.

665. Seminar in Urban and Regional Planning Analysis (3)  
Theories and techniques of urban and regional planning analysis.

670. History of Urban Planning (3)  
History of urban development and of the field of urban planning.

675. Seminar in Urban and Regional Development Analysis (3)  
Review of case studies related to planning of developing regions throughout the world. Emphasis on U.S.-Sunbelt, Mexico and border areas.

680. Seminar in Readings in Urban Planning (3)  
Selected topics in urban planning. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

700. Urban Design and Land Use Planning Studio (3)  
One lecture and six hours of laboratory.  
Prerequisite recommended: City Planning 620.  
Laboratory course concerned with graphic expression, principles of land use planning, land development, and urban design. Project integrating principles.

710. Seminar in Theories of Urban Design (3)  
Perspectives and methodologies of contemporary urban design and its contribution toward improving the quality of the physical, social and economic environment.

720. Seminar in Land Use and Environmental Law (3)  
Cases and studies in zoning, coastal planning, growth management and environmental assessment.

730. Seminar in Urban Transportation Planning (3)  
Issues, techniques and practices in urban transportation planning with general emphasis on interrelations between transportation and land use planning.

796. Internship in Urban Planning (3-6) Cr/NC  
Students will be assigned to various government agencies and will work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences.

797. Research in Urban Planning (3) Cr/NC/SP  
Prerequisite recommended: Consent of Director of City Planning Program.  
Research in one of the areas of urban planning. Maximum credit six units applicable on a master's degree.
Public Health

Faculty

Environmental and Occupational Health
- John B. Conway, M.P.H., Ph.D., Professor of Public Health, Division Head
- Behzad Sammi, Ph.D., Associate Professor of Public Health
- Ann de Peyster, Ph.D., Assistant Professor of Public Health
- Hon-Wing Leung, Ph.D., Assistant Professor of Public Health
- John J. Hanlon, M.D., Lecturer in Public Health
- Agnes Rovanek, M.D., Professor of Public Health
- F. Douglas Scutchfield, M.D., Professor of Public Health, Director of the Graduate School
- A. Peter Anderson, M.D., Professor of Sociology and Adjunct Professor of Public Health
- John R. Weeks, Ph.D., Professor of Sociology
- J. William Cox, Ph.D., M.D., Distinguished Visiting Lecturer, Associate Director Graduate School of Public Health
- Helen M. Wallace, M.D., M.P.H., Professor of Public Health, Division Head
- Melbourne P. Howlett, Ph.D., M.P.H., Associate Professor of Public Health and Health Science, Division Head
- Walter D. Sorohan, H.S.D., M.P.H., Professor of Health Science and Adjunct Professor of Public Health
- Craig A. Molgaard, Ph.D., Assistant Professor of Public Health
- A. Charles B. Bell, Ph.D., Professor of Public Health and Mathematics
- Amanda L. Goltz, Ph.D., Assistant Professor of Mathematics and Lecturer in Public Health
- Charles B. Bell, Ph.D., Professor of Public Health and Mathematics
- Robert L. Seidman, Ph.D., Assistant Professor of Public Health and Economics
- K. Michael Peddecord, Dr.P.H., Assistant Professor of Public Health
- Karen L. Senn, Ed.D., M.P.H., Assistant Professor of Health Science and Adjunct Assistant Professor of Public Health
- Stephen J. Binder, H.S.D., M.P.H., Professor of Health Science and Public Health
- Melbourne P. Howlett, Ph.D., M.P.H., Associate Professor of Public Health and Health Science, Division Head
- Walter D. Sorohan, H.S.D., M.P.H., Professor of Health Science and Adjunct Professor of Public Health
- David A. Sleet, Ph.D., Associate Professor of Health Science and Adjunct Associate Professor of Public Health
- Karen L. Senn, Ed.D., M.P.H., Assistant Professor of Health Science and Adjunct Assistant Professor of Public Health

Epidemiology and Biostatistics
- Charles B. Bell, Ph.D., Professor of Public Health and Mathematics
- Herschel E. Griffin, M.D., Professor of Public Health
- Craig A. Molgaard, Ph.D., Assistant Professor of Public Health
- Abram S. Benenson, Ph.D., Associate Professor of Public Health
- John B. Conway, M.P.H., Ph.D., Professor of Public Health, Division Head
- Alana L. Goebel, Ph.D., Assistant Professor of Mathematics and Lecturer in Public Health
- Jennifer R. Weeks, Ph.D., Professor of Sociology
- John R. Weeks, Ph.D., Professor of Sociology
- J. William Cox, Ph.D., M.D., Distinguished Visiting Lecturer, Associate Director Graduate School of Public Health
- Helen M. Wallace, M.D., M.P.H., Professor of Public Health, Division Head
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- Walter D. Sorohan, H.S.D., M.P.H., Professor of Health Science and Adjunct Professor of Public Health
- David A. Sleet, Ph.D., Associate Professor of Health Science and Adjunct Associate Professor of Public Health
- Karen L. Senn, Ed.D., M.P.H., Assistant Professor of Health Science and Adjunct Assistant Professor of Public Health

Health Services Administration
- Milton M. Chen, Ph.D., Professor of Management and Adjunct Professor of Public Health
- Stephen J. Williams, Sc.D., Professor of Public Health, Division Head
- William E. Sterk, M.B.A., Ph.D., Associate Professor of Finance and Adjunct Associate Professor of Public Health
- Alana L. Goebel, Ph.D., Assistant Professor of Public Health
- K. Michael Peddecord, Dr.P.H., Assistant Professor of Public Health
- Robert L. Seidman, Ph.D., Assistant Professor of Public Health and Economics
- J. William Cox, Ph.D., M.D., Distinguished Visiting Lecturer, Associate Director, Graduate Adviser

Maternal and Child Health
- Helen M. Wallace, M.D., M.P.H., Professor of Public Health, Division Head
- John R. Weeks, Ph.D., Professor of Sociology and Adjunct Professor of Public Health
- Robert Biehl, M.D., M.P.H., Lecturer in Public Health
- Agnes Rovanek, M.D., Lecturer in Public Health

Public Health
- Peter A. Dual, Ph.D., M.P.H., Professor of Public Health, Dean of the College of Human Services
- F. Douglas Scutchfield, M.D., Professor of Public Health, Director of the Graduate School
- John J. Hanlon, M.D., M.P.H., Special Consultant and Lecturer in Public Health

General Information
The Graduate School of Public Health in the College of Human Services offers a curriculum leading to the Master of Public Health degree. The Master of Public Health degree enables students to prepare for professional careers with responsibility for public health services in public and private agencies and organizations.

Admission to Graduate Study
Applicants seeking admission to the program leading to the Master of Public Health degree should contact the Graduate School of Public Health requesting appropriate application forms. Detailed information concerning application procedures will be sent to the applicant along with appropriate application forms. Students will be admitted to the Graduate School of Public Health for the fall.

In addition to satisfying the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student seeking admission to the Graduate School of Public Health must: (1) submit a narrative statement as described in Instructions for Applicants; (2) submit three letters of recommendation; (3) present additional evidence of promise of success in academic and professional activities; and (4) document competence or prior academic preparation in the biological sciences, social sciences, and quantitative methods. A personal interview is desired when feasible.

Advance to Candidacy
All students must: (1) meet the general requirements for advancement to candidacy as described in Part Two of this bulletin; (2) satisfactorily pass a faculty evaluation of the progress that they are making in their graduate course of study, and (3) have a grade point average of at least 3.0 and no grade less than a B- in each core course completed; and (4) have completed at least 12 semester units of approved public health course work.

In addition, the student must be recommended for advancement to candidacy by the faculty of the Graduate School of Public Health.

Specific Requirements for the Master of Public Health Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete an officially approved course of study of not less than 48 units (55 units for students in Health Services Administration concentration) including: (1) twelve units of core courses, Public Health 601, 602, 603, 604, and 605; (2) a minimum of 21 units of graduate courses in the area of concentration; (3) a maximum of twelve units of supervised field placement (if the student has not had equivalent field experience), and (4) electives selected with the approval of the graduate adviser. In addition, Public Health 799A, Thesis, must be included in the program except in the Maternal and Child Health and the Health Promotion concentrations where the student may select the Plan B option, with a comprehensive examination in lieu of the thesis when approved by the graduate adviser. Up to six units of graduate credit may be accepted in transfer, with the approval of the graduate adviser.

Certificate in Preventive Medicine Residency
The purpose of the preventive medicine residency certificate is to train physicians to assure that they have adequate knowledge, attitudes, and skills germane to general preventive medicine and occupational medicine. The physician will be eligible to sit for the Board certification examination administered by the American Board of Preventive Medicine.

In addition to satisfying the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student seeking admission to...
the preventive medicine residency must (1) fulfill the admission requirements given above, and (2) have completed a Doctor of Medicine degree from an accredited institution.

The student will be expected to complete a three year course of study which involves the completion of a clinical year provided by the University of California, San Diego School of Medicine, the completion of an academic year leading to the Masters in Public Health degree provided by the Graduate School of Public Health at San Diego State University, and appropriate practicum experiences under the supervision of faculty of one of the two cooperating institutions.

The student is expected to complete the number of units required for the Masters of Public Health degree as well as those additional units which may be prescribed in order to complete the practicum year, i.e., Public Health 750.

The student is expected to have maintained a 3.0 average overall in the course work at the Graduate School of Public Health or at the University of California, San Diego School of Medicine.

Program Adviser:
General Preventive Medicine or Occupational Medicine
F. Douglas Scutchfield, M.D., Director
Graduate School of Public Health

### Concentration in Environmental Health

Courses required for the concentration:
- PH632 Air Quality (3)
- PH634 Environmental Protection (3)
- PH639 Water Quality Investigation (3)
- PH637 Environmental Health Biology (3)
- PH638A Toxicology (3)
- PH638B Methods in Toxicity Testing (3)
- PH739 Quality Assurance in Toxicity Testing (3)

Prescribed electives (a minimum of six additional units selected with the approval of the adviser from):
- PH631 Consumer Health and Safety (3)
- PH633 Air Quality Management (3)
- PH635 Occupational Medicine (3)
- PH636 Environmental Health Biology (3)
- PH637A Toxicology (3)
- PH638 Toxicology (3)
- PH700 Seminar in Public Health (1-3)
- PH712 Environmental Epidemiology (3)
- PH731 Environmental and Occupational Health Policy (3)
- PH732 Principles of Industrial Hygiene (3)
- PH734 Noise in the Work Place and Community (3)
- PH737 Industrial Hygiene Methods (3)
- PH798 Special Study (1-3)

Electives (6 units): These electives may include any public health course or selected graduate level courses in other departments with the approval of the faculty adviser.

### Concentration in Epidemiology

Courses required for the concentration:
- PH621 Epidemiology of Infectious Diseases (3)
- PH622 Epidemiology of Chronic Diseases (3)
- PH627 Introduction to Statistical Methods (3)
- PH700 Seminar in Public Health (3)

Prescribed electives in Epidemiology (two courses selected from):
- PH620 Epidemiological Basis for Disease Control (3)
- PH721 Environmental Epidemiology (3)
- PH798 Special Studies in Epidemiology (1-3) Cr/NC/SP

Electives (3 units selected with the approval of the concentration faculty): These electives may include any public health course or selections from the following:
- Microbiology 520, 525, 650, 720
- Zoology 526, 535
- Family Studies and Consumer Sciences 600, 603, 605, 606, 607, 609, 700
- Mathematical Sciences 550, 551A, 672, 673, 674, 677

### Specialization in Epidemiology-Biostatistics

Courses required for the specialization:
- PH622 Epidemiology of Chronic Diseases (3)
- PH627 Introduction to Statistical Methods (3)
- PH650 Field Practice (3-6)
- Mathematics 551A, 551B Mathematical Statistics (6)
- Mathematics 554 Computer Oriented Statistical Analysis (3)
- Mathematics 673 Sample Surveys (3)
- Mathematics 677 Design of Experiments (3)

Prescribed electives (3 courses selected with approval of adviser):
- PH623 Epidemiological Methods (3)
- PH624 Epidemiological Methods (3)
- Mathematics 553 Stochastic Processes (3)
- Mathematics 672 Nonparametric Statistics (3)

Approved public health or graduate biology course (3)
Concentration in Maternal and Child Health

Courses required for the concentration:

- PH651A Problems and Programs in Maternal and Child Health (3)
- PH651B Seminar in Problems and Programs in Maternal and Child Health (3)
- PH652 Maternal Health (3)
- PH653 Family Planning (3)

Prescribed electives in Maternal and Child Health (at least one course selected from):

- PH654 Maternal and Child Health Legislation (3)
- PH700 Seminar in Public Health (1-3)
- PH751 Perinatal Health Care Services (3)
- PH752 Health Care of Children of School Age (3)
- PH753 Health Services for Adolescents (3)
- PH754 Handicapped Children and Youth (3)
- PH755 Public Health Application of Maternal and Child Care (3)

Electives (6 units selected with the approval of the concentration faculty). These electives may include any public health course or selections from the following:

- Family Studies and Consumer Sciences 607, 700
- Special Education 510, 512, 513, 670, 680
- Sociology 770

Concentration in Health Services Administration

Courses prerequisite to this concentration are Accountancy 600 and Economics 603 or their equivalents as determined by the graduate adviser. If these courses or the equivalents have not been completed prior to admission, they should be included in the first semester course requirements.

Accountancy 600 Financial Accounting
Economics 603 Economic Analysis

Courses required for the concentration:

- PH641 Health Care Delivery Systems (3)
- PH642A Professional Development of the Health Services Administrator (3)
- PH642B Professional Development of the Health Services Administrator (3)
- PH644 Health Services Management (3)
- PH645 Health Services Economics (3)
- PH647 Quantitative Methods (3)
- PH742 Health Services Financial Management (3)

Setting electives (at least one):

- PH743 Organization and Management of Health Services
  - A. Hospitals
  - B. Long-term Care
  - C. Ambulatory Care

Skill electives (6 units selected with approval of the faculty). The following are highly recommended as skill electives.

A. Planning Skills
- PH643 Institutional and Community Health Planning (3)
- PH744 Advanced Health Planning (3)
- MGT612 Quantitative Methods II (3)
- PH600 Scope of Public Administration (3)
- MKTG605 Marketing (3)
- MKTG766 Seminar in Market Analysis and Research (3)

B. Economic and Social Analysis Skills
- PH741 Health Policy and Politics (3)
- PH746 Seminar in Health Economics (3)
- PH747 Program Evaluation in Health Services (3)
- PH748 Health Services Research (3)

Concentration in Health Promotion

Courses required for the concentration:

- PH607 Research Methods and Proposal Writing Concerning Health Promotion (3)
- PH641 Theoretical Foundations of Health Promotion (3)
- PH663 Prevention and Control of Chronic Diseases (3)
- PH664 Health Promotion Communications Theory and Design (3)
- PH667 Health Promotion Program Planning and Assessment (3)

Prescribed electives (choose two or more different courses from):

- PH644 Health, Society and Human Behavior (3)
- PH645 Health Promotion in Clinical Settings (3)
- PH667 Prevention and Control of Chronic Diseases (3)
- PH668 Seminar in Health Promotion Research (3)
- PH669 Health Risk Appraisal (3)
- PH671 Health Promotion in Work Settings (3)
- PH700 Seminar in Public Health (1-3)
- PH711 Programming Health Promotion (3)
- PH762 Behavioral Medicine (3)
- PH765 Stress and Disease (3)
- PH768 Research (3) C/C/C/SP

Electives (6 units to be chosen with the approval of the faculty from any Public Health course or Health Science 573, 574).
## Courses Acceptable on Master's Degree Programs in Public Health

### GRADUATE COURSES

#### 601. Epidemiology (3)
- Prerequisites: Biology 261, Mathematics 104. Recommended: Biology 215.
- Distribution and determinants of diseases; role of epidemiology in public health. Descriptive, analytic and experimental epidemiology.

#### 602. Biostatistics (3)
- Prerequisite: Mathematics 104.
- Concepts of statistical reasoning applied to public health problems; design of community health studies, collection, tabulation, presentation and interpretation of data.

#### 603. Behavioral and Social Science in Public Health (2)
- Prerequisites: Anthropology 426, Psychology 316, 340, Sociology 526.
- Role of psychological, social, and environmental variables in health and illness. Multifactorial psychosocial model of disease susceptibility.

#### 604. Environmental Determinants of Human Health (2)
- Prerequisites: Biology 100, Chemistry 100.
- Environmental determinants and their influence on human health. Biological, physical and chemical factors which affect the health of a community.

#### 605. Planning, Policy Analysis and Administration of Health Programs (2)
- Prerequisite: Sociology 101.
- U.S. health care system with focus on resources planning, policy, and management includes health consumer issues, health organizational problems and elements of public health administration.

#### 607. Research Methods and Proposal Writing Concerning Health Promotion (3)
- Prerequisites: Public Health 601, 602.
- Direct observation measurement techniques, group and intensive experimental designs concentrating on testing the efficacy of health promotion intervention. Practice in proposal writing.

#### 621. Epidemiology of Infectious Diseases (3)
- Prerequisite: Public Health 601.
- Utilizing selected infectious diseases and environmental settings, provides scientific background on which epidemiological investigations and control measures are based.

#### 622. Epidemiology of Chronic Diseases (3)
- Prerequisite: Public Health 601.
- Epidemiology of selected chronic diseases.

#### 623. Epidemiological Methods (3)
- Prerequisites: Public Health 602, 621, or 622.
- Topics include: analysis of descriptive data, design of studies, evaluation of data, development of biological models. Examples of both acute and chronic diseases.

#### 624. Epidemiological Basis for Disease Control (3)
- Prerequisites: Public Health 601 and 602.
- Approaches to prevention and treatment of selected acute and chronic diseases. Potential effectiveness of control programs, results of clinical trials, and uses of epidemiological methods in program evaluation.

#### 625. Control of Infectious Diseases (3)
- Prerequisite: Public Health 621.
- Theoretical and practical experience in techniques available for control of infectious diseases.

#### 627. Introduction to Statistical Methods (3)
- Prerequisite: Public Health 602.
- Techniques for application of statistical theory to actual data. Topics include probability theory, estimation of parameters, and tests of hypothesis for both the discrete and continuous case.

#### 631. Consumer Health and Safety (3)
- Health problems associated with consumer goods, toys, apparel, aerosols and food additives.

#### 632. Air Quality (3)
- Prerequisites: Biology 100, Chemistry 251, Physics 180A.
- Theory and application of sample analysis, manual and automated means, site selection, gas and aerosol sampling; monitoring; biological effect of air pollution.

#### 633. Air Quality Management (3)
- One lecture and six hours of laboratory.
- Prerequisite: Public Health 632.
- Techniques and strategies of ambient air pollution control, federal and state air quality regulations; air contaminants control in the work place and OSHA regulations.

#### 634. Environmental Protection (3)
- Rationale and mechanisms for control of water supplies, liquid and solid wastes disposal, land use, heat, food and housing, pesticides and community noise.

#### 635. Occupational Medicine (3)
- Etiology, diagnosis of disease and stress in the modern industrial environment.

#### 637. Environmental Health Biology (3)
- Prerequisites: Public Health 635 and consent of instructor.
- Identification of biological mechanisms of adaptation to environmental influences, including cell injury, repair and inflammation, homeostasis and biochemical adaptation, physiological adaptation, and the mechanisms of carcinogenesis, mutagenesis and teratogenesis. Application of these concepts to public health situations.

#### 638A. Toxicology (3)
- Prerequisites: Chemistry 160, 200 and 201, Biology 261.
- Essentials of industrial toxics; measurement, impact on biological systems and mechanisms for control. (Formerly numbered Public Health 733.)

#### 638B. Methods in Toxicity Testing (3)
- Nine hours of laboratory.
- Prerequisite: Credit or concurrent registration in Public Health 638A.
- Laboratory methods used in evaluating chemicals for potential human toxicity. (Formerly numbered Public Health 738B.)

#### 639. Water Quality Investigation (3)
- Two lectures and three hours of laboratory.
- Prerequisite: Public Health 604 or 634.
- Human health problems associated with water usage and with various aquatic environments.

#### 641. Health Care Delivery Systems (3)
- National health care system; topics include health personnel, facilities, organization and funding of health care.

#### 642A. Professional Development of the Health Services Administrator (3)
- Career opportunities and job functions for health services administrator or planner. Introduces future health services administrator to the field of practice from the perspective of various functional roles that could be entered into upon graduation. Limited to health services administration students.

#### 642B. Professional Development of the Health Services Administrator (3)
- Legal, moral, and ethical issues in health services administration and issues related to personal and professional growth. Professionals, the characteristics of professionals, and functions of professional organizations. Interaction between administrator and other professionals. Limited to health services administration students.

#### 643. Institutional and Community Health Planning (3)
- Prerequisites: Public Health 602 and 641.
- Community based and institutional planning methods, policies and documents. Preparation of a plan for a community, services, or program. Methods for health status assessment, services forecasting and implementation. (Formerly numbered Public Health 643A-643B.)
644. Health Services Management (3)
Prerequisite: Public Health 641.
Decision making, change implementation, and control processes in health care organizations. Emphasizes behavioral, organizational, and situational factors affecting the management role in hospitals, and management strategies for analyzing problems and implementing changes to improve institutional performance.

645. Health Services Economics (3)
Prerequisite: Economics 603.
Topics related to economics of health care, including supply and demand factors, financing of care, efficiency and cost of delivery, and allied areas.

646. Legal Aspects of Health Care (3)
Prerequisite: Public Health 641.
Philosophy and application of law as it relates to the hospital and other health care facilities. Legal process and relation of law and public policy.

647. Quantitative Methods (3)
Prerequisites: Public Health 602 and 641.
Health services applications of quantitative methods to management decision making. Includes subjects applicable to management of hospitals, clinics, and other health care organizations.

648. Human Resources in Health Care (3)
Prerequisites: Public Health 641, 644.
Human resource utilization and development issues in health service organizations. Contemporary problems include: professional relations and controls, communication, staff development, continuing competency, labor relations, special problems in religious and voluntary community affiliated organizations.

650. Field Practice (3-6)
Field instruction in public health settings. Application of public health principles and skills to practical problems. Maximum credit six units of Public Health 650 applicable on a master's degree.
A. Epidemiology
B. Maternal and Child Health
C. Occupational Health
D. Environmental Health
E. Health Services Administration
F. Health Promotion

651A. Problems and Programs in Maternal and Child Health (3)
Prerequisite: Public Health 651A
Major problems in health and social care of mothers and children: programs and services designed to meet major needs. (Formerly numbered Public Health 651.)

651B. Seminar in Problems and Programs in Maternal and Child Health (3)
Prerequisite: Public Health 651A
Preparation for practice in one of the major fields of public health. Theory and practice, with emphasis on practical problems and techniques for solving them. Opportunity for problem solving and case discussions. (Formerly numbered Public Health 603.)

652. Maternal Health (3)
Prerequisite: Concurrent registration in Public Health 651A
Major health problems and needs in health care of girls and women in the childbearing age; preconceptional prenatal, postpartum, interconceptional care and services; maternal mortality; antecedents of infant and perinatal mortality; nutrition; nurse midwifery.

653. Family Planning (3)
Prerequisite: Public Health 651A
Physiology of menstruation, pregnancy and lactation; methods of contraception, effectiveness, safety, acceptance and cost; abortion; sterilization; family planning services and programs.

654. Maternal and Child Health Legislation (3)
Prerequisite: Credit or concurrent registration in Public Health 651B
Present and proposed status and trends of legislation for the health care of mothers and children. Organization of health care for mothers and children at national, state and local levels.

661. Theoretical Foundations of Health Promotion (3)
Prerequisite: Health Science 400.
History and philosophy of health education. Psychological, sociological, economic, and political theories relevant to the mission and processes of health education with special reference to schools and colleges. (Formerly numbered Health Science 621.)

662. Motivating Health Behavior (3)
Prerequisite: Health Science 401.
Application of behavioral change techniques and health education methodology in health promotion activities within the school-community setting. (Formerly numbered Public Health 606.)

663. Health Promotion Communications Theory and Design (3)
Prerequisite: Health Science 402.
Theory, design and implementation of health education communications in school and community contexts. Extensive use of student design, analysis, and projects.

664. Health, Society and Human Behavior (3)
Prerequisites: Psychology 101, Sociology 101.
Historical and contemporary examination of health problems of individuals and communities. Health needs, resources; impact of society on health and health on society. (Formerly numbered Public Health 603.)

665. Health Promotion in Clinical Settings (3)
Two lectures and three hours of activity.
Prerequisites: Public Health 661 and 662
Planning, organization, implementation, conduct and evaluation of programs of health education and patient health counseling within medical care settings.

666. Health Promotion Program Planning and Assessment (3)
Prerequisites: Public Health 661, 662.
Program planning and assessment, theories, systems and procedures relevant to health promotion and education.

667. Prevention and Control of Chronic Diseases (3)
Prerequisites: Public Health 601 and 602.
Health promotion strategies for modification of individual behaviors and social practices to lower risk of chronic disease.

668. Seminar in Health Promotion Research (3)
Prerequisite: Graduate standing in public health.
Philosophical, ethical and methodological issues in current research and professional publications in public health and health promotion.

669. Health Risk Appraisal (3)
Prerequisites: Public Health 601, 602, 661, 662
Techniques available for identifying personal health risk. Use of these methods for inducing change. Evaluation of effectiveness of methodologies.

671. Health Promotion in Work Settings (3)
Prerequisite: Public Health 666.
Health promotion programs pertinent to business and industrial settings. Environmental, occupational and lifestyle issues.

700. Seminar in Public Health (1-3)
Prerequisites: Public Health 601, 602, and 603
Investigation of current problems in one of the fields of public health. Maximum credit nine units of Public Health 700 applicable on a master's degree. These units may be in a single concentration area or any of the public health concentration areas.
A. Epidemiology
B. Maternal and Child Health
C. Occupational Health
D. Environmental Health
E. Health Services Administration
F. Health Promotion

721. Environmental Epidemiology (3)
Prerequisites: Public Health 602 and 622.
Uses of epidemiological methods in study of environmental hazards affecting community health and health of workers. Case studies.
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731. Environmental and Occupational Health Policy (3)
Prerequisite: Credit or concurrent registration in Public Health 604.
Current issues in environmental and occupational health, including risk assessment, policy development, and program management.

732. Principles of Industrial Hygiene (3)
One lecture and six hours of laboratory.
Prerequisites: Chemistry 251, 431. Recommended Physics 180A.
Fundamentals and rationale for recognition, evaluation, and control of hazardous chemical, physical, and biological agents in the workplace.

733. Toxicology and Hazardous Substances (3)
Prerequisite: Public Health 635.
Essentials of industrial toxins; measurement, impact on biological systems and mechanisms for control.

734. Noise in the Work Place and Community (3)
Two lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Public Health 604.
Noise levels, biological effects of noise and methods of noise control in the community and workplace.

736. Health Problems in Work and the Work Place (3)
Prerequisite: Credit or concurrent registration in Public Health 603.
Social problems relating to the workplace, stress, changing labor trends which affect health.

737. Industrial Hygiene Methods (3)
Nine hours of laboratory.
Prerequisite: Public Health 732.
Techniques and strategies for investigation and control of potential health hazards in an occupational environment.

738. Mechanisms of Toxicity (3)
Prerequisites: Credit or concurrent registration in Public Health 733 and consent of instructor.
Identification of biological mechanisms of toxic exposures and their effects, including absorption, distribution, and metabolism of xenobiotics; dose-response phenomena; threshold effects; homeostasis and compensation; and interaction. Application of these concepts to public health situations.

739. Quality Assurance in Toxicity Testing (3)
Two lectures and three hours of laboratory.
Prerequisite: Public Health 638B.
Protocol and research objectives; proper data collection, analysis, and recordkeeping, quality control in animal studies, contractual and legal responsibility, statistical consideration, laboratory management and personnel safety.

741. Health Policy and Politics (3)
Prerequisite: Public Health 641.
Mechanisms for establishing health policy, political processes, examination of current California and national health policy and policy options for the future.

742. Health Services Financial Management (3)
Prerequisites: Public Health 641, Accountancy 600.
Financing and accounting principles applied to health services facilities and organizations; cost finding, rate setting, operations and capital budgeting.

743. Organization and Management of Health Services (3)
Prerequisite: Public Health 644.
Organization and management of different settings in which health care services are provided. May be repeated with new content. Maximum credit nine units of Public Health 743 applicable on a master's degree.

A. Hospitals
B. Long-term Care
C. Ambulatory Care

744. Advanced Health Planning (3)
Prerequisite: Public Health 643.
Utilization and development of data sources, measurement of health status, application of existing plans and regulations in development of institutional and community health plans. Use of cost benefit analysis, forecasting, and other techniques.

745. Seminar in Health Economics (3)
Prerequisite: Public Health 645.
Operation and interaction of markets for medical care and health insurance. Development of analytical skills appropriate for examining current policy issues in health.

746. Quality of Care Assessment and Assurance (3)
Prerequisite: Public Health 641.

747. Program Evaluation in Health Services (3)
Prerequisites: Public Health 602, 641 and 647.
Evaluation of programs with topics covering population health care needs assessment, establishment of program goals, evaluation design, data collection, as applicable to ongoing programs, statistical analysis, and feedback mechanisms to relate evaluation to program activities.

748. Health Services Research (3)
Prerequisites: Public Health 602, 641 and 647.
Research methods for students wanting exposure to health services research and having no institutional or operational orientation. Multidisciplinary focus and examination of research.

750. Advanced Field Practice (3-6)
Prerequisite: Public Health 650.
Advanced field instruction in public health setting. Intensification and continuation of application of public health principles and skills to public health problems. Maximum credit six units of Public Health 750 applicable on a master's degree.

A. Epidemiology
B. Maternal and Child Health
C. Occupational Health
D. Environmental Health
E. Health Services Administration
F. Health Promotion
G. Preventive Medicine Residency

751. Perinatal Health Care Services (3)
Prerequisite: Public Health 651A.
Perinatal mortality and morbidity; recent efforts at prevention, planning and providing services; results, regionalization of care; follow-up programs and results.

752. Health Studies of Children of School Age (3)
Prerequisite: Public Health 651A.
Major health problems of children of school age; preschool and school health programs; handicapped children of school age; use of school nurse practitioners.

753. Health Services for Adolescents (3)
Prerequisite: Public Health 653.
Health and social problems (school problems and dropout; juvenile delinquency; drugs, alcohol, smoking; pregnancy; venereal disease); growth and development; special health programs.

754. Handicapped Children and Youth (3)
Prerequisite: Public Health 651A.
Principles and management of handicapped infants, children and adolescents (case finding, diagnosis, treatment, rehabilitation; special education; vocational assistance; residential care, prevention); legislative base; funding; common types of developmental disabilities.

755. Public Health Application of Maternal and Child Care (3)
Prerequisite: Public Health 651B.
Public health application of MGH principles as they relate to pregnancy, infants, children and youth.
Recreation

Faculty

Jesse T. Dixon, Ph.D., Professor of Recreation
Mary R. Duncan, Ph.D., Professor of Recreation (Graduate Adviser), Chair of Department
Joyce M. Gattas, Ph.D., Professor of Recreation
Bruno H. Geba, Ph.D., Professor of Recreation
Daniel L. Dustin, Ph.D., Associate Professor of Recreation
Gene G. Lamke, M.A., Associate Professor of Recreation
Donald W. Peterson, Ph.D., Associate Professor of Recreation
Richard K. Namba, M.S., Assistant Professor of Recreation

General Information

The Department offers advanced course work in recreation which may be used toward fulfilling the requirements for master's degrees in other departments with the approval of the student's graduate adviser.

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. Travel camps. Staff management, health and safety, finances, operation of resident, ancillary programs, food services, maintenance, planning and publicity.

565. Recreation Systems Administration and Research (3) I, II

Prerequisite: Recreation 565. Organizational behavior, budgeting, financing, legal and legislative aspects, contracts, grants and future trends of recreation systems. Methods of investigation, data analysis, and reporting in relation to research needs in recreation. (Formerly numbered Recreation 465.)

575. Designing Recreation Areas and Facilities (3)

Prerequisite: Recreation 101. Design principles and concepts applied to planning and development of park and recreation areas and facilities. (Formerly titled Management of Recreation Areas and Facilities.)

580. Leisure and the Aging Process (3)

Concepts of the relationship between leisure and gerontology are examined. Influence of leisure and recreation on work and life satisfaction of older adults.

GRADUATE COURSES

604. Seminar in Problems in Recreation (3) Alternate Years

A survey of current problems facing the recreation profession, a review of literature, discussion of trends and observation of school situations together with the analysis and evaluation of actual problems. Written reports are required.

705. Seminar in Park Management (3) Alternate Years

Prerequisite: Recreation 565. Fundamentals of general park maintenance, Principles of planning and development, personnel and budget problems unique to park management. Coordination of activities with other public and private agencies.

760. Recreation Administration and Supervision (3) Alternate Years

Methods, techniques and evaluation systems used by chief administrators, department heads and supervisors in both public and private agencies.
Religious Studies

Faculty
Allan W. Anderson, Ph.D., Professor of Religious Studies
Christine R. Dowling, Ph.D., Professor of Religious Studies
Maurice Stanley Friedman, Ph.D., Professor of Religious Studies, Philosophy and Comparative Literature
Gary A. Kinnard, Ph.D., Professor of Religious Studies
Irving Alan Sparkes, Ph.D., Professor of Religious Studies, Chair of Department
Issa J. Khall, Ph.D., Associate Professor of Religious Studies
Marcia K. Hermansen, Ph.D., Assistant Professor of Religious Studies
Linda D. Holter, Ph.D., Assistant Professor of Religious Studies

General Information
The Department offers advanced course work in religious studies which may be used toward fulfilling advanced degree requirements in other departments with the approval of the student's graduate advisor.

UPPER DIVISION COURSES

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.

550. A Major Figure (1, 2, 3)
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.

561. A Metaphysical Doctrine (3)
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

696. Seminar in Selected Topics (3)
Prerequisite: Twelve upper division units in religious studies.
Directed research in a major problem or movement in religious studies. May be repeated with new content. See class schedule for specific content. Maximum credit six units applicable on a master's degree.

798. Special Study (1-3)
Prerequisite: Twelve upper division units in religious studies and consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

Russian

Faculty
Vyta Dukas, Ph.D., Professor of Russian and German (Graduate Adviser)
Leland A. Fetter, Ph.D., Professor of Russian
Ludek A. Koziak, Ph.D., Professor of Russian
Julian H. Wulbern, Ph.D., Professor of German, Chair of Department

General Information
The Department of German and Russian Languages and Literatures, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Russian.
The Master of Arts degree provides advanced training for (a) students who plan to terminate their graduate studies at the master's level, and (b) those who plan to proceed to a doctoral degree in Russian or in Slavic linguistics. There is a full range of graduate courses in Russian literature and in Slavic linguistics, and the student may concentrate in the area of preference. Library resources, both books and periodicals, provide excellent research bases in both areas.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. An undergraduate major in Russian, including 24 upper division units, must have been completed, at least six units of which must have been in a survey course in Russian literature.

Advancement to Candidacy
In addition to meeting the requirements for advancement to candidacy as described in Part Two of this bulletin, students may be required to pass a qualifying examination in Russian given by the Department of German and Russian Languages and Literatures.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units which includes a major consisting of at least 24 units in Russian, including at least 18 units in 600- and 700-numbered courses, including Russian 799A. Thesis. If Plan B is followed, the student must pass a comprehensive examination in lieu of Russian 799A.

Courses Acceptable on Master's Degree

UPPER DIVISION COURSES

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.

19-73499
GRADUATE COURSES

600. Research and Criticism (3)
Prerequisite: Twelve upper division units in Russian. Purposes and methods of research in Slavic linguistics and in the literatures; theories and practice of literary criticism.

610. History of the Russian Language (3)
Prerequisite: Twelve upper division units in Russian. The historical development of the Russian language.

650A-650B. Old Church Slavic (3-3)
Prerequisite: Twelve upper division units in Russian. Structure of Old Church Slavic with readings and analysis of medieval Slavic texts.

680. Seminar in Slavic Linguistics (3)
Prerequisite: Twelve upper division units in Russian. Selected topics in historical and comparative Slavic linguistics.

700A-700B. Seminar in the Soviet Novel and Short Story (3-3)
Prerequisite: Twelve upper division units in Russian. Intensive study of major writers of Soviet prose fiction.

710. Seminar in Russian Poetry from Pushkin to the Present (3)
Prerequisite: Twelve upper division units in Russian. The major Russian poets of the nineteenth and twentieth centuries.

750. Seminar in Nineteenth Century Russian Literature (3)
Prerequisite: Twelve upper division units in Russian. The major Russian poets of the nineteenth and twentieth centuries.

760. Seminar: A Major Author or Movement (3)
Prerequisite: Russian 600. A major author or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

796. Special Study (1-3) Cr/NC/SP
Prerequisite: Eighteen upper division units in Russian and consent of staff; to be arranged with department chair and instructor. Individual study of major developments in the literature of the time.

799A. Thesis (3) Cr/NC/SP
Preparation of a project or thesis for the master's degree. May be repeated without credit restriction. A thesis committee must be appointed by the student and approved by the department. All work must be completed in the summer following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.
Table I. List of Requirements

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<th>Sequence</th>
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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 legislative 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
Prerequisite for enrollment in all graduate courses: admission to the School of Social Work.
Six units of 500-level courses may be applied to the master's degree.

600. Seminar in Social Welfare Policy and Services (3)
Social welfare as a social institution, philosophical, historical and comparative analysis of the welfare functions, issues and problems, plus conceptual analysis of social welfare programs in general and related to areas of concentration. Sectioned by:
A. Aging
B. Mental Health
C. Children, Youth and Families

620. Seminar in Human Behavior and Social Environment (3)
Theoretical perspectives on the human condition based on biological, psychological, interpersonal and social assumptions, with emphasis on examining unusual behavior from several perspectives for social work practice. Sectioned by:
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

631. Social Work Practice with Individuals, Families and Groups, I (3)
Preparation for direct intervention with individuals, families and groups within context of specific concentrations. (Formerly numbered Social Work 630.)
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

632. Social Work Practice with Organizations and Communities, I (3)
Theoretical knowledge of elementary organizational and interorganizational decision making in human service programs which serve specific populations at risk. (Formerly numbered Social Work 755.)
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

650. Field Practicum (4-8) Cr/NC
Prerequisite: Concurrent registration in Social Work 733 and 734 in same concentration. Field instruction in public or voluntary social work setting. Eight units required. Experiences emphasize application of social work objectives, principles and skills in service to individuals, families, groups and communities related to:
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

690. Seminar in Social Work Research Methods (3)
Definition and purpose of research in social work. Techniques and methods used in collecting, organizing and interpreting social welfare and related data, steps involved in planning a research project and selecting a research design related to:
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families
741. Facilitative and Educational Roles in Human Service Organizations (3)

Facilitative and educational roles of practitioner in human service organizations emphasizing supervision, consultation, staff development and evaluative processes. Theories in adult learning and educational assessment to enhance performance of staff including paraprofessional volunteers and consumers will be explored.

742. Advanced Seminar in Facilitative and Educational Roles in Human Service Organization (3)

Problems of facilitative and educational roles in human service organizations emphasizing problems and options experienced by directors of training and staff development and directors of program development and evaluation. Attention to learning professional roles in agencies employing mutiprofessional staff.

744. Advanced Seminar in Selected Topics in Clinical Social Work Practice (3)

Prerequisite: Social Work 759.

Study of a selected aspect of clinical social work. Topics include treatment methodology, theoretical approaches, levels of practice, specific client groups, or special problem areas. See Class Schedule for specific content. Maximum credit: three units applicable on a master's degree.

745. Advanced Seminar in Selected Topics in Social Work Administration (3)

Prerequisite: Social Work 740.

Study of a selected aspect of social work management in human services. Topics may cover such foci as program development, program evaluation, grant writing, resource development, financial management or management of nontraditional programs/projects. See Class Schedule for specific content. Maximum credit: three units applicable on a master's degree.

750. Advanced Field Practicum (4-8) Cr/NC

Prerequisites: Social Work 650 in same concentration and concurrent registration in Social Work 739 or 740 in the same concentration.

Advanced field instruction in public or voluntary social work setting. Eight units required. Continuation and intensification of experiences in application of social work objectives, principles and skills in service to individuals, families, groups and communities related to:

A. Clinical Social Work
B. Social Work Administration

758. Seminar in Social Work and Selected Fields of Practice (3)

May be repeated with new content. See Class Schedule for specific content. Maximum credit: six units applicable on a master's degree.

760. Seminar in Social Work and Racial-Ethnic Groups (3)

Nature of institutional racism and its effect on social provision and social policy. Examines overt and covert forms of racism in but not limited to areas such as housing, schools, corrections, organized labor, job training for the poor, and social statistical reporting for implications to social work practice.

761. Seminar on Racial-Ethnic Groups (3)

Social survival techniques of ethnic minority groups, their similarities and differences and implications to development of social service delivery systems and practice.

766. Seminar on Aging (3)

Survey and analysis of selected areas in aging which depict the contemporary trends in the social aspects of aging. Special attention given to developing social policy and the relationship between social work practice and modifications in the field of aging.

770. Seminar in Social Work and Selected Populations-at-Risk (3)

Social work practice with selected populations-at-risk such as one-parent families, children in institutions, ethnic minority immigrants, Native-Americans in the urban scene, and foreign-born brides of U.S. servicemen. Topics to be announced in Class Schedule. May be repeated with new content. Maximum credit: six units applicable on a master's degree.

771. Seminar on Selected Populations-at-Risk (3)

Knowledge about and analysis of selected populations-at-risk, social work responsibilities and emerging service demands by diverse and needful, high risk segments of the population in a complex society, and implications for social work practice. Population-at-risk for study to be announced in Class Schedule. May be repeated with new content. Maximum credit: six units applicable on a master's degree.

780. Seminar in Social Work and Selected Populations-at-Risk (3)

Social work practice with selected populations-at-risk such as one-parent families, children in institutions, ethnic minority immigrants, Native-Americans in the urban scene, and foreign-born brides of U.S. servicemen. Topics to be announced in Class Schedule. May be repeated with new content. Maximum credit: six units applicable on a master's degree.

792. Advanced Research Seminar in Selected Social Work Topics (3)

Prerequisite: Social Work 791.

Research in such topical areas as specific direct and/or indirect social work intervention models, psychosocial functioning of client populations, organization/management systems, and research paradigms. (Formerly numbered Social Work 692.)

798. Special Study (1-3) Cr/NC/SP

Prerequisite: Consent of staff. To be arranged with Director and instructor. Individual study. Maximum credit: three units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP

Prerequisite: Consent of staff. To be arranged with Director and instructor. Preparation of a thesis committee and advancement to candidacy. Individual study. Maximum credit: three units applicable on a master's degree.

799B. Thesis Extension (0) Cr/NC/SP

Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the University; also student must be registered in the course when the completed thesis is granted final approval.
Sociology

Faculty

Warner Bloomberg Jr., Ph.D., Professor of Sociology
Ann B. Cottrell, Ph.D., Professor of Sociology
Jack R. DeLora, Ph.D., Professor of Sociology
Mohamed M.E. El-Assal, Ph.D., Professor of Sociology
Thomas L. Gillette, Ph.D., Professor of Sociology
C. Dale Johnson, Ph.D., Professor of Sociology
Nicos N. Mouratides, Ph.D., Professor of Sociology
William B. Sanders, Ph.D., Professor of Sociology
Joan Sandlin, Ph.D., Professor of Sociology
Rolf H. K. Schulze, Ph.D., Professor of Sociology
George W. Sorensen, Ph.D., Professor of Sociology and Journalism
John R. Weeks, Ph.D., Professor of Sociology, Chair of Department
Robert W. Winslow, Ph.D., Professor of Sociology
James L. Wood, Ph.D., Professor of Sociology
Robert E. Buck, Ph.D., Associate Professor of Sociology
Shelly E. Chandler, Ph.D., Associate Professor of Sociology
Robert E. Emerick, Ph.D., Associate Professor of Sociology
Phillip T. Gay, Ph.D., Associate Professor of Sociology
Charles F. Hohm, Ph.D., Associate Professor of Sociology
Kenji Ima, Ph.D., Associate Professor of Sociology (Graduate Adviser)
Will C. Kennedy, Ph.D., Associate Professor of Sociology
R. George Kirkpatrick, Ph.D., Associate Professor of Sociology
Bohdan Koole, Ph.D., Associate Professor of Sociology
David L. Preston, Ph.D., Associate Professor of Sociology
Dennis C. Scheck, Ph.D., Associate Professor of Sociology
Janet Schmidt, Ph.D., Associate Professor of Sociology
John S. Stephenson III, Ph.D., Associate Professor of Sociology
Joan T. Werner, Ph.D., Associate Professor of Sociology

Assistantships

Graduate teaching assistantships in sociology are available to a limited number of qualified students. Application blanks and further information may be obtained from the chair of the department.

General Information

The Department of Sociology in the College of Arts and Letters offers graduate work leading to the Master of Arts degree in Sociology. Research facilities provided by the Department of Sociology include a well-equipped Social Science Research Laboratory and Social Research Center for use by the faculty and graduate students.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in Sociology must have completed 18 upper division units in sociology, of which 15 units must include Sociology 401, Classical Sociological Theory, or Sociology 403, Contemporary Sociological Theory, Sociology 440, Social Psychology; Sociological Approaches, and one course from each of the following fields: social disorganization, social institutions or social organization, and urban sociology-demography.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. Students must take the four 600-level core courses (Sociology 601, 602, 603, and 604) and must achieve a minimum "B" (3.0) grade average by the end of the first year in the master's program. A student may seek exemption from a maximum of two core courses by passing an exam in the respective areas.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree, as described in Part Two of this bulletin, students must include in their graduate program a total of 30 units. While six units of electives may be taken in other departments, these courses must be acceptable for master's degree credit in the particular departments in which they are offered. Students must include in their graduate program at least 18 units of sociology courses from the list of 600- and 700-numbered courses, including the optional 799A, Thesis. The program must also include at least six units in sociology seminars. The remainder of the program may be composed of 500-level sociology courses listed below as acceptable on master's degree programs. Comprehensive examination in the four core courses at the completion of the core sequence and completion of one of the following are required.

In Plan A all students will be expected to include Sociology 799A, Thesis, as three of the 18 units of 600- and 700-numbered courses required.

In Plan B an alternative is offered to the thesis. This alternative consists of (a) Sociology 797, or 798 for a total of six units in any combination, culminating in two papers or reports acceptable to the student's committee, or (b) one additional comprehensive examination in an area selected by the student with the approval of his committee, plus Sociology 797, or 798 for three units, culminating in a paper or report acceptable to the student's committee; or (c) two additional comprehensive examinations in areas selected by the student with the approval of his committee.

Courses Acceptable on Master's Degree

Programs in Sociology

UPPER DIVISION COURSES

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 macro-societal 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 disorder, such as crime, prostitution, mental alienation, 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 social 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.
Industrial bureaucracies as they relate to social environment. Consequences of various models of organization for managerial, worker, and marginal work roles. Functions of labor unions, and industrial structure and conflict.

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.

525. Sociology of Health and Illness (3) I, II
Prerequisite: Sociology 101.
Sociological conception of health, disease, and healing; socialization, roles, conflict and change in medical work settings; health and medical institutions in comparative sociocultural contexts.

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.

545. 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.

546. Collective Behavior (3)
Prerequisite: Sociology 440.
The basic processes of social behavior in masses and groups, including crowd behavior, fads, fashions, crazes, panics, rumors; sects and cults; heroes and scapegoats; social movements; effects of mass communication.

547. Protests, Reforms and Revolutions (3) I, II
Prerequisite: Sociology 101. Recommended: Sociology 422 and 545.
Revolutionary and reform movements in relationship to the larger society. Conditions leading to development of social movements, emergence of leadership, ideologies, strategies, recruitment of members and social consequences, case studies in depth.

557. 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.

558. 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.

560. Applied Sociological Research (3) I, II
Prerequisite: Sociology 464 or 465.
Practical research skills learned while participating in original and applied sociological research projects. Group rather than individual research projects.

563. The Logic of Sociological Inquiry (3)
Prerequisite: Sociology 201.
Systematic overview and analysis of explanation in the social sciences and history with emphasis on sociology. Problems of applying the natural scientific method to the social sciences, interpretation of meaning and objectivity.
### GRADUATE COURSES

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### 740. Seminar In Social Psychology: Sociological Approaches (3)
- **Prerequisites:** Sociology 440 and 464.
- Socialization, role theory, motivation, perception, self, social context of personality, attitude theory, interaction, language and symbolic process, social types, collective behavior, small groups, special topics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

### 750. Seminar In the Community (3)
- **Prerequisites:** Sociology 446 and 557.
- Ecological structure and process; community institutions and structure; community deterioration; planning and renewal; urbanization; suburbia-megalopolis; special topics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

### 760. Seminar In Research Methods (3)
- **Prerequisites:** Sociology 401 and 464.
- Analysis of methods used in current sociological research, including evaluation of reported findings. Discussion of research designs appropriate to particular types of projects. Evaluation of research in progress by members of the seminar. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

### 770. Seminar In Population and Demography (3)
- **Prerequisites:** Sociology 350 and 464.
- Demographic theories, fertility, mortality, migration, construction and application of demographic indices, demographic prediction, world population trends, special topics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

### 797. Research (3) Cr/NC/SP
- **Prerequisites:** Sociology 464.
- Independent investigation of special topics. Maximum credit six units applicable on a master's degree.

### 798. Special Study (1-3) Cr/NC/SP
- **Prerequisites:** Consent of staff, to be arranged with department chair and instructor.
- Preparation of a project or thesis for the master's degree.

### 799A. Thesis (3) Cr/NC/SP
- **Prerequisites:** An officially appointed thesis committee and advancement to candidacy.
- Preparation of a project or thesis for the master's degree.

### 799B. Thesis Extension (0) Cr/NC
- **Prerequisites:** Prior registration in Thesis 799A with an assigned grade symbol of SP.
- Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the University; also student must be registered in the course when the completed thesis is granted final approval.
Spanish

Faculty
Ernesto M. Barrera, Ph.D., Professor of Spanish, Chair of Department
Thomas E. Case, Ph.D., Professor of Spanish (Graduate Adviser)
T. Ben Christiansen, Ph.D., Professor of Spanish
Gerald L. Head, Ph.D., Professor of Spanish
Arturo Jiménez-Vera, Ph.D., Professor of Spanish
George Lemus, Ph.D., Professor of Spanish
Gustav V. Segade, Ph.D., Professor of Spanish
Malcolm N. Silverman, Ph.D., Professor of Spanish
James L. Walsh, Ph.D., Professor of Spanish
Theodore V. Higgs, Ph.D., Associate Professor of Spanish
Mary E. O'Brien, Ph.D., Associate Professor of Spanish
Joaquín Santaló, Ph.D., Associate Professor of Spanish
Florence W. Talamanke, Ph.D., Associate Professor of Spanish
Raymond D. Weeter, Ph.D., Associate Professor of Spanish
Ronald R. Young, Ph.D., Associate Professor of Spanish

Assistantships
Graduate Teaching Assistantships in Spanish are available to a limited number of qualified students. New Teaching Assistants are required to enroll in Spanish 770 during their first semester as Teaching Assistants. Application blanks and additional information may be secured from the chairman of the department.

General Information
The Department of Spanish and Portuguese Languages and Literatures, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Spanish. The staff in charge of the graduate program in Spanish is composed of professors whose native tongue is Spanish, or who have studied and traveled extensively in Spain or in Spanish America, enabling them to represent authoritatively the Spanish language and culture. Library facilities include rich resources in Spanish literature and linguistics, including books, periodicals and newspapers. A foreign language laboratory with modern equipment is available to both graduate and undergraduate students.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. An undergraduate major in Spanish, including 24 upper division units, must have been completed, at least six units of which must have been in a survey course in Spanish literature.

A language competency examination, both oral and written, will be required of all incoming graduate students. The examination will be held prior to each semester. If an incoming graduate student does unsatisfactory work on the examination, he/she will be required to make up the deficiency before he/she will be allowed to enroll in graduate courses.

Advancement to Candidacy
In addition to meeting the requirements for advancement to candidacy as described in Part Two of this bulletin, the student must meet a graduate program of at least 24 units that includes: At least 24 units in Spanish in a Literature specialty or 21 units in the Linguistics specialty as described below. At least 18 units must be in 600- and 700-numbered courses. Students may elect either Plan A, requiring a thesis, or Plan B, requiring a comprehensive written and oral examination in lieu of the thesis in consultation with the graduate adviser.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units that includes: At least 24 units in Spanish in a Literature specialty or 21 units in the Linguistics specialty as described below. At least 18 units must be in 600- and 700-numbered courses. Students may elect either Plan A, requiring a thesis, or Plan B, requiring a comprehensive written and oral examination in lieu of the thesis in consultation with the graduate adviser.

Candidates for the master's degree in Spanish must select one of the following areas of specialization:

1. Spanish Linguistics: Spanish 770, 790; nine units of Spanish selected from courses acceptable on the master's degree programs in the field of language or linguistics; at least one course in both Spanish Peninsular and Spanish-American Literatures from the 600- and 700-numbered courses; six elective units from linguistics courses acceptable on master's degree programs offered by other departments.
2. Spanish-American Literature: Spanish 601, 602; 12 units from Spanish-American Literature of 600- and 700-numbered courses, nine units in Spanish Peninsular Literature to include three units of 600- and 700-numbered courses.
3. Spanish American Literature: Spanish 601 and 602; nine units in Spanish Peninsular Literature of 600- and 700-numbered courses; nine units in Spanish-American Literature to include three units of 600- and 700-numbered courses.

Courses Acceptable on Master's Degree

Programs in Spanish

UPPER DIVISION COURSES IN SPANISH

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: Spanish 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 the twentieth century. Semester II: The twentieth century, with emphasis on the contemporary Mexican novel and theater.

520. Caribbean Area Countries Literature (3)
Prerequisites: Spanish 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.

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533. Contemporary Spanish Novel (3)
Prerequisites: Spanish 305A-305B.
The development of the novel and short story in Spain since 1936.

556. Translation of Literary Works: A Critical Comparison (3)
Prerequisites: 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 450; 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)
Prerequisites: Spanish 448 or 450.
Teaching of Spanish as a second language; contemporary theory and methods. Not open to
students with credit or concurrent enrollment in French 561.

596. Selected Studies in Spanish (3)
Prerequisites: Spanish 301 and 302.
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.

PORTUGUESE COURSES

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.

GRADUATE COURSES IN SPANISH

All graduate courses in the Department of Spanish and Portuguese Languages and
Literatures have a prerequisite of 12 upper division units in Spanish, or consent of instructor.

601. Research and Criticism (3)
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Individual study. Maximum credit six units applicable on a master's degree.

605. Seminar in 20th Century Spanish Literature (3)
A representative author, a genre or movement of the 20th century in Spain. May be repeated
with new content. See Class Schedule for specific content. Maximum credit six units applicable
on a master's degree.

660. Modernism (3)
The Modernista movement in Spanish America, with special attention to representative
poets.

680. The Modern Spanish Essay (3)
The thinkers, essayists and philosophers of Spain from the generation of 1898 to the
present.

690. The Spanish-American Essay (3)
Principal Spanish-American essayists of the 19th and 20th centuries.

695. Contemporary Spanish-American Prose Fiction (3)
The principal writers of prose fiction in Spanish America from the mid-thirties to today

720. Seminar in Spanish Golden Age Literature (3)
A representative author, a genre or movement of the Spanish Golden Age. May be repeated
with new content. See Class Schedule for specific content. Maximum credit six units applicable
on a master's degree.

730. Seminar in 19th Century Spanish Literature (3)
A representative author, a genre or movement of the 19th century in Spain. May be repeated
with new content. See Class Schedule for specific content. Maximum credit six units applicable
on a master's degree.

740. Seminar in 20th Century Spanish Literature (3)
A representative author, a genre or movement of the 20th century in Spain. May be repeated
with new content. See Class Schedule for specific content. Maximum credit six units applicable
on a master's degree.

750. Seminar in Spanish-American Literature (3)
A genre or movement of Spanish America. May be repeated with new content. See Class
Schedule for specific content. Maximum credit six units applicable on a master's degree.

755. Seminar in Spanish-American Culture and Thought (3)
Works of representative authors of Spanish America. May be repeated with new content.
See Class Schedule for specific content. Maximum credit six units applicable on a master's
degree.

770. Applied Spanish Linguistics for Teachers (3)
Prerequisite: Spanish 448 or 449.
The application of linguistic theory to the teaching of Spanish at the secondary and college
levels.

790. Seminar in Spanish Syntax and Morphology (3)
Prerequisites: Spanish 450, and Linguistics 522.
Advanced study of the grammatical structures of Spanish.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff, to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP.
Registration required in any semester or term following assignment of SP in Course 799A in
which the student expects to use the facilities and resources of the university; also student must
be registered in the course when the completed thesis is granted final approval.
**Special Major**

**General Information**
When special needs and interests cannot be met adequately by any of the existing advanced degree programs, a student may propose a Master of Arts or Master of Science degree in Special Major. This degree provides the unusually well qualified student an opportunity for highly individualized graduate studies comprised of course work in two or more departments or colleges. The degree is administered by the Graduate Division Office and follows procedures established by that office.

The proposed program must be approved by the department chairs and deans concerned, and must not be substantially available in a current graduate program offered at this University; it must have adequate focus and coherency in cognate disciplines. Prerequisite courses will be required to support the courses in the student's program of study.

A graduate supervisory committee and the field of study shall be chosen subject to the approval of the Dean of the Graduate Division and Research, in consultation with the Graduate Council Student Affairs Committee. The supervisory committee shall consist of not less than three full-time appropriate faculty, representative of the areas in which the student intends to pursue the degree. The graduate dean, or his designee, shall serve on the committee as an ex officio member.

Since the inception of the Special Major in 1977, individual students have undertaken graduate programs in Paleobiology, Folklore and Mythology, Molecular Biology, Museum Studies, Infant Development, Animal Behavior, Sports Psychology, and Environmental Resource Management.

**Admission to Graduate Study**
In addition to satisfying the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must (1) possess an appropriate background for the program, consisting of undergraduate work with a minimum 3.0 GPA overall; and (2) complete the GRE General (Aptitude) Test with a minimum score of 1100 (verbal and quantitative combined).

**Advancement to Candidacy**
In addition to satisfying the general requirements of the University for advancement to candidacy, as stated in Part Two of this bulletin, the student must satisfy the special requirements for advancement defined by the supervisory committee in the official program of study. These requirements will include demonstrated proficiency in at least one appropriate research tool, ordinarily the reading knowledge of a foreign language.

**Specific Requirements for the Master’s Degree**
1. In addition to satisfying the requirements for classified graduate standing and the basic requirements for the master’s degree, as described in Part Two of the Graduate Bulletin, the student must complete a graduate program of at least 30 units of courses acceptable for advanced degree credit.
2. The official program of study must reflect careful and deliberate planning. The selection and level of courses will be based on the best standards and practices of the disciplines involved. Normally no more than three units which have been taken prior to approval of the official program of study may apply on the degree.
3. The student, in consultation with the supervisory committee, will determine the subject of the research for a thesis which will be completed as the culminating experience in partial fulfillment of the requirements for the degree. Students will enroll for thesis in the department of the chair of the supervisory committee. Satisfactory completion of the thesis will be determined by the supervisory committee.
4. A prospective applicant interested in being considered for the Special Major program should carefully complete and follow the instructions on the form, "Request for Permission to Pursue a Special Major Master's Degree Program," which is available in the Graduate Division Office. This form specifies that the applicant must initially seek out a potential faculty adviser and two additional faculty members who have the expertise and interest in advising and supporting the applicant in the proposed program of study.
5. Following this meeting and any modifications of the proposed program eventuating from it, the student must present for approval the "Request for Permission to Pursue a Special Major" to the chairs of departments in which courses are being proposed and to the dean(s) of colleges responsible for these academic units.
6. The student will then present the "Request," endorsed with appropriate departmental and college approvals, to the Graduate Division Office, where it will be reviewed by the Student Affairs Committee of the Graduate Council. Upon the recommendation of that committee, the "Request" will be forwarded to the graduate dean, whose final endorsement will certify that the "Request" has been approved as an official program of study; that the supervisory committee has been formally appointed, and that the student has been granted classified graduate standing for the purpose of pursuing the special major.
7. Virtually all other requirements for the special major are the same as those for other master’s degree programs, as specified in this bulletin. Special questions should be directed to the approved graduate major adviser or the Graduate Division Office.
Speech Communication

Faculty
Robert L. Benjamin, Ph.D., Professor of Speech Communication
Stephen W. King, Ph.D., Professor of Speech Communication, Chair of Department
Jack Mills, Ph.D., Professor of Speech Communication
Larry A. Samovar, Ph.D., Professor of Speech Communication
Allen R. Weitzel, Ph.D., Professor of Speech Communication (Graduate Adviser)
Janis F. Andersen, Ed.D., Associate Professor of Speech Communication
Susan A. Hellweg, Ph.D., Associate Professor of Speech Communication, Assistant Dean
for Academic Affairs, College of Professional Studies and Fine Arts
Myron W. Lustig, Ph.D., Associate Professor of Speech Communication
Paul C. Gaske, Ph.D., Assistant Professor of Speech Communication

Assistantships
Graduate teaching assistantships in speech communication are available to a limited number of qualified students. Application blanks and further information may be obtained from the department chair.

General Information
The Department of Speech Communication, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts degree in Speech Communication. The department offers advanced study in the areas of public address and communication.

Admission to Graduate Study
Students must meet the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in Speech Communication are required to have completed Speech Communication 700 (with a grade of "B" or better prior to advancement).

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program which includes at least 30 units selected with the approval of the Graduate Adviser.

Specialization in Rhetorical and Communication Theory
Speech Communication 700, 735, 750, 751 or 790, and 799A. Thesis, are required courses for those electing Plan A. If Plan B is followed three additional units in 600- and 700-numbered courses in speech communication must be taken, and a comprehensive examination must be passed, in lieu of this thesis.

Specialization in Professional Communication
Speech Communication 700, 706, 735, 750, 790 and 799A are required courses for those electing Plan A. Electives to be selected with the approval of the Graduate Adviser include Speech Communication 580, 751, 775, 791, 792. If Plan B is followed, a comprehensive examination must be passed, in lieu of thesis.

Courses Acceptable on Master’s Degree
Programs in Speech Communication

UPPER DIVISION COURSES

508. Advanced Interpretation (3) I, II
Three lecture-demonstrations per week and 32 hours of laboratory per semester
Prerequisite recommended: Speech Communication 1114
Analysis of techniques of literary composition as guides to oral interpretation. Achievements of the creative artists as they affect the interpretive artist.

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)
Contemporary political communication events and processes, with a focus on speeches, debates, and campaigns.

588. 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.

591. Communication and Politics (3)
Prerequisite recommended: Speech Communication 135.

592. Persuasion (3) I, II
Prerequisite recommended: Speech Communication 103 or 204.

GRADUATE COURSES

700. Seminar in Research and Bibliography (3)
Basic reference works, scholarly and critical journals; introduction to bibliographical techniques, exercises and problems in methods and exposition of research as it relates to speech communication. Recommended for first semester of graduate work, and prerequisite to advancement to candidacy.

706. Seminar in Organizational Communication (3)
Prerequisite: Speech Communication 406.
Oral communication processes in large organizations. Topics to include information flow, oral communication processes, communication relations, and the design and management of communication systems.

708. Seminar in Oral Interpretation and Forensics (3)
Prerequisite: Speech Communication 530.
Analysis of thought and emotional content, and aesthetic form. Advanced problems of delivery in individual and forensic settings.

730. Seminar in the Analysis of Language (3)
Special problems in language theory which may be integrated into the larger bodies of rhetorical and communication theory.

735. Seminar in Communication Theory (3)
Prerequisite recommended: Speech Communication 535.
Methods of theory construction in study of human communication. Existing theories and models of the communication process.
Telecommunications and Film

Faculty
Hayes L. Anderson, Ph.D., Professor of Telecommunications and Film, Chair of Department
Elizabeth J. Height, M.S., Professor of Telecommunications and Film
K. Charles Jameson, Ph.D., Professor of Telecommunications and Film
Joseph S. Johnson, Ph.D., Professor of Telecommunications and Film
Roy P. Madsen, Ph.D., Professor of Telecommunications and Film
Michael R. Reel, Ph.D., Professor of Telecommunications and Film (Graduate Adviser)
Denis Sanders, M.A, Professor of Telecommunications and Film
Paul J. Steen, M.A, Professor of Telecommunications and Film, Director of University Telecommunications; General Manager, KPBS TV/FM
Donald G. Vyle, Ph.D., Professor of Telecommunications and Film
Donald R. Martin, Ph.D., Associate Professor of Telecommunications and Film, KPBS Operations Manager
Thomas C. Meador, M.A., Associate Professor of Telecommunications and Film
Paul E. Cahill, Ph.D., Assistant Professor of Telecommunications and Film
Lionel L. Van Deen, Distinguished Visiting Lecturer

General Information
The Department of Telecommunications and Film, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts Degree in Radio and Television. This degree permits advanced study in the areas of mass communication and society, history and criticism of broadcasting and film, scriptwriting, broadcast management and policy, business aspects of media, financing, preproduction, and postproduction, government and media regulation, advanced audio, video, and film production, broadcast and film performance, international broadcasting and cinema, educational and instructional media, public broadcasting, technological trends, cable, satellites, computers, integrated telecommunications systems, and film production. Graduates in Radio and Television may select a specialization in Analysis or Creation.

I. An "Analytic" specialization focuses on advanced media research and criticism. It is especially useful for careers planned in teaching, management, planning, innovative technologies, and other areas where advanced ability to understand, organize and complete media-related tasks is essential. This analytic specialization requires completion of Telecommunications and Film 701, "Seminar in Research Process" as well as general requirements listed below. Other courses suggested for the analytic specialization are concerned with media history, criticism, management, policy, regulation, instruction, developing technologies and related issues and trends. An undergraduate degree in media studies is recommended but not required for the analytic specialization.

II. A "Creative" specialization emphasizes advanced media design and production. This specialization is especially useful for careers planned in film, television, radio or related production activities where sophisticated and disciplined ability to conceive, initiate and complete original telecommunications and/or film media messages is required. This creative specialization requires completion of Telecommunications and Film 702, "Seminar in Media Message Design and Production" as well as general requirements listed below. Other courses suggested for the creative specialization are scripting, criticism, production planning and organization, advanced video, audio, and film techniques, and related issues and activities.

The Master of Arts in Radio and Television assumes a scholarly interest in advanced theoretical and applied problems relating to media. Postbaccalaureate students who are interested in advanced theoretical and applied problems relating to media, postbaccalaureate students who are interested in advanced theoretical and applied problems relating to media.
Diego State University. Students with an undergraduate major or minor in media may enroll in advanced production courses for graduate credit as part of their master's program.

The Department of Telecommunications and Film operates as teaching facilities a large color television studio, a film production center, and radio complex. Also located on campus and available to student involvement are KPBS-TV and KPBS-FM, the public broadcasting stations for San Diego. A closed-circuit instructional television service for the entire campus, an automated color studio for off-campus instruction and programming (ITFS), a student-operated radio station (KCR), computer facilities, and the research-oriented Center for Communications.

Interdisciplinary Mass Communications Master of Science: San Diego State University also offers an interdisciplinary Master of Science degree in Mass Communications administered jointly by the departments of Journalism, Psychology, Sociology, Speech Communication, and Telecommunications and Film. Refer to the section on Mass Communications for specific requirements for this degree.

Concentration in Public Telecommunications Administration: Refer to the section on Public Administration for specific requirements.

Admission to Graduate Study

Applications should be submitted prior to March 1 for the fall semester (and October 1 for the spring semester) in order to ensure consideration by the Graduate Admissions Committee of the Department of Telecommunications and Film. Fall admissions are preferred.

In addition to meeting the general requirements for admission to the University with classified graduate standing, as outlined in Part Two of this bulletin, a student applying for admission to the graduate program in the Department of Telecommunications and Film must meet the following requirements:

1. Undergraduate major or minor in radio and television, film, or a related communications discipline. Candidates for the Master of Arts degree must have completed at least one year of undergraduate study in the area of Mass Communications.

2. Undergraduate grade point average not less than 2.75 overall, and 3.0 in the last 60 units attempted.

3. A minimum combined score (verbal and quantitative) on the GRE General (Aptitude) Test of 950.

4. Three letters of recommendation.

5. A personal statement in which the student discusses his or her background, interests and abilities as they apply to the desire for an advanced degree, and in particular, a graduate degree in radio and television at San Diego State University.

Students accepted for graduate study in the Department of Telecommunications and Film will first be given Conditional Graduate Standing (classified). Full classified standing will be given only after the student has completed Telecommunications and Film 600 with a grade of B or better, and has filed an official graduate program. In addition to the above, all students must meet the requirements for classified standing described in Part Two of this bulletin.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, which are described in Part Two of this bulletin.

Specific Requirements for the Master of Arts Degree

Candidates for the Master of Arts in Radio and Television must complete 30 units of course work and must include the following in their programs:

1. Telecommunications and Film 600 (required for Classified Graduate Standing).

2. Either Telecommunications and Film 701 (Seminar in the Research Process) for those pursuing an analytic specialization, or Telecommunications and Film 702 (Seminar in Media Message Design and Production) for those pursuing a creative specialization.

3. Either Telecommunications and Film 799A (Thesis, Plan A) or Telecommunications and Film 795 (Project and Comprehensive Examination, Plan B).

4. At least 21 additional units from the courses listed below as acceptable for graduate credit.

5. At least 18 units in the total graduate program (including 600, 701 or 702, and 795 or 799A) must be graduate level (600 or 700) courses.

6. No more than 9 units taken in other departments. These courses may be included in the program providing they are courses acceptable for graduate credit in the department which offers them and are approved by the Graduate Adviser in the Department of Telecommunications and Film.

Selection of Plan A or Plan B

The culminating experience in the master's degree program is completion of either a master's thesis (Plan A) or a master's project and comprehensive examination (Plan B). Both plans require the ability to define, initiate, and complete a major advanced project with either an analytic or creative focus. Both plans require presentation to the faculty of a report written in an acceptable form and evaluated as serious scholarly activity.

Before beginning either Telecommunications and Film 795 (Project Seminar) or Telecommunications and Film 799A (Thesis or Project), a student must have completed a project or thesis proposal. If signed by a project or thesis adviser and have submitted it to the graduate adviser and, for Telecommunications and Film 795, to the course instructor.

Assistantships

Graduate assistantships are available in the Department of Telecommunications and Film for students working on, or interested in working on, a Master of Arts degree. Candidates must be college graduates who meet graduate admissions requirements at San Diego State University and have academic or professional experience in one of the following: television production, advertising media, broadcasting research, station organization, promotion and sales, and current developments in radio and television as mass media.

Interested parties should contact Dr. Michael Real, graduate adviser, or Dr. Hayes Anderson, department chair, for application forms and further information.

Courses Acceptable on Advanced Degree Programs in Telecommunications and Film

UPPER DIVISION COURSES

500. Broadcast Management (3) I, II
Prerequisite: Telecommunications and Film 100.
Administration and organization of radio and television, including radio and television as advertising media, broadcasting research, station organization, promotion and sales, and current developments in radio and television as mass media.

505. Government and Broadcasting (3) I, II
Prerequisite: Telecommunications and Film 100.
Responsibilities of broadcasters as prescribed by law, governmental policies and regulations, and significant court decisions.

510. Script Writing for Broadcasting and Film (3) I, II
Prerequisites: Telecommunications and Film 260 or 280, and successful completion of the University's writing competency requirement.
Development of a single program and series ideas. Scripting of dramatic original and adaptation forms, and the documentary.

520. Directing Television and Film Drama (3) I, II
Two lectures and more than three hours of activity.
Prerequisite: Credit or concurrent registration in Telecommunications and Film 260 or 280.
Planned for prospective directors of plays for television and film. The student will become acquainted with principles, procedures and methods. Practical experience in University-sponsored productions.
530. Radio Programming (3) II
Two lectures and more than three hours of scheduled activity.
Prerequisites: Telecommunications and Film 100 and 121.

535. Television Programming (3) I, II
Prerequisite: Telecommunications and Film 100.
Structure of television programming. Problems such as ratings, advertisers and scheduling. Social effects and criticism of television programming.

540. Broadcast Advertising (3) I, II
Prerequisites: Two courses in broadcasting, journalism or marketing.
Theory, procedures, and the role of broadcast advertising, including marketing and media research, campaign planning, media strategy, time purchasing, and evaluation.

550A. Advanced Lighting and Staging for Television and Film (3) I, II
Prerequisites: Telecommunications and Film 260 or 280 and consent of instructor.
Theory and analysis of production design elements for television and film, including art direction, lighting, scene design and decoration. Practical experience in University-sponsored productions.

550B. Advanced Lighting and Staging for Television and Film (3) I, II
One lecture and more than six hours of activity.
Prerequisites: Telecommunications and Film 550A and consent of instructor.
Practical experience in development of technical and production design elements for television and film, including art direction, lighting, scene design and decoration for dramatic and nondramatic programs. Practical experience in University-sponsored productions.

560. Advanced Film Production (3) I, II
One lecture and more than six hours of activity.
Prerequisites: Telecommunications and Film 260, 510, 520 and consent of instructor.
Practicum in direction and production of 16mm dramatic and nondramatic films. Cameras, lighting, design, sound techniques. Experience in University-sponsored productions.

562. Documentary and Propaganda Film/Television (3) I, II
Prerequisites: Telecommunications and Film 160.
Analysis through viewing of persuasive concepts, techniques and forms in international and documentary film and television programs.

565. Animated Film Techniques (3) II
Two lectures and more than three hours of activity.
Screening of representative examples and production of a filmstrip 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 Telecommunication (3) I
Prerequisite: Twelve units in telecommunications and film.
Developments and trends in telecommunication and related technology, with their implications for the future.

580. Advanced Television Producing and Directing (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, presentational techniques and individual projects in the producing, direction and production of television programs. Practical experience in University-sponsored productions. Maximum credit six units.

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

600. Seminar in Research and Bibliography (3)
Basic reference works, scholarly and critical journals; bibliographical techniques; exercises and problems in methods and exhibition of research as it relates to the various areas of telecommunications and film.

602. Seminar in Mass Communication Theory (3)
Prerequisite: Speech Communication 555.
Analysis of theoretical models of mass communication. Application of operational models for the diffusion of information, and the adoption of innovation, to problems in the mass media.

610. Seminar in Writing for Broadcast and Film (3)
Prerequisites: Telecommunications and Film 260, 363 and 510.
Dramatic structures as they apply to broadcasting and cinema. Writing a full-length script or scenario.

615. Seminar in Criticism of Broadcasting and Cinema (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
Standards for objective appraisal of the ethical and artistic aspects of radio, television and film programs.

620. Seminar in the Development of Telecommunications Systems (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
The development of broadcasting in its social, legislative and economic settings, with emphasis on broadcasting in the U.S.

640. Seminar in Broadcast Advertising Problems (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
Analysis of social, economic and cultural context of advertising in commercial broadcasting; criticism and evaluation of the function of the advertiser; survey of broadcast advertising theory and research.

660. Seminar in Directing the Dramatic Film (3)
Prerequisites: Telecommunications and Film 520, 560, and consent of instructor.
Analysis of techniques and stylistic contributions of major directors as seen in their films. Production of a short dramatic film embodying concepts so learned.

670. Seminar in Public Telecommunications (3)
Prerequisites: Telecommunications and Film 570.
Educational uses of electronic media. Use of telecommunications in classrooms and school systems. Relationship of noncommercial radio and television (public broadcasting) to commercial broadcast media and education.

680. Seminar in Programming and Production (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
The theory and analysis of programming and production of broadcasting.

700. Seminar in Broadcast Management (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
The legal and regulatory milieu of broadcasting from the perspective of station management.
701. Seminar in the Research Process (3)
Prerequisite: Telecommunications and Film 600.
Literature, methods, and designs for research. Different methodological and conceptual approaches to mass communication research. Emphasis on (1) selection of topic for thesis or project, (2) development of detailed research plan, and (3) research activities preliminary to Telecommunications and Film 795 or 799.

702. Seminar in Media Message Design and Production (3)
Prerequisite: Telecommunications and Film 600.
Effects of various types of media formats, methods of presentation, and creative production approaches on individuals and groups. Selection, organization and creative techniques of message design elements in the telecommunications and film media. (Formerly numbered Telecommunications and Film 603.)

705. Seminar in Government and Broadcasting (3)
Prerequisite: Telecommunications and Film 506 or Journalism 502.
Analysis of legal concepts and issues as applied to commercial and noncommercial broadcasting; relationship of local, state and federal government to broadcast media.

750. Seminar in Contemporary Telecommunications Issues and Trends (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film. Issues and trends important to coming decade, resulting from the rapid evolution of telecommunications and related technologies, and their applications in society.

770. Seminar in Teaching Broadcasting and Film (3)
Broadcast and film curriculum development. Methods of teaching both theory and laboratory courses in broadcasting and film. Analysis of organizations for administering broadcast and film curricula in colleges and universities with public TV stations and/or on-campus instructional TV systems.

795. Project Seminar (3) Cr/NC/SP
Prerequisites: Telecommunications and Film 701 or 702, consent of instructor, and advancement to candidacy.
Project in some aspect of the telecommunications and film media, culminating in a written report. Limited to students following Plan B for the Master of Arts degree in Radio and Television. Admission limited to students who have completed an approved proposal for a project in a previous course or special study.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable on a master's degree.

799A. Thesis or Project (3) Cr/NC/SP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of SP. Following assignment of SP in Course 799A, registration in this course is required in any semester in which the student expects to use the facilities and resources of the University; also student must be registered in this course when the completed thesis or project is granted final approval.

Upper Division Courses
(Also Acceptable for Advanced Degrees)

The following courses are acceptable on selected advanced degree programs.

AMERICAN INDIAN STUDIES COURSE

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.

CLASSICS COURSES

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.
C. Special Study in Classics
G. Special Study in Greek
L. Special Study in Latin

GENERAL STUDIES COURSES

502. Advanced Topics in Health and Human Services (1-3)
The College of Human Services sponsors General Studies 502. The purpose of this course is to provide an opportunity for interdisciplinary study for students entering human service professions. Refer to the class schedule for specific content. (Formerly numbered University Studies 502.)

550. Innovative Approaches to Teaching and Learning (1-6)
General Studies 550 is an interdisciplinary course characterized by new methods of teaching and learning. 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 General Studies number in the class schedule. (Formerly numbered University Studies 550.)

HUMANITIES COURSE

580. Seminar: Topics (3)
Special topics appropriate to the interdisciplinary study of civilization. Reading, observation and evaluation of scholarly literature of topic under consideration. See Class Schedule for specific content. Maximum credit six units.

LATIN AMERICAN STUDIES

580. Special Topics (1-4)
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.

OCEANOGRAPHY COURSE

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.
WOMEN'S STUDIES COURSES

590. Feminist Thought (3)
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 will vary with instructor. Methods 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 advisor.
Individual research project. May be taken in place of Women's Studies 595, Seminar in Women's Studies.

PART FOUR

General Information

General Information
College of Extended Studies
External Degree Programs
North County Center
Imperial Valley Campus
General Information

University Library

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

The collection comprises 816,600 volumes including books and bound periodicals, and 404,254 government documents. Additional resources include 2.0 million microfiche and microopaque cards, 48,478 reels of microfilm, 4,175 college catalogs, 30,750 scientific reports, 132,000 maps, 4,746 phonograph records, 53,000 curriculum items and 1,500 linear feet of archival papers. The library receives 9,350 periodical and serial titles, excluding government documents. It is a depository for United States and California government publications. It receives all United States 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, and Mexican history, Chicano resource materials, the literatures of the 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 of San Diego County and Baja California. The Center for Regional History's extensive archival collections from the San Diego area support original research.

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

Among conveniences provided library patrons are current periodicals reading room, and microforms and newspaper center; photocopying machines, including several for microfiche and microfilm; ditto machine; coin-operated electronic calculators; listening equipment for cassette, discs and open-reel tape, and a special facility for the visually handicapped.

Research

The importance of research in graduate instruction is recognized by the faculty and all graduate programs contain provisions for research experience on the part of the graduate student. Among the facilities for research which students may utilize are those provided in organized bureaus, centers, and institutes located on the campus.

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 as 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 Center Director or staff 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.

Other major activities of the Center are administering a National Institute on Minority Aging and a summer Elderhostel program. It serves as a central point for the development and dissemination of minority aging data nationally.

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 fossil 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.

Asian Studies

Paocin Chu, Director

The Center for Asian Studies is an interdisciplinary organization in the College of Arts and Letters. Drawing upon faculty members from many fields, campuswide, it performs such services as (1) securing and administering grants and other support for research and development in Asian studies; (2) coordinating and publicizing the activities of faculty engaged in Asian-centered studies; (3) developing and administering the Asian studies program and relevant curricula at the undergraduate and graduate levels; (4) responding to campus and community requests for information and services; (5) fostering campus and community interest in Asian studies. The Center's reading room and study facility, located in AH-3172, contains Asian periodicals, books, pamphlets, dictionaries and maps.

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 Temecula, and the 5800-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, riparian communities, and pines. Most of the chaparral is old, having been burned in the 1927 fire, but aged communities of 2 to 85 years also exist on the property. 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, chasman chamarral 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 in this area, the Santa Margarita River, a perennial stream, offers stream and riparian habitat.

The area is undeveloped and relatively undisturbed.

Students and faculty wishing to conduct research at one of the biological field sites or to use these 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.

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.

Center for Energy Studies
Walter Vogt, 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 planning, 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, Arts and Letters, and Professional Studies and Fine Arts.

European Studies Center
Leon Rosenblum, Director

The European Studies Center coordinates and supports teaching and research related to the European area. It supervises the major and the minor in European studies for the A.B. degree. It sponsors the annual San Diego State University Summer Seminar and Travel Study Tours to Europe at various times in the year. It administers the European Studies Center Laboratory in AH-3172 which contains books, pamphlets, English and foreign language periodicals, and a slide collection on European art and geography. The Laboratory is open several hours each day for study and research by students and instructors in courses dealing with any aspect of European studies. The Center also assists in the development of the University library's holdings in the European area and has created a special collection of library materials on European integration and unification which is being steadily and systematically expanded.

Center for Communications
John P. Witherspoon, Director

The Center for Communications was established to develop and administer interdisciplinary research and planning projects concerned with telecommunications technology, issues, and applications. It also develops and administers the applications of the University's IFTS television system and satellite teleconferencing facilities. 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 in participating departments; to conduct studies and planning projects relating to developments in telecommunications, 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.

Counselor Education
Paul Bruce, 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
John M. Davies, Jr., Director

The Institute for Cultural Pluralism (ICP) is an umbrella organization, housing projects funded by federal, state, and private sources. The ICP currently includes the National Origin Desegregation/Law Center, the Bilingual Education Service Center, and the Social Equity Technical Assistance Center. These centers focus on issues of social equity, conduct research on questions related to equity in schools, and provide technical assistance to districts throughout Southern California and parts of Arizona.

Economics Research Center
Walter Vogt, Director

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

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
Institute for Leisure Behavior
Mary R. Duncan, 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, 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, and the city of Santee.

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 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." Currently, full members of the Institute are drawn from the departments of Biology, Botany and Chemistry. Associate members are drawn from a variety of disciplines that are 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 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.

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 government administration and affairs including urban planning, management and criminal justice administration. Selected students and faculty of San Diego State University staff the Institute. An integral part of collection of research materials emphasizing issues in public affairs particular to San Diego and California.

Public Economics
George Babilot, Director

The Center for Public Economics is a faculty of the Department of Economics to encourage research by students and faculty in all phases of non-market 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. The Center is located in HT-307.

Center for Regional History
Stephen A. Colston, Director

The Center for Regional History is an archives and museum that has as one of its objectives the acquisition, conservation, and processing of materials for researching the development of the San Diego region. The Center's archives contain personal papers and records of public, business, labor, cultural, religious and social service organizations, and includes oral history and pictorial materials. The museum houses artifacts excavated from the Real Presidio de San Diego and Spring Valley's Bancroft Ranch House Site. These collections also include field notes, site reports, and collateral documentation. While providing resources for the study of regional history, the Center's collections support multidisciplinary research on contemporary business, economic, environmental, political, social, urban, and journalism topics. The Center also serves as a teaching laboratory for students and community groups through programs which promote the utilization of primary source materials in research, writing and teaching of local history. The Center is located in LL-362.

Center for Religious Studies
Irving Alan Sparks, Director

The Center for Religious Studies is a faculty of the Department of Religious Studies which fosters research by students and faculty in all of 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.

Social Science Research Laboratory
Paul J. Strand, Director

The Social Science Research Laboratory (SSRL) was founded in 1974 to facilitate faculty research and to support a diverse set of instructional programs throughout the behavioral and other sciences. Emphasizing public opinion polling and computer applications to social problems, SSRL offers a wide range of services to University faculty, staff, and students, as well as to the broader San Diego community. Services and operations are organized along the following lines:

Research Services offers a complete range of public opinion polling and survey research services, including survey design and execution, sampling methodology, coding and data reduction, and data archiving and retrieval.

Instructional Services offers consultation in computer applications to social problems, including a full range of statistical analysis programs. The Section also provides a range of...
specialized workshops and demonstrations about computer uses and applications, data management, and analysis.

Operations offers services in the access and retrieval of computerized and other forms of quantitative data. The Center provides access to a number of large data archives, including the California Poll conducted by the Field Institute, hundreds of local, national and foreign polls, and other kinds of social data through the Inter-university Consortium for Political and Social Research (ICPSR), certain portions of the most recent U.S. Census, and other sources.

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, community ecology, demography, image processing, 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, the U.S. Forest Service, and the U.S. Department of Energy. Additional information may be obtained at the SERG office at HA-525 or by calling 265-6615.

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.

Distinguished Graduate Research Lecture Series

The Distinguished Graduate Research Lecture Series is sponsored by the Graduate Division and Research and the University Research Council and is supported in part through Instructionally Related Activities funds. The Series was established for the purpose of bringing to the campus scholars of national and international preeminence to present a public lecture on a general subject related to research and graduate education. In addition to this public lecture, the distinguished lecturer provides an unusual educational opportunity for graduate students by conducting a graduate research colloquium. Each of the lecturers in the Series is published under the auspices of the Publications Committee of the University Research Council and made available to graduate students, faculty, and other interested persons.

The first Distinguished Graduate Research Lecturer was Dr. Noam Chomsky, Institute Professor of Linguistics, Massachusetts Institute of Technology. Dr. Chomsky delivered a public lecture on "Modular Approaches to the Study of the Mind." Nobel prize winner, Dr. Arthur Kornberg, Professor of Biochemistry at Stanford University, delivered the second Distinguished Graduate Research Lecture entitled "Genetic Chemistry and the Future of Medicine."

University Computer Center

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

The principal computer on campus is a Control Data Corporation CYBER 170-750 which runs on the NOS operating system in batch, transactional, and timesharing modes. Language compilers provided include BASIC, FORTRAN, COBOL, Pascal, APL and PL/I. Also available are over 150 software packages for applications that include statistics, mathematics, science, and business.

Additional instructional computing capacity is supplied by a Digital Equipment Corporation VAX 11/780 computer which runs on the VMS operating system in timesharing and batch modes. The VAX offers the language compilers available on the CYBER, plus VAX-11 MACRO. Its software packages emphasize statistical programs and graphics packages. A third computer, a Digital Equipment Corporation PDP 11/45, is devoted exclusively to administrative uses. The campus computers can be accessed from any of over 200 interactive terminals dispersed throughout the campus. Terminal labs are located in the Business Administration, Engineering, Life Science and Social Science buildings. The CYBER can also be accessed from card readers located in the Business Administration, Engineering, and Social Science buildings.

Specialized computing services are also available. Two popular instructional laboratories are equipped with Apple microcomputers that can be programmed in BASIC or Pascal, and that can run software written for Apple DOS or CP/M based systems. Another instructional laboratory contains terminals designed specifically for the APL programming language. A 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 powerful statewide computing network centered in Los Angeles. This network can be accessed from any campus terminal via a high-speed data link. It is served by a dual CYBER 170/730-2 and a 170/760 computer. The statewide system provides many additional software packages and large data bases.

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 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 gifts and donations;
- Investment of endowment and other funds;
- Financial management of student scholarship and loan funds;
- Financial management of a real property program whereby the Foundation provides space for grant management, 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 for Research Program for faculty;
- Administration of other activities as requested by the University.

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 guide the corporation in achieving its objectives.
San Diego State University Press

As the scholarly press for San Diego State University, the San Diego State University Press publishes works of 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 areas: Latin America and the United States-Mexican Border; aging; and regional studies of the Pacific Southwest. In addition to books, the Press also publishes under its imprint the annual Proceedings of the Pacific Coast Council on Latin American Studies and the literary magazine Fiction International. As an ancillary service, it publishes or distributes for departments on campus several occasional and serial publications, including the Proceedings of the annual Conferences on Minority Aging of the Center on Aging and 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. Financial support for Press activities is provided almost entirely by sales of books and by auxiliary services to the University community. Financial accounting and coordination is provided by the San Diego State University Foundation.

Certificate Programs

Advanced academic certificates offered by some departments provide students with a program of coursework leading to a specific applied goal. Each graduate level advanced certificate has specified admission and course requirements. Admission of students into all advanced certificate programs will be as postbaccalaureate classified status. Please consult the Certificate Adviser of the specific department for additional information about certificates listed in the Graduate Bulletin.

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, Florence (Italy), Waseda University (Japan), the Iberoamericana University (Mexico); Massey 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 United Kingdom; the Hebrew University of Jerusalem (Israel); the University of Florence (Italy), Waseda University (Japan); the Iberoamericana University (Mexico); Massey 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 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 representative on campus.

Eligibility for application is limited to those students who will have upper division or graduate standing at a CSU campus by September 1985, who possess a cumulative grade point average of 2.75 or better, and who have completed required language study where applicable. Selection is competitive and is based on home campus recommendations and the applicants academic record.

Final selection is made by the Office of International Programs in consultation with a statewide faculty selection committee.

The International Program 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 can 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 1985-86 academic year overseas must be submitted by February 1, 1985.

International Student Exchanges

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 opportunities 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 graduate student exchange opportunities may be obtained from the Graduate Division Office.

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, Universities of Nice and Provence, France; Hannover University, Germany; Universities of Sumatera Utara, Indonesia; Autonomous University of Baja Mexico; and Katholieke University in the Netherlands.

Counseling Services and Placement

Counseling Services and Placement provides, without charge, the following services: (1) life planning and decision-making workshops, (2) educational and vocational assistance through counseling on career choice and curriculum selection, (3) counseling for personal, psychological, and social development, (4) consultation with student groups, faculty staff, and administration, and (5) placement services. Additional programs and work experiences are provided through student employment, summer and part-time employment, job referrals, campus recruiting program skill development, resume writing, interview workshops, and job search strategy. An extensive career library is available.

For a nominal fee, alumni may receive placement assistance through 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

Student Health Services provides a full range of medical care to SDSU students. The staff of over 65 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians board certified in family practice, gynecology, over 40 personnel includes physicians 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Student Health Services is open twelve months a year. During the fall and spring semesters the Center is open from 8:00 a.m. until 5:00 p.m. Monday through Friday. During intersession and summer the Center closes at 4:15 p.m.

Services are available to all regularly registered students. Individuals may use Student Health Services on a walk-in basis. Those without acute or urgent problems are encouraged to call to make an appointment.

There is no charge at the time of services for almost all medical care provided at Student Health Services. Fees have been prepaid through regular registration fees. Some services require a minimal additional fee such as pharmacy, special lab work, physical therapy treatments, and so forth. Charges associated with these services are usually dramatically lower than those found elsewhere.

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 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 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.

**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, 265-6955.

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 pre-paid health insurance program is available and recommended to students having no private medical or accident insurance services. The program may be purchased by semester or on a yearly basis. An open enrollment period is available the first thirty days of each semester. With the exception of International Students, participation in this health insurance program is voluntary.

**TUBERCULOSIS (TB) TEST**

A skin test for tuberculosis (or chest x-ray for those known to be positive) is REQUIRED on 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 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.

**Test Office**

The Test Office serves both students and faculty through administering a wide 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 the 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), San Diego State University administration, departments, faculty, community, and students.

**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 facilitating to mediate and reinforce other means of redress when possible.

The office of the Ombudsman is located in the Aztec Center, Room 166, telephone (619) 265-6578.

**Audiology Diagnostic Center**

The Audiology Diagnostic Center is a service of the Department of Communicative Disorders. The center provides diagnostic information regarding hearing loss, hearing aid evaluations, earmolds and earplugs for faculty, students, staff and the community. A minimal fee is charged for audiological services. The 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**

The Communications Clinic, staffed by students and supervised by faculty of the Department of Communicative Disorders, provides assessment and remediation services for SDSU students, staff, faculty and their families free of charge. Minimal fees are charged for services to individuals from the community. Comprehensive diagnostic and treatment programs are available for children and adults who may present such communicative difficulties as delayed speech/language development, voice, fluency or articulation disorders, aphasia, cleft palate, cerebral palsy, hearing impairment. Bilingual-multicultural services are provided for limited English proficient clients and their families. Because of student limitations not all who apply can be admitted. Referrals may be made through agencies, hospitals, school programs, health professionals, or as self-referrals. For 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 and 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.

Aztec Center
San Diego State University was the first of the California State Universities to build and operate a permanent college center. Since its completion in September of 1966, Aztec Center has served as a model facility to various college unions across the nation. All facilities, budgets, staffing and other matters which affect the union's operation are governed by the Aztec Center Board.

Aztec Center services a multitude of conference rooms and lounges which are available at no charge for student use. Room reservations can be placed in the Aztec Center Office, lower level of Aztec Center.

The Associated Students offers a varied range of job opportunities to students of SDSU. If you are interested in becoming an A.S. employee, all job opportunities are posted in Aztec Center Office, lower level Aztec Center.

Campus Children's Center
The Associated Students Campus Children's Center, a parent participation program, provides child care for SDSU students' children six months through five years of age who 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 publicity committee. They also have the opportunity to serve on the Campus Children's Center 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 to 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 California nonprofit corporation which has existed since 1931 to serve San Diego State University. Its primary purpose is to provide bookstore and food services. Other services of the Shops include ticket sales, a contract post office, vending machines, copy centers, automatic tellers, popcorn, ice cream and pizza sales.

The 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 the basement of the Bookstore, provides typewriters, copy machines and everything needed to prepare written materials for class.

Food services operates satellite snack bar, the Hot-dogger, mini snack bar, East Commons, Dining Commons, and Monty's Den cafeterias. In addition, a meal ticket 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.
payment of the first GI Bill check should contact Veterans Affairs at least two months before the beginning of each school year. For more information, come in to the office 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.

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, CLS-114, 265-6966.

Faculty Office Hours
All faculty members are required to hold five 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.

Catalogs and Bulletins
The General Catalog, published annually in May, may be obtained from the Aztec Shops Bookstore on campus. The catalog carries information on admissions, fees and tuition, programs and degrees, courses, scholarships, residence halls, student services and activities, and a faculty directory.

The Graduate Bulletin, published annually in May, may be obtained from the Aztec Shops Bookstore on campus.

The Summer Sessions Bulletin, issued each April, includes an application form, information on admissions and registration, fees, living accommodations, courses, institutes, workshops and study tours. It may be obtained free upon request to the Summer Sessions Office.

The Class Schedule with instructions for registration is published prior to the opening of each semester and may be purchased at the Aztec Shops Bookstore on the campus.

College of Extended Studies

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. 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 approximately 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 offer work taken in a summer session to satisfy the requirements for an advanced degree, the student must make early application for admission to the University with classified graduate standing at the Office of Admissions and Records.

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 March.

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 (ALI)
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. By enrolling in ALI, students may take advantage of a program called "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.
required TOEFL (Test of English as a Foreign Language) score to qualify for admission to the
University. After transcripts of their academic work have been evaluated by SDSU staff,
students may receive an official letter of conditional admission which states that the student has
met all University requirements except English language proficiency and may enter the
University after appropriate TOEFL scores and training at the American Language Institute
(ALI)
Programs offered by ALI are as follows:

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,
English for specific purposes (e.g., English for Science and English for Business) and
intercultural communication.
Advanced students may register for three to nine units in the Open University in addition to
their English classes.

American Language Communications — A 10-15 week course focusing upon oral skills
and cultural experiences. Classes include eight hours of conversation in addition to reading,
writing, structure and pronunciation. Elective courses are offered and directed community
activities provide experiences for real language use. Regular field trips to places of educational
and recreational interest are an integral part of the program.

Specific Purposes Programs — Programs for students and professionals with specific
needs, including language programs in management, teacher training, personnel
administration and education, are arranged.

Summer Language Institutes — A number of special short-term language programs are
offered by the ALI each summer (e.g., Management and Business English).

Services — All students at the institute are offered housing assistance, counseling for
university entrance, health services and orientation to university life.

Information about and applications for the ALI can be obtained from the Director, American
Language Institute.

Foreign Travel/Study Programs
Each summer the College offers a variety of travel/study programs which are designed to
give students and community members an opportunity to travel abroad and earn extension
units of credit. Programs range from two to five weeks in length, with a maximum of six units of
credit offered for the longer programs. Units of credit earned through travel/study may be used
to satisfy the Human Experience section of the General Education requirements. However,
participants need not be regularly matriculated students at SDSU. Independent study credit is
available for study abroad. Students must select an instructor and prepare a plan of study to
satisfy the requirements for units earned. For further information contact the Coordinator of
Foreign Travel/Study Programs.

Extension
In order to meet the needs of the adult community, as well as matriculated students, the
College provides a variety of extension courses and workshops, open university, and external
degree programs. For the convenience of adult students most courses are scheduled in the
evenings or on weekends, on campus or at convenient learning extension centers throughout
the service area.

Extension Courses
Extension courses are offered each semester in a number of areas including education,
business administration, public administration, and the arts and sciences. Many courses and
programs are developed in cooperation with off-campus organizations and groups who have
year. These courses are listed in a special Extended Studies Program Bulletin published four
times a year.

There is no limit on the total number of extension units for which a student may enroll;
however, the maximum extension credit which may be used toward advanced degree
requirements at San Diego State University is six to nine 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
Most 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. For the convenience of first-time graduate students who have
missed the deadline for admission to the University, credit earned through one semester of
Open University enrollment may be considered as residence credit for students who
matriculate the following semester at the University in an advanced degree program, any
subsequent credit earned through Open University enrollment may not be applied toward an
advanced degree.

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 J-20 visas from another university
3. SDSU matriculated students.
4. Graduate students taking graduate classes (unless permission has been obtained from
   graduate advisor).

External Degree Programs
In addition to its role of administering extensional degree programs for the civilian population,
Extended Studies 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
Servicemembers Opportunity College, offers external degree and certificate programs
designed specifically for military military and civilian personnel, including a Master of Arts
degree in Education with a Concentration in Educational Administration and Supervision.
Classes are held at times and locations convenient for students.

The College also administers an MBA program which is offered only to students sponsored
by participating companies.

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. Certificate Programs are offered in the following areas: Applied
Gerontology, Construction Practices, Fire Protection Administration, Government Contract
Management, 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.

The Center offers intensive seminars and workshops for the business community aimed at
increasing the expertise of these people.

Continuing Education in Health and Human Services
A variety of credit and noncredit short courses are offered throughout the year to meet
licensure requirements for the nursing profession, and to provide training in the allied health
fields.
Continuing Education in Data Processing and Management

These Centers offer a series of practical, intensive noncredit training in the fields of data processing and management.

Retired Adults Education Program

Programs for retired adults are sponsored by the College of Extended Studies at San Diego State University and operate out of two locations—downtown San Diego (Educational Growth Opportunities—EGO) and Rancho Bernardo (Continuing Education Center—CEc). These programs are planned and instructed by senior adults who are interested in furthering lifelong learning.

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

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 characteristically have not had access to traditional academic programs, to aid them in expanding their job and career potential or in pursuing personal enrichment goals.

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

Admission Requirements

Master of Arts Degree with a Concentration in Educational Administration and Supervision

This External Degree Program in Education with a Concentration in Educational Administration and Supervision is offered by San Diego State University in cooperation with the U.S. Navy and has been developed primarily for U.S. Naval Officers who are preparing for career assignments in Education and Training Commands. Naval Officers stationed at San Diego, Memphis, Pensacola, and Norfolk will apply for admission to this program at one of four participating institutions: San Diego State University, Old Dominion University, Memphis State University, and University of West Florida.

Application for Admission

Application for admission to external degree programs may be obtained from the College of Extended Studies. An application fee of $35.00 must be submitted with the application.

The application for admission must be supported by official transcripts of all previous academic work.

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 programs. All courses offered in external degree programs earn semester units and resident credit.

Fees

Since Extension and External Degree programs do not receive state support, they are required to be financially self-supporting. Contact Extension for exact fees.

Degree Requirements

The following is a description of the specific requirements for graduate external degree programs administered by the College of Extended Studies.

Master of Arts Degree in Education

Concentration in Educational Administration and Supervision

The general objectives of the special program to prepare naval officers are:

1. To develop basic principles of resources and personal management.
2. To develop the knowledge for planning and budgeting quality instructional programs.
3. To possess the knowledge of organizations and their development.
4. To understand the principles and applications of instructional systems development.
5. To develop the basic knowledge of the theory of educational philosophy.

All participating students must hold an acceptable baccalaureate degree from a regionally accredited institution and meet San Diego State University admission requirements as described in this bulletin.

**Program Requirements**

The professional courses required are as follows:

A matrix of required and elective courses which will satisfy the requirements of each ETMS competency area is provided.

The professional courses required for the Master of Arts in Education with a concentration in Educational Administration and Supervision are as follows:

- **Professional Core Courses (15 semester units)**
  - Educational Administration 600 Principles of Educational Administration (3)
  - Educational Administration 740 Advanced Seminar in Educational Administration (3)
  - Education 690 Procedures of Investigation and Report (3)
  - Education 795A Seminar (3)
  - Education 795B Seminar (3)

- **Electives:** A total of 15 semester units will be selected from the following list with an adviser to insure all ten areas of competency have been satisfied.
  - Educational Administration 610 Education Leadership (3)
  - Educational Technology and Librarianship 540 Instructional Technology (3)
  - Educational Technology and Librarianship 571 Introduction to Computers in Education (3)
  - Education 660 Advanced Educational Psychology (3)
  - Education 686 Educational Sociology (3)
  - Education 730 Seminar in Adult Learning (3)
  - Finance 650 Seminar in Business Finance (3)
  - Information Systems 609 Computer Programming and Systems Analysis (3)
  - Management 611 Organizational Behavior and Human Resources Management (3)
  - Management 673 Seminar in Organizational Development (3)
  - Marketing 769 Seminar in International Marketing (3)
Imperial Valley Campus, Calexico

Faculty

Emeritus: Harmon, Rodney, Spencer
Professors: Baldwin, Smith, Wilson
Associate Professors: Ayala, Ezzen, Franklin, Polich, Ryan, Varela-Ibarra
Assistant Professors: Dunn, Hill, Hoopes-Coram, King, Quintana

Offered by the Imperial Valley Campus

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 and credentials. 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, and for the Bilingual/Cross-Cultural Specialist and Special Education Specialist credentials; 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.

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 Mexicali, just across the border, a city of more than 700,000 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.

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 was dedicated in February, 1983. Modern language and minicomputer laboratories have also been 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. An extensive bicultural/bilingual collection of 30,000 volumes in Spanish was added in 1983. It is the largest such resource in the area and is used by students and educators throughout the Imperial and Mexicali valleys. 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. Please call 357-3721 for further information. 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.
Appendix
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. 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 broad liberal education. All of the campuses have upper division or graduate level programs 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 500 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 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 1983 totaled approximately 315,000 students, who were taught by a faculty of 18,500. 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 900,000 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 external statewide and regional 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 students 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 either 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.

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) 498-4116; all other areas in California toll free (800) 352-7517.
Average Annual Cost of Education 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. The total State appropriation to the CSU for 1983/84, including capital outlay, is $929,650,300. The total cost of education for CSU, however, is $1,199,787,540 which provides support for a projected 242,460, full-time equivalent (FTE) students.

The total cost of education in the CSU is defined as the expenditures for current operations (which includes payments made to the students in the form of financial aid), including all fully reimbursed programs contained in State appropriations, but excluding capital outlay appropriations. The average cost of education is determined by dividing the total cost by the total FTEs. The average cost is further differentiated into three categories: State Support (the State appropriation, excluding capital outlay), Student Fee Support, and Support from Other Sources (including Federal Funds).

Thus, excluding costs which relate to capital outlay (i.e., building amortization), the average cost of education per FTE student is $4,948. Of this amount, the average student fee support (including Federal Funds) is $1,006. The calculation for this latter amount includes the amount paid by nonresident students.

Source of Funds and Average Costs for 1983/84 CSU Budget
(Projected Enrollment: 242,460 FTE)

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<th>Amount</th>
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**For budgetary purposes, full-time equivalent (FTE) translates total head count into total academic student load equivalent to 15 units per term. Some students enroll for more than 15 units, some students enroll for fewer than 15 units.

***The total cost of education does not include the amount related to the capital investment of the CSU. The estimated replacement cost of all the system's permanent facilities and equipment on the 19 campuses is currently valued at $4.4 billion, excluding the cost of land.

*This figure does not include the capital outlay appropriation of $13,359,000.

****The average costs paid by a student include the State University Fee, Student Services Fee, Application Fee, Catalog Fee, and Nonresident Tuition. Individual students may pay less than $1,006 depending on whether they are part-time, full-time, resident, or nonresident students.
The California State University

California State College, Bakersfield
9001 Stockdale Highway
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