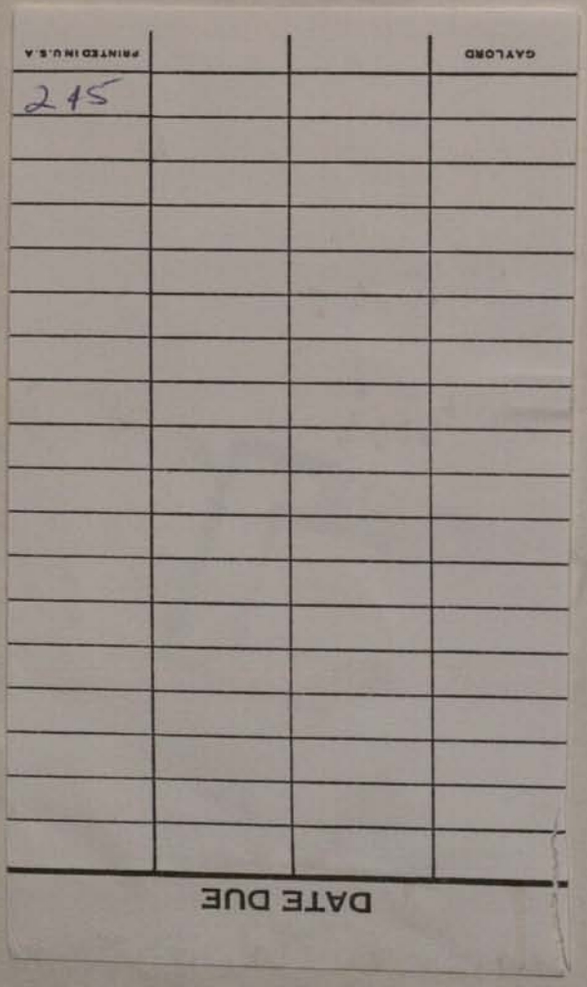
1982-83 SDSU Graduate Bulletin

SAN DIEGO STATE UNIVERSITY

SCI Desk Copy





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 $2.95 plus 6% sales tax. To order by mail, send $5.50 directly to the Aztec Shops, San Diego State University, San Diego CA 92182.

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BULLETIN

ANNOUNCEMENT OF THE GRADUATE DIVISION

1982-1983

SAN DIEGO STATE UNIVERSITY
SAN DIEGO, CALIFORNIA 92182
(714) 265-5000

(Effective November 6, 1982, the new area code will be 619.)

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1982-1983 Academic Calendar

1982 Summer Sessions

June 1-18	Term A (3 weeks).
June 5	Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
June 12	Graduate Record Examination Aptitude Test. Applicants should contact the Test Office five weeks in advance of the test date.
June 21-July 31	Term B (6 weeks).
June 21-July 23	Term C (5 weeks).
June 21	Last day to apply for summer graduation with an advanced degree, Graduate Division Office.
June 25	Last day to file petition for concurrent master's degree credit.
July 5	Holiday—Campus Closed.
July 26	Final day for submitting theses to the Thesis Review Service, University Library.
July 30	Last day for submission of incomplete and SP grade removals for summer graduation with an advanced degree.
August 2-20	Term D (3 weeks).
August 13	Last day for reporting results on comprehensive examinations to the Graduate Division Office by department or college.
August 16	Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation.
June 1-July 9	Term E (6 weeks).

Fall Semester

August 1	Applications for admission or readmission to San Diego State University for the spring semester 1983 accepted. Applications are accepted until degree program enrollment quotas are met.
August 20	Last day to apply for leave of absence for fall semester.
August 23	Schedule adjustment day.
August 23	Opening date of the academic year.
August 24-25	Walk-through registration.
August 26-27	Department work days.
August 30	First day of classes.
Aug. 30-Sept. 2	Late registration.
September 3	Last day to file petition for concurrent master's degree credit.
September 3	Last day to apply for mid-year graduation with an advanced degree, Graduate Division Office.
September 6	Holiday—Labor Day.
September 13	Last day to apply for refunds.
September 20	Last day to withdraw from class or change program.
October 9	Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
October 16	Graduate Record Examination Aptitude Test. Applicants should contact the Test Office five weeks in advance of the test date.
November 1	Application for admission or readmission to San Diego State University for the fall semester 1983 accepted. Applications are accepted until degree program enrollment quotas are met.

November 12	Last day for submission of incomplete and SP grade removals for mid-year graduation with an advanced degree.
November 25-28	Thanksgiving Recess.
November 29	Final day for submitting theses to the Thesis Review Service, University Library.
December 10	Last day of classes before final examinations.
December 11	Graduate Record Examination Aptitude Test. Applicants should contact the Test Office five weeks in advance of the test date.
December 11-17	Final examinations.
December 17	Final day for depositing completed approved theses at Aztec Shops for processing for mid-year graduation. Also last day for reporting results on comprehensive examinations to the Graduate Division Office by department or college.
December 18	Winter recess begins.
December 23	Grades due from instructors.
December 23	Last day of fall semester.
December 24, 25	Campus Closed and Holiday.
Dec. 31-Jan. 1	Campus Closed and Holiday.
January 3-21	Wintersession 1983

Spring Semester

November 1	Application for admission or readmission to San Diego State University for the fall semester 1983 accepted until degree program enrollment quotas are met.
January 14	Last day to apply for leave of absence for spring semester.
January 17-19	Schedule adjustment day/walk-through registration.
January 17	First day of second semester.
January 20-21	Department Work Days.
January 24	First day of classes.
January 24-27	Late registration.
January 28	Last day to file petition for concurrent master's degree credit.
January 28	Last day to apply for May graduation with an advanced degree, Graduate Division Office.
February 5	Graduate Record Examination Aptitude Test. Applicants should contact the Test Office five weeks in advance of the test date.
February 7	Last day to apply for refunds.
February 11	Last day to withdraw from class or change program.
February 12	Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
February 21	Holiday—Washington's Birthday.
March 28-April 3	Spring Recess.
April 2	Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
April 4	Classes resume.
April 8	Last day for submission of incomplete and SP removals for May graduation with an advanced degree.
April 22	Final day for submitting theses to the Thesis Review Service, Love Library, for processing for May graduation.
April 23	Graduate Record Examination Aptitude Test. Applicants should contact the Test Office five weeks in advance of the test date.

May 13	Last day of classes before final examinations.
May 13	Final day for depositing completed approved theses at Aztec Shops for processing for May graduation.
May 13	Last day for reporting results on comprehensive examinations to the Graduate Division Office by department or college.
May 14-20	Final examinations.
May 22	Commencement.
May 27	Grades due from instructors.
May 27	Last day of spring semester.
May 30	Holiday—Memorial Day.
August 19	Last day to apply for leave of absence for fall semester.

1983 Summer Sessions

May 31-June 17	Term A (3 weeks).
June 11	Graduate Record Examination Aptitude Test. Applicants should contact the Test Office five weeks in advance of the test date.
June 18	Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
June 20-July 29	Term B (6 weeks).
June 20	Last day to apply for summer graduation with an advanced degree, Graduate Division Office.
June 20-July 22	Term C (5 weeks).
June 24	Last day to file petition for concurrent master's degree credit.
July 4	Holiday—Independence Day.
July 25	Final day for submitting theses to the Thesis Review Service, Love Library.
July 29	Last day for submission of incomplete and SP grade removals for summer graduation with an advanced degree.
August 1-19	Term D (3 weeks).
August 12	Last day for reporting results on comprehensive examinations to the Graduate Division Office by department or college.
August 15	Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation.
August 19	Last day to apply for leave of absence for fall semester.
May 31-July 8	Term E (6 weeks).

Annual Calendar

CALENDAR 1982

JANUARY

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Schedule of Fees

Fees are subject to change 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.) 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.)

Fees for Student Services—ALL STUDENTS $152.00

Auditors pay same fees as students carrying courses for credit. Nonresident and foreign students pay additional fees—see information below.

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, and an instructionally related activities fee of $15.00.

Tuition for Nonresident Student (Foreign and Domestic)
(In addition to student services and activity fees.)
Tuition will be charged for all units attempted ..... per unit $105.00
(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, moped) 5.62

Miscellaneous Fees (Fees payable when service is rendered.)
Application for admission or readmission (nonrefundable) $25.00
Late registration (Refer to Class Schedule for dates when this fee will be assessed.) 20.00
Failure to meet administratively required appointment or time limit 5.00
Photo-Identification Card (One-time cost to both new undergraduate and graduate students at time of registration.) 3.00
Lost Identification Cards/Stickers
Card only 2.00
Registration sticker only 2.00
Card and sticker 4.00
Transcript of record 2.00
R.O.T.C. deposit (Unexpended portion is refundable.) 35.00
Check or charge slip returned for any cause 10.00
Loss of or damage to library materials ..... Replacement cost plus $8.00 service charge
*Graduation fee 9.00
*Evaluation and diploma fee 10.00
Credential fee 40.00

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

MASTER CARD / VISA

Acceptable for payment of Student Fees.

REGULAR SESSION FEE REFUNDS

Details concerning fees which may be refunded, the circumstances under which fees may be refunded, and the appropriate procedure to be followed in seeking refunds may be obtained by consulting Section 41803 (parking fees), 41913 (nonresident tuition), 42019 (housing charges), and 41802 (all other fees) of Title 5, *California Administrative Code.* In all cases it is important to act quickly in applying for a refund. Information concerning any aspect of the refund of fees may be obtained from the Cashiers Office.

An appeals process exists for students who feel that individual circumstances warrant exceptions from published policy. Students should contact the Cashier Manager for assistance.

Refund of Student Services Fees

To be eligible for refund of student services fees, a student withdrawing from the university must obtain a withdrawal card from the Registrar's Office and file a refund application with the Cashiers Office, CL-108, not later than 14 days following the commencement of instruction. All but $5.00 will be refunded. For additional information contact the Cashiers Office or telephone 265-5253.

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:

Time Limit	*Amount of Refund*
(1) Before or during the first week of the semester	100 percent of fee
(2) During the second week of the semester	90 percent of fee
(3) During the third week of the semester	70 percent of fee
(4) During the fourth week of the semester	50 percent of fee
(5) During the fifth week of the semester	30 percent of fee
(6) During the sixth week of the semester	20 percent of fee

Refund of Parking Fees

This schedule of refunds refers to calendar days, commencing on the date of the term when instruction begins.

Nonreserved space per semester:

Period	*Amount of Refund*
1—30 days	75 percent of fee
31—60 days	50 percent of fee
61—90 days	25 percent of fee
91—end of term	None

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

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

SUMMER SESSION FEES

Tuition and Fees ..... (per unit) $66.00
Parking Fees (nonreserved spaces):
Entire summer period 15.00
Five- and six-week terms 9.00
Three-week terms 6.00

EXTENSION COURSE FEES

Lecture or discussion course ..... (per unit) $44.00

EXEMPTIONS

Students under Public Law 894, 87-815, California state veterans' dependents, or state rehabilitation programs will have fees paid for tuition and materials and service under provisions of these respective programs.

ALAN PATTEE SCHOLARSHIPS

Children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, are not charged fees or tuition of any kind at any California State University campus, according to the Alan Pattee Scholarship Act, Education Code Section 68121. Students qualifying for these benefits are known as Alan Pattee scholars. For further information contact the Admissions and Records Office, which determines eligibility.

STUDENT SERVICES FEE

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

(1) Social and Cultural Development Activities: provides for the coordination of various student activities, student organizations, student government and cultural programs.

(2) Counseling: includes the cost of counselors' salaries and clerical support plus operating expenses and equipment.

(3) Testing: covers the cost of test officers, psychometrists, clerical support, operating expenses and equipment.

(4) Placement: provides career information to students and faculty for academic program planning and employment information to graduates and students.

(5) Financial Aid Administration: includes the cost of the counseling and business services provided in connection with the financial aid programs.

(6) Health Services: provides health services to students and covers the cost of salaries of medical officers and nurses plus related clerical and technical personnel as well as operating expenses and equipment.

(7) Housing: includes the cost of personnel providing housing information and monitoring housing services.

(8) Student Services Administration: covers 50 percent of the cost of the Dean of Students Office which has responsibility for the overall administration of student services.

Procedure for the Establishment or Abolishment of a Student Activity Fee

The law governing The California State University provides that a student activity fee may be established by student referendum with the approval of two-thirds of those students voting. The Student Activity Fee was established at San Diego State University by student referendum in 1955. The same fee can be abolished by a similar two-thirds approval of students voting on a referendum called for by a petition signed by 10 percent of the regularly enrolled students. (***Education Code,*** Section 89300.) The level of the fee is set by the Chancellor upon recommendation by the campus. Student activity fees support a variety of cultural and recreational programs, 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 the student may wish to present, and will advise the student of its conclusions with respect to the debt.

PART ONE

San Diego State University

Principal Officers of Administration

President of the University	Thomas B. Day
Vice President for Academic Affairs	Albert W. Johnson
Vice President for Business and Financial Affairs	William L. Erickson
Dean of Student Affairs	Daniel B. Nowak
Director of University Affairs	Paul J. Steen

Academic Administration

GRADUATE DIVISION

Dean of the Graduate Division and Research	James W. Cobble
Associate Dean (Acting)	Arthur W. Schatz
Associate Dean	Lawrence B. Feinberg
Assistant Dean	Stephen W. King

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 1981-82, 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
Ned V. Joy	(ex officio) University Librarian
Arthur W. Schatz	Acting Associate Dean of the Graduate Division
Lawrence B. Feinberg	Associate Dean of the Graduate Division
Stephen W. King	Assistant Dean of the Graduate Division
Bradley N. Bartel	Department of Anthropology
Glen M. Broom	Department of Journalism
Patricia T. Cegelka	Department of Special Education
George T. Craig	Department of Mechanical Engineering
Gregory M. Gazada	Department of Marketing
Ned H. Greenwood	Department of Geography
Peggy J. Hawley	Department of Counselor Education
Merrill J. Lessley	Department of Drama
Marilyn E. Newhoff	Department of Communicative Disorders
Alan C. Nichols	Department of Communicative Disorders
James T. Perry	Department of Information Systems
Allison Rossett	Department of Educational Technology and Librarianship
Herbert B. Shore	Department of Physics
J. Frank Steenbergen	Department of Microbiology
Donald W. Thiel	Department of Industrial Studies
Timothy F. Kelley	Graduate Student, Business Administration

(Membership for 1982-83 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	Robert R. Nardelli (Acting)
College of Engineering	Jay H. Harris
College of Human Services	Harriet G. Kopp (Acting)
College of Professional Studies and Fine Arts	Jerry E. Mandel
College of Sciences	Donald R. Short
College of Extended Studies	William P. Locke
Division of Undergraduate Studies	Bonnie Neumann
Imperial Valley Campus	Linda L. McAlister

PART TWO

General Information

General Information
College of Extended Studies
North County Center
External Degree Programs
Imperial Valley Campus

General Information

San Diego State University

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

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

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

It became clear early that the only collegiate institution in San Diego would soon outgrow its 17-acre site, and a campaign was begun in the 1920s to build a new campus. The Legislature agreed, provided the city furnish a new site and buy the old one. In 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 1,918.

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

Acting President Donald E. Walker (1971-1972), President Brage Golding (1972-1977), and Acting President Trevor Colbourn (1977-1978) were followed by the sixth president Thomas B. Day (1978—) 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 new Health Services, Art, Humanities, and Professional Studies and Fine Arts classroom buildings are the most recent additions to the campus physical facilities.

The faculty of the University 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. The University is fully accredited by the Western Associate of Schools and Colleges, the National Council for Accreditation of Teacher Education, the California State Board of Education, and is approved by the Veterans Administration for the education and training of veterans. The master's degree programs in Business Administration are accredited by the American Association of Collegiate Schools of Business. The Department of Chemistry is on the approved list of the American Chemical

Society. The Department of Music is a member of the National Association of Schools of Music. Public Administration and Urban Studies is a member of the National Association of Schools of Public Affairs and Administration. The School of Engineering is accredited in the fields of aerospace, civil, electrical and electronic, and mechanical engineering by the Engineer's Council for Professional Development. The master's degree program in Rehabilitation Counseling is accredited by the Council on Rehabilitation Education. The Master of Social Work degree is accredited by the Council of Social Work Education.

San Diego State University also has memberships in the Western Association of Graduation Schools and the Council of Graduate Schools in the United States.

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.

Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from the Financial Aid Office, CL-122, 265-6326.

1. Student financial assistance programs available to students who enroll at San Diego State University;
2. The methods by which such assistant is distributed among student recipients who enroll at San Diego State University;
3. The means, including forms, by which application for student financial assistance is made and requirements for accurately preparing such application;
4. The rights and responsibilities of students receiving financial assistance; and
5. The standards which the student must maintain in order to be considered to be making satisfactory progress for the purpose of establishing and maintaining eligibility for financial assistance.

The following information concerning the cost of attending San Diego State University is available from the Financial Aid Office, CL-122, 265-6323.

This information includes:

1. Fees and tuition;
2. Estimated costs of books and supplies;

3. Estimates of typical student room and board costs or typical commuting costs; and
4. Any additional costs of the program in which the student is enrolled or expresses a specific interest.

Information concerning the refund policy of San Diego State University for the return of unearned tuition and fees or other refundable portions of costs is available from the University Cashier's Office, CL-108, 265-5253.

Information concerning the academic programs of San Diego State University may be obtained from the Office of the Vice President for Academic Affairs, AD-206, 265-6542.

This information may include:

1. The current degree programs and other educational and training programs;
2. The instructional, laboratory, and other physical plant facilities which relate to the academic program;
3. The faculty and other instructional personnel; and
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.

University Library

The centrally located Malcolm A. Love Library, with its open stacks, adjoining study areas, and many individual carrells, 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 782,530 volumes including books and bound periodicals, and 385,000 government documents. Additional resources include 1.6 million microfiche and microopaque cards, 45,300 reels of microfilm, 4,500 college catalogs, 30,500 scientific reports, 4,200 phonograph records, 54,000 curriculum items and 1,500 linear feet of archival papers. The library receives 10,000 periodical and serial titles, excluding government documents. It is a depository for United States and California government publications. It receives all United Nations and Organization of American States publications, as well as many publications of other national and international bodies.

Significant research collections in the social sciences and humanities include: Asian studies; business; 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 San Diego History Research Center's extensive archival collections from the San Diego area support original research.

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

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

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

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

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

A major activity of the Center is administering a National Institute on minority aging. It serves as a central point for the development and dissemination of minority aging data nationally.

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 and recent vertebrates, invertebrates, and plants. Research space is available for students, faculty, and visiting scholars. Small grants and other funds and equipment are available to students and faculty for research projects. The Center also publishes reports of various types containing geological information related to the southern California and northern Baja regions.

Asian Studies
Paochin 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, campus-wide, it performs such services as (1) securing and administering grants and other support for research and development in Asian studies; (2) coordinating and publicizing the activities of faculty engaged in Asian-centered studies; (3) developing and administering the Asian studies program and relevant curricula at the undergraduate and graduate levels; (4) responding to campus and community requests for information and services; (5) fostering campus and community interest in Asian studies. The center's reading room and study facility, located in 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 500-acre Fortuna Mountain Ecological Reserve north of Mission Gorge Road in San Diego.

The Sky Oaks Biological Research Station maintains laboratory and dormitory facilities, weather stations, and a research area of 1500 acres. It is adjacent to the Anza Borrego State Park, Cleveland National Forest, BLM lands, and private land. The proximity of these lands allows many more research and teaching opportunities than would otherwise be available. This site offers a diversity of community types, including red shank-Chamise chaparral, mixed chaparral, oak woodlands, and riparian communities. Pines are found nearby, a variety of soils and rock types are present, and rich groundwater resources and archaeological sites are on the property.

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.

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 Communications
John P. Witherspoon, Director

The objectives of the Center for Communications are as follows:

To seek contracts with industries, government agencies or educational institutions and to carry out interdisciplinary communications studies of an applied research nature; to stimulate recommendations for applied research projects on the part of faculty members in participating departments; to conduct conferences and seminars relating to new uses of communications, problems with communications, and applications of communications technology; to examine methods by which the University can extend its reach by use of communications technology; to establish a mechanism for cooperative enterprises in the communications field with other institutions of higher education in the San Diego area.

The Center functions within the College of Professional Studies and Fine Arts. The principal cooperating units are the departments of Journalism, Speech Communication and Telecommunications and Film, the College of Extended Studies, the KPBS stations, and the Social Science Research Laboratory.

Counselor Education
David Malcolm, Director

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

Institute for Cultural Pluralism
Ana Maria Rodriguez, Director

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

Economics Research Center
Walter Vogt, Director

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

Bureau of Educational Research and Evaluation
Peggy Hawley, Director

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

Center for Energy Studies
Alan R. Sweedler, Director

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

European Studies Center
Leon Rosenstein, Director

The European Studies Center coordinates and supports teaching and research related to the European area. It supervises the major in European studies for the A.B. degree. It sponsors the annual San Diego State University Summer Seminar and Travel Study Tour to Europe. It administers the European Studies Center Laboratory in AH-3172 which contains books, pamphlets, English and foreign language periodicals, and a slide collection on European art and geography. The laboratory room is open several hours each day for study and research by students and instructors in courses dealing with any aspect of European studies. The Center also assists in the development of the university library's holdings in the European area and has created a special collection of library materials on European integration and unification which is being steadily and systematically expanded.

San Diego History Research Center
Stephen A. Colston, Director

The San Diego History Research Center is 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 contains 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 as well as field notes, site reports, and collateral documentation. Archaeological materials from Spring Valley's Bancroft Ranch House Site, a California State Historic Landmark and a Registered National Historic Landmark are currently being processed by the University of San Diego and will ultimately be transferred to the Center's museum. While providing resources for the study of regional history, the Center's collections are well suited for supporting multidisciplinary research on anthropological business, economic, political, social and urban 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 the research, writing and teaching of local history. The Center is is located in LL-362.

Institute of Labor Economics
Adam Gifford, Director

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

Center for Instructional Technology Research and Training
Allison Rossett, Director

The purpose of the Center for Instructional Technology, Research and Training is to (1) secure and administer grants, contracts and other support for research and development in instructional technology; (2) conduct workshops, seminars and conferences relating to applications of instructional technology to teaching, training and management; (3) respond to campus and community requests for information and assistance; (4) assist in conducting needs assessments, task analyses, instructional program design and evaluations of instructional products or programs; and (5) develop and disseminate information, materials, and modules reflecting model use of instructional technologies. The Center uses instructional technology to address education and training problems in health, school, military, business and social service settings.

The Center functions within the Department of Educational Technology and Librarianship of the College of Education at San Diego State University.

Center for International Programs
William P. Locke, Director

The Center for International Programs acts as the principal contact for all projects involving the University with organizations, agencies or governments in other countries, providing them with information and program development assistance, drawing upon resources within San Diego and Imperial counties and throughout the United States. The Center also facilitates research and special projects undertaken abroad by faculty members of SDSU and other universities. The Center is housed within the College of Extended Studies, where technical assistance and information are available from 8:30 a.m. to 4:30 p.m., Monday through Friday.

Latin American Studies
Thomas M. Davies Jr., Director

The Center for Latin American Studies seeks to encourage teaching and research related to Latin America. It has primary responsibility for the administration of the Latin American undergraduate and graduate degrees. In 1976, the U.S. Office of Education designated the Center as one of the nation's ten Latin American language and area centers. In the spring of 1979, this designation was renewed for two additional years. In 1981, the Center was designated one of eleven "National Resource Centers for Latin America" by the Department of Education. In conjunction with this award, the Center administers programs that focus on: (1) initiation of a problem-oriented approach to Latin American studies through the creation of courses dealing with urbanization and modernization of the area; (2) development of innovative methods of instruction in Spanish and Portuguese; (3) provision of services for the general public through the sponsorship of conferences, workshops, lectures and films. The Center also assists in the development of the University library's Latin American holdings and has created a special collection of Latin American materials which is available in the Center's reading room, SS-146.

Center for Marine Studies
Richard F. Ford, Director

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

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 Anthropology, Geology, Natural Science and Zoology and professional paleontologists in other research and educational institutions in the greater San Diego area. Students interested in pursuing an interdisciplinary Special Major leading to an M.A. in Paleobiology may do so under the direction of the committee.

Public and Urban Affairs
Glen W. Sparrow, Director

The Institute of Public and Urban Affairs is a part of the School of Public Administration and Urban Studies. The Institute is organized to conduct research concerning community and governmental issues. It also sponsors conferences and colloquia related to urban planning, management, and criminal justice administration. It is staffed by selected faculty and students of San Diego State University. Closely associated with the Institute is the Public Administration Center, with a specialized and growing collection of research materials emphasizing California and San Diego. In cooperation with the Public Administration Center, the Institute publishes occasional working papers and research monographs.

Public Economics
George Babilot, Director

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

Research in Economic Development
I. I. Poroy, 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 and is now located in the Social Science Research Laboratory, WC-101.

Social Science Research Laboratory
Paul J. Strand, Director

The Social Science Research Laboratory (SSRL) is a facility of San Diego State University 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 analyses, 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:

- A Survey Research Section offers a complete range of public opinion polling and survey research services, including sample design and execution, polling fieldwork, coding and data reduction, and data archiving and retrieval.
- A Computational Section offers consultation concerning computer applications to social analyses, including a full range of statistical analyses and data processing. The section also provides a range of specialized workshops and demonstrations about computer uses and applications, data management, and analysis.
- A Data Resource Section offers services pertaining to the accessing and retrieval of computerized and other forms of quantitative data. The Section 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
Philip C. Miller, Director

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

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 counseling. 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 Clinic 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" in November 1980.

University Computer Center

The University Computer Center provides equipment and technical personnel to support the Instructional, Research and Administrative activities of the University.

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

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

A third computer, a Digital Equipment Corporation, PDP 11-45 is devoted primarily to administrative users. The CYBER, VAX, and PDP computers may be accessed on campus at the main job entry site in the Business Administration Building, and at two other conveniently located stations on campus.

In addition to the campus computing systems, SDSU users have access to a statewide computing network centered at Los Angeles. This network, reached via a high-speed data link from campus, is served by a dual CYBER 170-730-2 and a 170-760, plus a CYBER 174 timesharing computer.

Approximately 200 interactive terminals located throughout the campus permit access to computers via dial-up telephone lines. Specialized data processing equipment is also available. For example, there is a lab containing 24 individual Apple computers used for beginning programming instruction. Another lab provides special graphics computing equipment.

San Diego State University Foundation

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

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

The Foundation serves the University in the following major areas:

Development and administration of grants and contracts for faculty and staff research and educational projects;

Administration of funds for more than 500 special programs including KPBS educational television and radio stations, the College of Extended Studies, and the SDSU Rehabilitation Center;

Financial administration of gifts and donations;

Investment of endowment and other funds;

Financial administration of student scholarship and loan funds;

Management of a real property program whereby the Foundation provides space for grant and contract activity within its aegis, 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. An example is ownership of the computer equipment used by the University, and assistance to the University in acquiring new equipment.

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

Campanile Press

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

The Campanile Press imprint is controlled by an Editorial Committee of San Diego State University faculty scholars, appointed by the Vice President for Academic Affairs and the Academic Senate. The Director of the Press is appointed by and reports to the Vice President for Academic Affairs. Financial support for Press activities is provided almost entirely by sales of books and by ancillary services to the University community. Financial accounting and coordination is provided by the San Diego State University Foundation.

CSU International Programs (Study Abroad)

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 24 foreign universities cooperating with the International Programs in 14 countries around the globe. The affiliated institutions are: the University of Sao Paulo (Brazil); the universities of the Province of Quebec (Canada); the University of Copenhagen (through Denmark's International Student Committee's Study Division); the University of Provence (France); the Universities of Hamburg, Heidelberg, and Tubingen (Germany); the Hebrew University of Jerusalem (Israel); the University of Florence (Italy); Waseda University (Japan); the Ibero-Americana 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 Madrid (Spain); and the University of Uppsala (Sweden). 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 1983; who possess a cumulative grade point average of 2.75 for all college level work completed at the time of application (some programs require a 3.0 cumulative grade point average), and who will 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 1983-84 academic year overseas must be submitted by February 9, 1983 (except for the New Zealand program where applications are due by May 15, 1983).

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

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 four French universities: the Universities of Angers, Nice, Clermont Ferrand, and Aix-en-Provence.

Residence Halls

Accommodations for 2,133 single students are available in residence halls on campus. Five of the halls are three-story red-brick buildings accommodating 223 students each; a sixth hall is a high-rise building which accommodates 594 students; and the newest is Tenochca Hall for men and women rising eight stories and expected to open for the 1982-83 academic year. All of the halls provide sleeping and study facilities on a two-students-per-room basis or in a small number of single rooms in Zura Hall. Student governments and staff in each of the halls recommend standards for basic behavior in the residence halls. Participation in campus activities is encouraged.

For 1981-82, the cost for room and board was approximately $2,266 (14-meal plan, double occupancy) per academic year. Rates are reviewed annually; you may anticipate cost-of-living increases to this rate. Three food service plans (10, 14 or 19 meals per week) are offered.

IT IS THE RESPONSIBILITY OF EACH STUDENT TO CONTACT THE HOUSING AND RESIDENTIAL LIFE OFFICE IF ONE WISHES TO OBTAIN ON-CAMPUS HOUSING. APPLICATIONS ARE GIVEN PRIORITY IN DATE ORDER AS THE DEMAND EXCEEDS THE NUMBER OF SPACES ON THIS CAMPUS. To apply for housing, the student should send a self-addressed envelope to the Housing and Residential Life Office at the University. A request for a room is confirmed after the student is admitted to the University, when a contract is received, and the first payment is received as specified. A student may apply as early as a year in advance. Though consideration will be given to a student's request for an individual hall and roommate, a specific assignment cannot be guaranteed.

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

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

OFF-CAMPUS HOUSING

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

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

Counseling Services and Placement

Counseling Services and Placement provides an array of services to students, faculty, and staff to include: (1) life planning and decision making, (2) educational and vocational assistance through counseling on career choice and curriculum selection, (3) counseling with regard to problems of personal, psychological, and social development, (4) consultation with student groups, faculty, staff, and administration; and (5) placement services for students. Additional programs and work experiences are provided through student employment, summer and part-time employment, job referrals, campus recruiting program, skill development, resume writing, interviewing, and job search strategy. An extensive career library is available to aid in this process. Supervised graduate training is available for students in a variety of related disciplines on campus.

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

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

Health Services

The Student Health Services is a pre-paid comprehensive primary care center. It provides a full range of medical services. It is fully staffed with over 100 personnel including full-time medical specialists in gynecology, dermatology, internal medicine, orthopedics, psychiatry, radiology and otolaryngology. The Student Health Services Center is open from 8:00-6:30 p.m., Monday through Thursday and 8:00-4:30 on Friday.

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

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

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

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

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

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

ACCIDENTS AND STUDENT INSURANCE COVERAGE

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

SDSU students are treated by the University as adults. Accordingly, students are responsible for their own safety and health in connection with participation in campus activities, and should exercise good judgment and due care at all times. The University does not provide accident, health, or liability insurance coverage for students participating in extracurricular activities, intramural sports, and required or elective academic programs, such as laboratory courses, workshops, theatrical productions, internships, or practica. 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 coverage. The insurance includes hospitalization benefits and specified medical and surgical services. The program may be purchased by semester or on a yearly basis for $125. 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 of if inconvenient, at a later date at Student Health Services. During the regular school year this service is available Monday, Tuesday, Wednesday and Friday. Clinic hours may vary. Of course, you may obtain the test from your family doctor, Public Health Department or other sources if you wish.

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 functioning to mediate and reinforce other means of redress when possible.

The office of the Ombudsman is located in the Aztec Center, Room 168; telephone (714) 265-6578.

Child Care Center Program

The Associated Students Child Care Program, a parent cooperative, provides child care for SDSU students' children six months through five years of age who are in good health. First priority is given to families with the greatest financial need and to earliest applicants regardless of race, religion, creed or sex. Faculty/staff children are accepted as space permits.

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

The program is staffed by professional and student employees, volunteers, parent participants and Child Development students. Parents make a weekly contribution of time as teachers in the classroom plus attend a weekly parent class or serve on a fund-raising or publicity committee. They also have the opportunity to serve on the Child Care Board which is composed of parents and other campus representatives.

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

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

Career Placement Information

The campus will furnish, upon request, information concerning the subsequent employment of students who graduate from programs or courses of study which have the purpose of preparing students for a particular career field. This information includes data concerning average starting salary and the percentage of previously enrolled students who obtained employment. 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-109B, 265-6966.

Catalogs and Bulletins

The ***General Catalog,*** published annually in May, may be obtained from the Aztec Shops Bookstore on the 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 the 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.

Cost of Living

Each student should plan his budget based on individual needs. At San Diego State University, it is possible to live simply and participate moderately in campus life on a modest budget. The following table is based on CSU systemwide figures provided for the purpose of determining maximum financial aid.

Estimated Expenses for the Academic Year

	Living off Campus	*Living on Campus*	*Commuting from Home*
Registration fee for materials, service, student activity, student union, facilities (estimated)	$ 450	$ 450	$ 450
Books and supplies	290	290	290
Room and board	3510	2700	1100
Transportation	540	0	540
Personal	900	770	630
Total	$5690	$4210	$3010

In addition to the registration fee, foreign students and out-of-state students pay tuition of $94.50 per unit. Typical expenses for married students without children average $8400 for a nine-month period. **All fees and costs are subject to change without notice.**

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. Selected degrees and certificate programs are available for individuals who can only attend school during the summer. Credit earned during the summer is applicable to graduation and residence requirements; however, admission to the University is not required for summer attendance.

Five sessions are scheduled each summer; two 3-week terms during which four units of credit may be earned; two 6-week terms in which students may earn seven units of credit; and one 5-week term during which seven units of credit may be earned. The summer program is offered from the first of June through the middle of August each year.

A graduate student may earn credit in residence which may be used to satisfy the requirements for an advanced degree or for credentials. If a student plans to 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 April.

Wintersession

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

American Language Institute (A.L.I.)

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

Academic English for the University Bound — 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 and Culture — A 12-week course focusing upon oral skills and cultural experiences. Classes include ten 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, recreation, personnel administration and education, are arranged.

Summer Language Institutes — A number of special short-term language programs are offered by the A.L.I each summer (e.g., American 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 A.L.I. 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, military 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 identified specific needs. The usual class carries three units of extension credit, although many one-unit weekend workshops are also offered throughout the year. These courses are listed in a special Extended Studies Program Bulletin ***(Portals)*** published each semester.

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 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

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

Military and External Degree Programs

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

For additional information contact the Extension Office.

Professional Development

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

Certificate Programs

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

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 Nursing

A variety of credit and noncredit short courses are offered throughout the year to meet relicensure requirements for the nursing profession.

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 (Center for Continuing Education—CCE).

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.

North County Center

Administration

Dean: William P. Locke, College of Extended Studies
Director North County Center: Lawrence A. Clinger
Assistant Dean for Student Affairs: Sandra R. Kuchler
Sr. Assistant Librarian: Nancy Assaf

Graduation and academic requirements for degree programs offered at the Center are identical to main campus requirements.

Faculty teaching at the Center are regular full-time SDSU faculty and part-time faculty selected by departments on the basis of their academic preparation and teaching experience.

Degrees and Credential Programs Offered at the North County Center

Master of Arts degree in education with concentrations in elementary curriculum and instruction, secondary curriculum and instruction, and community colleges curriculum and instruction.

Master of Arts degree in education with a concentration in educational administration and/or administrative services credential.

General Information

The San Diego State University North County Center has been established to assist individuals living in the northern San Diego, southern Orange and Riverside counties in meeting their academic objectives.

Establishment of the Center was approved by the state legislature and Governor in the summer of 1979. The first classes at the Center were offered in September 1979. Courses offered at the Center are at the upper division and graduate level. Lower division academic work will be provided by local community colleges.

The Center is located in Vista, California, with administrative facilities adjacent to the City of Vista offices at 150 Escondido Avenue, Vista, California.

Admission and Registration

To attend classes at the North County Center, students must file a complete application and transcripts as outlined elsewhere in this catalog and be admitted to San Diego State University. Upon admission to the University, students may register for classes at SDSU, at the North County Center, or both.

Students may register for North County classes by using the mail registration procedures or by registering in person at the Center prior to the start of classes. See the current Class Schedule for registration dates.

Student Services

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

Fees

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

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 $25.00 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. Fees for external degree courses range from $65 to $90 per semester unit.

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 School Administration (3)
- Educational Administration 680 Seminar in Educational Administration (1-6)
- 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 satisifed.

Electives selected under advisement (15 semester units)
- Educational Administration 610 Education Leadership (3)
- Educational Technology and Librarianship 540 Educational Technology (3)
- Education 596 Workshop in Adult Education (1-3)
- Education 660 Advanced Educational Psychology (3)
- Education 686 Educational Sociology (3)
- Business Administration 611 Behavior in Organizations (3)
- Business Administration 650 Seminar in Business Finance (3)
- Business Administration 673 Seminar in Organizational Development (3)
- Business Administration 769 Seminar in International Marketing (3)

Imperial Valley Campus, Calexico

Faculty

Linda Lopez McAlister, Ph.D., Dean, Professor of Humanities
Dana Murphy, Ph.D., Associate Dean (Acting)
Harry Polkinhorn, Ph.D., Lecturer in English

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 (ITFS) 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 should be in operation by Fall, 1982. Modern language laboratory and study skills laboratories will also be added at that time.

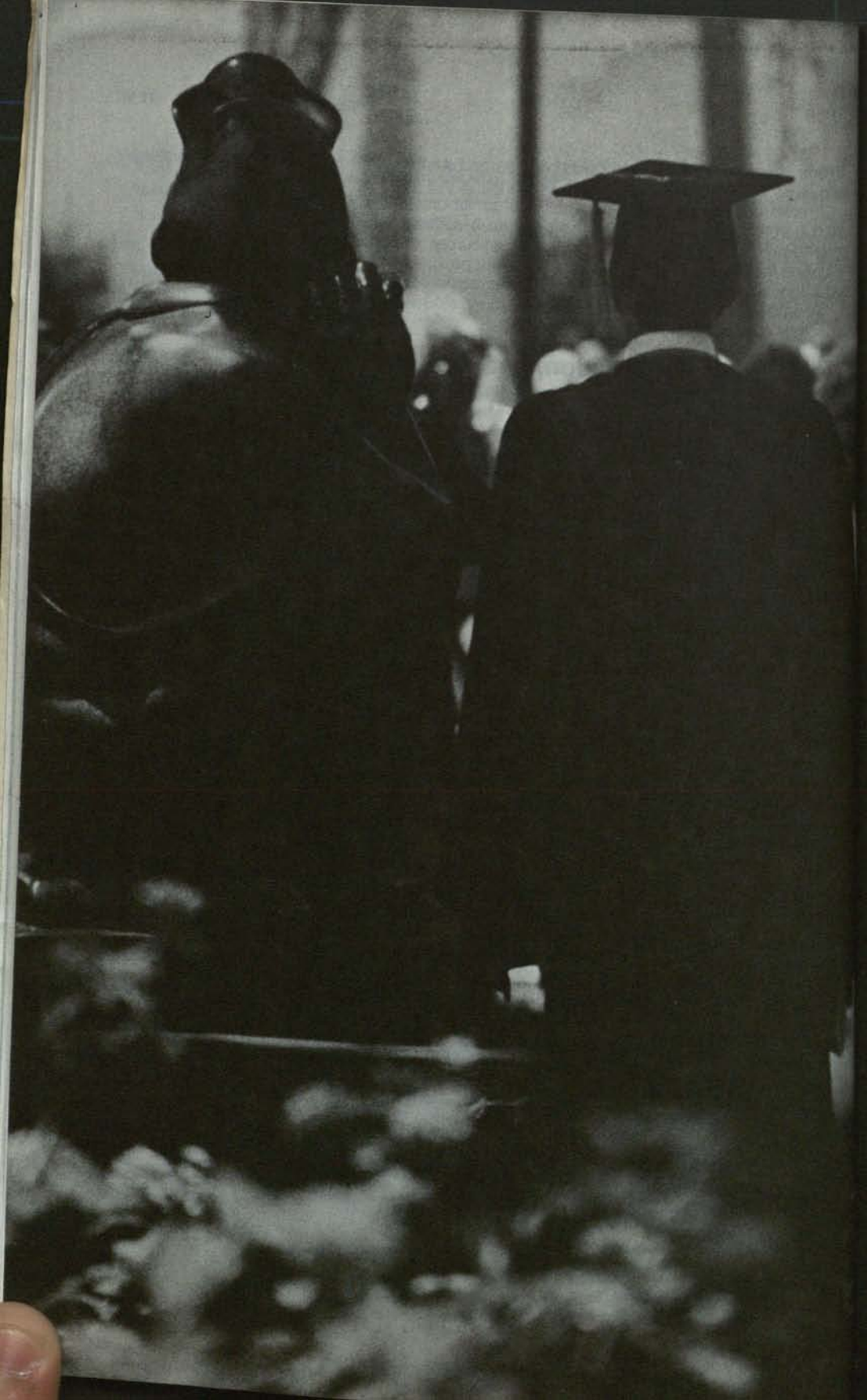
The library is expanding its collection from its current 28,000 volumes to approximately 50,000 volumes by the end of the decade. It subscribes to over 200 periodicals. Quick inter-library loan services make the library resources of the entire CSU system available to Calexico faculty and students. The Media Center provides assistance to the faculty in the use of educational technology. It has a wide range of equipment for use in the classroom.

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

Admission, Registration, and Commencement

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

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



PART THREE

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 Graduate Dean 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 requires the development of intellectual skills and the demonstration of creativity which can only be achieved through dedicated and persistent scholarship. The University has the necessary faculty and facilities to offer such opportunities in over fifty different areas of knowledge.

Authorized Graduate Degrees

DOCTOR OF PHILOSOPHY

Chemistry Ecology Education Genetics*

MASTER OF ARTS

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

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

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

MASTER OF SCIENCE

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

Accountancy
Aerospace engineering
Astronomy
Biology
Business administration
Chemistry
Civil engineering
Computer science
Counseling
Electrical engineering
Geological sciences
Home economics
Mass communications
Mathematics
Mechanical engineering
Microbiology
Physics
Psychology
Radiological health physics
Rehabilitation counseling
Special major
Statistics

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

Nondegree Postbaccalaureate Study

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

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

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

Further information about nondegree postbaccalaureate study may be obtained by contacting the Graduate Division Office.

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, drama, economics, educational technology, engineering, English, French, geography, geological sciences, family studies and consumer sciences, industrial arts, mathematical sciences, microbiology, physical education, physics, psychology, sociology, Spanish, speech communication, and telecommunications and film.

Qualifications for appointment include admission to San Diego State University with classified graduate standing for the purpose of obtaining an advanced degree, and enrollment each semester 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.

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, and continuation for a second semester of a one-year appointment, is dependent upon satisfactory performance in graduate studies, as prescribed by the Graduate Division, and upon departmental need for the continued service in the department.

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 Scholarships and Awards

Graduate students interested in scholarships and awards 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, 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 Officer 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 State Fellows may attend any California college or university accredited by the Western Association of Schools and Colleges and offering recognized graduate or professional degrees in the academic areas approved by the California Student Aid Commission. Fellowships may be used for graduate or professional work. Entering and currently enrolled students in graduate and professional schools are eligible to receive a State Graduate Fellowship. Fellowships are in the amount of tuition and/or required fees at the graduate or professional school the student will attend and may not be used for books, supplies, room, board, or other college expenses. Fellowships may be less than the full amount of tuition and fees in instances where the Commission determines that the student has need for less than a full tuition award because of his own or other resources. State Graduate Fellowships will range from $300 to full fees at the University of California and from $500 to full tuition and/or fees at independent colleges and are in the amount of fees charged at The California State University, usually approximately $255. State Fellowships are granted for one academic year (September through June). They are awarded after consideration of both academic and financial characteristics. In determining whether or not financial need exists and in what amount, the Commission has developed standards of financial need assessment of each applicant as an individual in his own right. Financial need is determined by comparing the applicant's own estimate of his resources for the year with an annual college cost estimate developed by the Commission for each graduate and professional school. Budgets vary for single and married students and do give consideration for special factors which pertain to each applicant. Original application forms for the 1983-84 programs will be available from the Scholarship Office during December through mid-January, 1983. State Fellowships are renewable for up to three additional years. Renewal applications are automatically mailed to each State Graduate Fellowship recipient in mid-April. The deadline to submit applications for the 1983-84 academic year is February 1, 1982.

Financial Aid

At San Diego State University every effort is made to see that students who wish to attend are not prevented from doing so because of inadequate financial resources. To this end, financial aid in the form of loans and opportunity for part-time employment on or off campus is made available to qualified applicants. In a majority of cases, a student will be offered a package financial aid plan which may include a loan and part-time employment. The programs explained below are administered by the Financial Aid Office located in the Campus Laboratory Building.

San Diego State University Foundation Loan Program

Through the generosity of a number of individuals and groups, funds have been established to assist students with emergency loans. The student borrower must also be currently in full-time attendance. The amount that may be borrowed may not exceed $150. Repayment is generally made during the semester. Most loans under this program are free of interest. Applications are available throughout most of the academic year.

National Direct Student Loan Program

National Direct Student Loans under the National Defense Education Act of 1958 are available to entering and continuing students who can meet the specific qualifications. The amount that may be borrowed, based on college-related need, generally may not exceed $5,000 per year for a graduate student. The interest rate is four percent simple interest per year starting six months after the student ceases to carry at least one-half the normal full-time work load. The repayment period may be interrupted when a borrower enters the military service, Peace Corps, VISTA, or continues as a student at an institution of higher education. This loan program may provide a borrower with partial cancellation of his loan each year for service as a full-time teacher in certain public or other nonprofit elementary or secondary schools.

Guaranteed Student Loan Programs

These long-term loans are made by participating banks and credit unions and provide deferred payment until graduation or the termination of higher education. Graduate students may borrow up to $5,000 per academic year. Interest at the rate of nine percent per year begins when the loan is made. This interest, however, is subsidized by the federal government during the period of full-time attendance and for nine months thereafter. Repayment is over a period of three to ten years depending on the amount borrowed. Application forms are available at the Financial Aid Office. Students from other states may also secure forms from their home town banks.

College Work-Study Program

Students demonstrating financial need may be employed in positions for up to an average of twenty hours per week when classes are in session and up to a maximum of forty hours per week during vacation periods. The rate of pay for such employment is based on individual skills. Job opportunities are available both on campus and with selected community and government agencies in the San Diego area.

Eligibility for Aid

All the above aid programs, except the San Diego State University Foundation Loan Program, are available only to United States citizens or persons who are in the United States on an immigrant basis.

Applying for Aid

Most applicants must file the Student Aid Application for California. When this has been initially processed, further documents will be requested. Students may obtain applications, beginning December 1, at the Financial Aid Office, CLS-122.

A publication, SDSU Financial Aid Facts, is available on request from the Financial Aid Office.

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 at 5525 Hardy Avenue for information and counseling regarding veteran's benefits, prior to the date of registration.

Admission to Postbaccalaureate and Graduate Study

Admission to San Diego State University for postbaccalaureate study is open to those applicants judged by the University to be fully qualified and to those who can benefit from the experience. The requirements listed below are the minimum required for admission to the University. For many programs, the departments have established additional requirements. Potential applicants should refer to the Graduate Division Bulletin under the departmental listings. Students are also advised to contact the departmental offices as soon as graduate work is contemplated in the final baccalaureate year for advice as to how to proceed. Some departments stop reviewing applications earlier than others because of the limited space available.

Application Procedures

All applicants for any type of postbaccalaureate status (e.g., master's degree applicants, those seeking credentials, 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 $25 nonrefundable application fee. Since applicants for postbaccalaureate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus choice will be minimal. In the event that a postbaccalaureate applicant wishes to be assured of initial consideration by more than one campus, it will be necessary to submit a separate application (including fees) to each. Applications may be obtained from the Graduate Studies Office of any California State University campus in addition to the sources noted for undergraduate applicants.

General Admission Requirements

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

Members of the faculty of San Diego State University holding appointments at or above the rank of instructor or lecturer may not be admitted to the University as matriculated students.

Admission Categories

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

Postbaccalaureate Standing (Unclassified)

A student wishing to enroll in courses at the University with a personal or professional growth objective, but not necessarily with an objective of an advanced degree or credential, may be considered for admission with postbaccalaureate standing (unclassified) when the student meets the criteria specified under General Admission Requirements. Admission with postbaccalaureate standing (unclassified) does not constitute admission to, or assurance of consideration for admission to, advanced degree curricula.

Postbaccalaureate Standing (Classified)

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

Graduate Standing (Classified)

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

(a) Achieve a satisfactory score on the Graduate Record Examination Aptitude Test. (Students holding an advanced degree from an institution which is a member of the Council of Graduate Schools are exempted from this requirement; students applying to the College of Business Administration will take the Graduate Management Admissions Test.
(b) Have completed an undergraduate major appropriate to the field in which the student desires to earn an advanced degree.
(c) Satisfy the special departmental or college requirements as stated in Part Four of the Graduate Bulletin under "Fields of Study and Courses of Instruction."
(d) Meet the professional, personal, and scholastic standards for graduate study established by the department and the Graduate Council.

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

Conditional Graduate Standing (Classified)

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

Continuing Students

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. Score reports of the GRE Aptitude Test must be on file at the University before continuing students may apply for graduate standing (classified).

Required Official Form

The following official form must be submitted to the Admissions and Records Office:

Application for admission or readmission, accompanied by a $25 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 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 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.***

Timely 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.

Applicants 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.

Residency Determination

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, 90403, 89705-89707.5, 68124, and 68121, and in Title 5 of the ***California Administrative Code,*** Article 4 (commencing with Section 41900) of Subchapter 5 of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

Legal residence may be established by an adult who is physically present in the state 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 the permanent home with concurrent relinquishment of the prior legal residence. The steps necessary to show California residency intent will vary from case to case. Included among the steps may be registering to vote and voting in elections in California; filing resident California state income tax forms on total income; ownership of residential property or continuous occupancy or renting of an apartment on a lease basis where one's 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, etc.

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.

In general, the unmarried minor (a person under 18 years of age) derives legal residence from the minor's parents, or, in the case of permanent separation of the parents, from the parent with whom the minor maintains his or her place of abode. The residence of a minor cannot be changed by the minor or the minor's guardian, so long as the minor's parents are living.

A man or a woman may establish his or her residence; marriage is not a governing factor.

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 dates for the 1982-83 academic year are September 20, 1982 and January 25, 1983. Questions regarding residence determination dates should be directed to the Legal Residence Office in the Admissions Office. They can give you the residence determination date for the term for which you are registering.

There are several exceptions for nonresident tuition, including:

1. Persons below the age of 19 whose parents were residents of California but who left the state while the student, who remained, was still a minor. When the minor reaches age 18, the exception continues for one year to enable the student to qualify as a resident student.
2. Persons below the age of 19 who have been present in California 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 education at state-supported institutions of higher education. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
6. A student who is an adult alien is entitled to residence classification if the student has been lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States; provided, however, that the student has had residence in California for more than one year after such admission prior to the residence determination date. A student who is a minor alien shall be entitled to residence classification if both the student and the parent from whom residence is derived have been lawfully admitted to the United States for permanent residence in accordance with all applicable laws of the United States, provided that the parent has had residence in California for more than one year after acquiring such permanent residence prior to the residence determination date of the term for which the student proposes to attend the University.
7. Certain credentialed, full-time employees of school districts.
8. Full-time State University employees and their children and spouses. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
9. Certain exchange students.
10. 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.

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

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

within 120 calendar days of notification of the final decision on campus of his classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to the campus for further review. Students classified incorrectly as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is subject to discipline pursuant to Section 41301 of Title 5 of the *California Administrative Code*. Resident students who become nonresidents, and nonresident students qualifying for exceptions whose basis for so qualifying changes, must immediately notify the Admissions Office. Applications for a change in classification with respect to a previous term are not accepted.

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

Admission as an International (Foreign) Student

An international (foreign) student holding the equivalent of a U.S. baccalaureate degree from a recognized foreign university and wishing to engage in graduate study at San Diego State University should write directly to the Director of Admissions and Records, San Diego State University, San Diego, California 92182 for information on admission requirements and procedures.

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 $125 per year. Applicants for admission as either graduates or undergraduates whose education has been in a foreign country should file an application for admission, official certificates and detailed transcripts of record from each secondary school and collegiate institution attended several months in advance of the opening of the semester in which the applicant expects to attend. International students from outside the United States will be considered for admission only for the fall semester. Only those foreign students already in the United States will be considered for the spring semester. Students applying to transfer from a college or university in the United States must have completed a full year at that institution. If certificates and transcripts are not in English, they should be accompanied by certified English translations. Credentials will be evaluated in accordance with the general regulations governing admission to San Diego State University.

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 will be given for the purpose of placing students in an English language program commensurate with their linguistic ability in English, and for use by advisers to assist students in planning an appropriate course of study. Depending upon students' performance on the placement test and their academic background, they may be required to enroll in one or more English language courses during their first year at San Diego State University. Foreign students transferring from another U.S. college are required to take an English placement test.

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 obtain an appointment as early as possible with an International Student Counselor at the International Center.

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 enrollment 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 outside their own departments or schools by means of concurrent enrollment through the College of Extended Studies at a reduced fee.

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 must be submitted before the end of the first week of classes (or the first week of summer term II) of the semester (or term) in which the concurrent credit is earned. The bachelor's degree must be completed at the end of the semester or term in which the concurrent credit is earned. The maximum number of units 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.

Concurrent Postbaccalaureate Credit

Applicable to the "Fifth Year" Credential Requirement only

Concurrent postbaccalaureate credit may be earned during the final semester or summer session by seniors admitted to the College of Education who meet all of the following qualifications:

1. Have a minimum grade point average of 2.5 on the last 60 units attempted;
2. Complete course work in excess of graduation requirements during the semester (or summer session) when graduation occurs;
3. Attempt no more than 18 units during the final undergraduate semester (or 15 units during summer session);
4. Petition the Dean, College of Education, during the final undergraduate semester (or summer session) when graduation will occur to record a maximum of 12 units of excess 300-, 400-, or 500-numbered courses as "postbaccalaureate" (petition form available in Evaluations Office, AD-127);
5. Be graduated at the end of the semester (or summer session) the petition is made.

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

Second Master's Degree

A student desiring to work for a second master's degree must petition the Graduate Council for permission to enter a curriculum leading to the second master's degree. A student may be admitted into only one advanced degree program at a time.

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, 1982 will be required to follow the procedures and regulations stated in the 1982-83 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 change from time to time and that these changes may alter the information contained in this publication. Changes may come in the form of statutes enacted by the Legislature, rules and policies adopted by the Board of Trustees of The California State University, by the Chancellor or designee of The California State University or by the President or designee of the institution. Further, it is not possible in a publication of this size to include all of the rules, policies and other information which pertain to the student, the institution, and The California State University. More current or complete information may be obtained from the appropriate department, school, or administrative office. Each semester, the Class Schedule and Student Information Handbook outlines changes in Academic Policy and Procedure and current deadlines which are of importance to students.

Nothing in this bulletin shall be construed, operate as, or have the effect of an abridgement 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, set out requirements designed to protect the privacy of students concerning their records maintained by the campus. Specifically, the statute and regulations govern (1) access to student records maintained by the campus, and (2) the release of such records. In brief, the law provides that the campus must provide students access to official records directly related to the student and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate; the right to a hearing under the law does not include any right to challenge the appropriateness of a grade as determined by the instructor. The law generally requires that written consent of the student be received before releasing personally identifiable data about the student from records to other than a specified list of exceptions. The institution has adopted a set of policies and procedures concerning

implementation of the statutes and the regulations on the campus. Copies of these policies and procedures may be obtained at the Office of the Dean of Student Affairs. Among the types of information included in the campus statement of policies and procedures are: (1) the types of student records 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 office designated for this purpose is The Family Educational Rights and Privacy Act Office (FERPA), U.S. Department of Education, 330 "C" Street, Room 4511, Washington, D.C. 20202.

The campus is authorized under the Act to release to the public directory information concerning students. Directory information includes the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The above designated information is subject to release by the campus at any time unless the campus has received prior written objection from the student specifying information which the student requests not be released. Students shall be given an opportunity to restrict the release of directory information about themselves at the time of registration.

The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons 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 and is in compliance with Section 504 of the Rehabilitation Act of 1973, as amended, and the regulations adopted thereunder.

More specifically, The California State University does not discriminate in admission or access to, or treatment or employment in, its programs and activities. The Office of Student Affairs has been designated to coordinate the efforts of San Diego State University to comply with the Act and its implementing regulations. Inquiries concerning compliance may be addressed to this office at AD-231; telephone 265-5211.

Race, Color, or National Origin

The California State University complies with the requirements of Title VI of the Civil Rights Act of 1964 and the regulations adopted thereunder. No person shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program of The California State University.

Inquiries concerning the application of Title VI to program activities of San Diego State University may be referred to the Affirmative Action Officer, ED-156, 265-6464.

Sex

The California State University does not discriminate on the basis of sex in the educational programs or activities it conducts. Title IX of the Education Amendments of 1972, as amended, and the administrative regulations adopted thereunder prohibit discrimination on the basis of sex in education programs and activities operated by San Diego State University. Such programs and activities include admission of students and employment. Inquiries concerning the application of Title IX to programs and activities of San Diego State University may be referred to the Affirmative Action Officer (265-6464), the campus officer assigned the administrative responsibility of reviewing such matters, or to the Regional Director of the Office of Civil Rights, Region 9, 1275 Market Street, 14th Floor, San Francisco, California 94103.

Numbering of Courses

Courses numbered from 100 to 299 are lower division (freshman or sophomore) courses; those numbered 300 to 499 are upper division (junior or senior) courses intended for undergraduates; those numbered 500 to 599 are upper division courses also acceptable for advanced degrees; those numbered 600 to 799 are graduate courses; and those numbered 800 through 899 are doctoral courses. Courses numbered X-900 to X-999 are those courses offered exclusively in the extension program to meet the professional needs of specific community groups and are listed in the Extension Bulletin only. These courses are not acceptable on advanced degree programs.

In addition, courses below the 500 level are not acceptable for 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 used 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; **AU** (audit), no credit earned and not counted in the grade point average; **Cr** (credit), signifying units earned, but not counted in the grade point average; **NC** (no credit), no credit earned and not counted in the grade point average; **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/or minus grades are utilized in the calculation of grade point averages as follows:

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

Satisfactory Progress Grade — "SP"

The "SP" symbol is used in connection with courses that extend beyond one academic term. It indicates that work is in progress and has been evaluated and found to be satisfactory to date, but that assignment of a precise grade must await completion of additional work. Work is to be completed within a stipulated time period. This may not exceed one year. Any extension of time limit must receive prior authorization by the Dean of Undergraduate Studies (for undergraduate courses) or the Dean of the Graduate Division and Research (for graduate courses). Graduate courses for which the "SP" symbol is appropriate 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 has been granted. If students do not wish to be graduated with the grade of SP on their record, 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 fifteenth day of instruction because of a verified serious and compelling reason and has obtained the signature of the instructor and the approval of the College Dean or designee.

Withdrawals from class after the end of the fifteenth day of instruction and prior to the last three weeks of instruction are permissible only for serious and compelling reasons. Permission to withdraw during this period is granted only with the signature of the instructor, who indicates

the student's status in the class, and the approval of the College Dean or designee, and approvals are made in writing on prescribed forms. Withdrawals are not permitted during the final three weeks of instruction, except in cases such as accident or serious illness where the cause of withdrawal is due to circumstances clearly beyond the student's control and the assignment of an incomplete is not practicable. All such requests must be accompanied by appropriate verification. Ordinarily, withdrawals in this category will involve total withdrawal from the University, except that credit, or an incomplete, may be assigned for courses in which sufficient work has been completed to permit an evaluation to be made. Requests to withdraw under such circumstances must be approved by the dean (or designee) of the college of the student's major.

Auditing — "AU"

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

Credit/No Credit Courses "Cr/NC"

Only those courses designated in the Graduate Bulletin as being offered for credit/no credit only will be approved for implementation.

The symbol "Cr" is used to report the satisfactory completion of Courses 797, 798, 799A, and certain 600- 700- and 800-numbered courses specifically designated in the Graduate Bulletin and Class Schedule. Failure to complete satisfactorily such courses will result in the assignment of "NC." No other 600-, 700-, or 800-numbered courses may be taken for credit/no credit. No 500-numbered courses graded credit/no credit are acceptable on a master's degree program.

A grade of "Credit" in graduate level courses is awarded for work equivalent to all grades which earn 3.0 or more grade points (A through B). "No Credit" is awarded for work equivalent to all grades which earn less than 3.0 grade points (B—through F).

Some specified sections of graduate level topics courses may be offered for credit/no credit provided the following statement is included in the course description in the Graduate Bulletin: "Specified sections of this course may be offered for credit/no credit. Refer to the Class Schedule."

Authorized Incomplete Grade "I"

The symbol "I" (Incomplete Authorized) indicates that a portion of required course work has not been completed and evaluated in the prescribed time period due to unforeseen, but fully justified, reasons and that there is still a possibility of earning credit. It is the responsibility of the student to bring pertinent information to the instructor and to reach agreement on the means by which the remaining course requirements will be satisfied. The conditions for removal of the Incomplete shall be reduced to writing by the instructor and given to the student with a copy placed on file with the department chair until the Incomplete is removed or the time limit for removal has passed. An Incomplete shall not be assigned when the only way the student could make up the work would be to attend a major portion of the class when it is next offered. A final grade is assigned when the work agreed upon has been completed and evaluated. An incomplete shall not be assigned when the only way the student could make up the work would be to attend a major portion of the class when it is next offered. Contract forms for Incompletes are available at department offices.

An Incomplete must be made up within one calendar year immediately following the end of the term in which it was assigned. This limitation prevails whether or not the student maintains continuous enrollment. Failure to complete the assigned work within one calendar year will result in an Incomplete being counted as equivalent to an "F" (or an "NC" if the course has been taken Cr/NC) for grade point average computation. An incomplete may not be removed by reenrollment in the course.

Candidates for graduation whose record carries a grade of Incomplete will be graduated provided they are otherwise eligible for graduation. However, the Incomplete cannot be made up after the degree has been granted. If students do not wish to be graduated with the grade of Incomplete on their record, they must officially cancel their application for graduation.

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 (authorized incomplete) is not counted in the grade point computation until one calendar year has expired, at which time it will count as an "F". 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 he registers for it will, upon the recommendation of the Thesis Committee Chair, 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 he 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 within 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. A student withdrawing during the refund period is no longer considered a continuing student and is required to apply for readmission.

Withdrawal from a course, or courses, or 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.

Withdrawal from a course, or courses, 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. 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 of the student's major. Postbaccalaureate (unclassified) students must have the signature of each instructor and the approval of the Dean of the Graduate Division or his designee. To be permitted to withdraw from a course or courses, or from the University during this period, the student must have serious and compelling reasons and documentation of those reasons must be provided. Poor academic performance is not an acceptable reason for withdrawal.

Withdrawal shall not be permitted during the final three weeks of instruction except in cases such as accident or serious illness where the cause of withdrawal is due to circumstances beyond the student's control and the assignment of an Incomplete is not practicable. Ordinarily, withdrawals in this category will involve total withdrawal from the University, except where sufficient work has been completed to permit an evaluation to be made. Requests for permission to withdraw under these circumstances must be approved by the Dean of the Graduate Division or his designee.

Improper Registration in Graduate Courses. 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, the student must apply for the particular semester he/she wishes to be absent from school. If the student wishes to extend that leave for an additional semester, a separate application must be filed previous to the deadline for submitting leaves as specified in the Academic Calendar.

A student must file application for the leave at the Admissions and Records Office. Requests will be reviewed by appropriate officials designated by the Vice President for Academic Affairs. 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 of absence period, or to students who are disqualified. To be eligible for 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 his/her last semester of attendance.

Readmission.

A student who withdraws from the university must file application for readmission if a full semester elapses between his/her withdrawal and return. A $25 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.

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 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 or 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.

Probation and Disqualification

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 "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.

Petition for Readmission

A postbaccalaureate student disqualified from the University under the foregoing regulations may be readmitted to the University by the Dean of the Graduate Division and Research. Application for readmission must be made on forms available at the Office of Admissions.

Student Discipline and Grievances

Inappropriate conduct by students or by applicants for admission is subject to discipline on the San Diego State University campus. The Office of Judicial Procedures coordinates the discipline process and establishes standards and procedures in accordance with regulations contained in Article 1.1, Sections 41301 through 41304 of Title 5, *California Administrative Code*. These sections are as follows:

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

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

(n) For purposes of this Article, the following terms are defined:
  (1) The term "member of the campus community" is defined as meaning California State University Trustees, academic, nonacademic and administrative personnel, students, and other persons while such other persons are on campus property or at a campus function.
  (2) The term "campus property" includes:
    (A) real or personal property in the possession of, or under the control of, the Board of Trustees of The California State University, and
    (B) all campus feeding, retail or residence facilities whether operated by a campus or by a campus auxiliary organization.
  (3) The term "deadly weapons" includes any instrument or weapon of the kind commonly known as a blackjack, slingshot, billy, sandclub, sandbag, metal knuckles; any dirk, dagger, switchblade knife, pistol, revolver, or any other firearm; any knife having a blade longer than five inches; any razor with an unguarded blade, and any metal pipe or bar used or intended to be used as a club.
  (4) The term "behavior" includes conduct and expression.
  (5) The term "hazing" means any method of initiation into a student organization or any pastime or amusement engaged in with regard to such an organization which causes, or is likely to cause, bodily danger or physical or emotional harm to any member of the campus community; but the term "hazing" does not include customary athletic events or other similar contests or competitions.
(o) This Section is not adopted pursuant to Education Code Section 89031.
(p) Notwithstanding any amendment or repeal pursuant to the resolution by which any provision of this Article is amended, all acts and omissions occurring prior to that effective date shall be subject to the provisions of this Article as in effect immediately prior to such effective date.

41302. Expulsion, Suspension or Probation of Students: Fees and Notification. The President of the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension. In the event that a student who has not reached his or her eighteenth birthday and who is a dependent of his or her parent(s) as defined in Section 152 of the Internal Revenue Code of 1954 is suspended or expelled, the President shall notify his or her parent or guardian of the action by registered mail to the last known address, return receipt requested.

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

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

41303. Conduct by Applicants for Admission. Notwithstanding any provision in this Chapter 1 to the contrary, admission or readmission may be qualified or denied to any person who, while not enrolled as a student, commits acts which, were he enrolled as a student, would be the basis for disciplinary proceedings pursuant to Sections 41301 or 41302. Admission or readmission may be qualified or denied to any person who, while a student commits acts which are subject to disciplinary action pursuant to Section 41301 or Section 41302. Qualified admission or denial of admission in such cases shall be determined under procedures adopted pursuant to Section 41304.

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.

Student Grievances

If a student believes that a professor's treatment is grossly unfair or that a professor's behavior is clearly unprofessional, he/she may bring his/her 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 of $2 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

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

Transfer or Extension Course Credit

Subject to lower limitations for individual programs, as indicated in Part Four 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 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 15 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 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 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) is also considered full-time enrollment.

Graduate students are advised that 12 units of 600- and 700-numbered courses or 15 units of a combination of 500-, 600- and 700-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 at San Diego State University are limited to 15 units of combined teaching assignments and course work unless 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 in four disciplines 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 the 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 Four 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 the capacity 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 and/or of Claremont Graduate School.

Admission to the Programs

After a student has been formally admitted to the two Universities with appropriate graduate standing, he/she must declare his/her 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 his/her program.

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 his 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 his knowledge of the field in which he is enrolled. This examination, called a Qualifying Examination, ordinarily consists of written and oral parts. The student must satisfy the cooperating departments that he is prepared in his 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 this 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 he is required to show the relationship of the dissertation to the general field in which the subject lies and to answer specific questions concerning his investigations.

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.

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.

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 Four of this bulletin.

Examinations

As part of the admission procedure, all students desiring an advanced degree must take the Graduate Record Examination Aptitude Test, except for 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.

Examinations required in the various subject matter fields of study are listed in the appropriate sections of Part Five, 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*** a statement indicating 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, 1947 Center Street, Berkeley, California 94704. 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, 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 and Research.

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, the Master of Science in Rehabilitation Counseling, 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) 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 must be completed in residence. Not more than nine units of approved transfer credit 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 the 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-five units 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 45 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 Counselor Program, 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 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 500-, 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. 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 outdated course may be repeated, a more recently completed course substituted, or additional course work of equal unit value 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 outdated courses by passing a comprehensive examination over the entire subject field of the degree.

Students validating by examination either individual courses or an entire program will be required to specify 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 the program.

Thesis, Plan A and Non-Thesis, Plan B

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 officially appointed thesis or project committee on file in 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 Four 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 Division Office by the department or school. Refer to the calendar in Part One of this bulletin for deadline dates.

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 Committee 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 to the academic community of original research, 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 adviser 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.

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.

In the event that the student is not graduated in the semester or term in which he applies, he must reapply (and pay both the graduation fee and the evaluation and diploma fee) in the subsequent semester or term in which he expects 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 FOUR

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 schools supplement and are in addition to the basic requirements for the master's degree as stated in Part Three 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 a master's 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- and 700-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- and 700-numbered courses except under special circumstances (see section "Concurrent Master's Degree Credit"). Unauthorized enrollment of undergraduate students in 600- and 700-numbered courses may be cancelled 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 Division and Research.

Thesis Extension (799B)

This course is intended solely for those graduate students who have had prior registration in Thesis 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 in the departments participating in the degree program are listed in the American Studies Handbook, available from the C.A.L. Student Advising Center, LE-469.

Committee on American Studies

Larry Ford, Ph.D., Professor of Geography
Larry J. Shaw, Ed.D., Professor of Secondary Education
Pershing Vartanian, Ph.D., Professor of History, Graduate Coordinator
Theodore Kornweibel, Ph.D., Associate Professor of Afro-American Studies
Harlan J. Lewin, Ph.D., Associate Professor of Political Science
Michael Real, Ph.D., Associate Professor of Telecommunications and Film
Shirley Weber, Ph.D., Associate Professor of Afro-American Studies

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 Three 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 Three 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 Three 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 510, 520, 524, 551 or 552), or (3) complete six units in quantitative techniques selected from Economics 201*, 347; Geography 585; Management 301, 302, 366; Political Science 515A-515B; Psychology 342; Sociology 201*, 460, 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.

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* Students may take no more than three of the six units for the requirements in lower division work. These courses are not to be included as a part of the minimum 30-unit program if completed by the student as the option for the fulfillment of the foreign language requirement.

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)

Linguistics Courses

520. Structure of Modern English (3)
524. American Dialectology (3)
551. Sociolinguistics (3)
552. Psycholinguistics (3)

Philosophy Course

564. American Philosophy (3)

History:

History Courses

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 in the Nuclear Age (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. Sociology of Social Movements (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)
655. Seminar in Location of Urban Activities (3)

Multicultural Education Course

601. Philosophy of Cultural Pluralism (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)

Drama Course

647B. Seminar in History of Theatre and Drama-American Theatre (3)

Music Course

652E. Seminar in Music History-American Music (3)

Speech Communication Course

780. Seminar in Public Address (3)

All 798 (Special Study) courses in named departments, when relevant, are also applicable upon approval of the Graduate Program Coordinator.

Anthropology

Faculty

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
Philip S. Staniford, Ph.D., Professor of Anthropology
Lawrence C. Watson, Ph.D., Professor of Anthropology
Daniel D. Whitney, Ph.D., Professor of Anthropology
Joseph W. Ball, Ph.D., Associate Professor of Anthropology
Bradley N. Bartel, Ph.D., Associate Professor of Anthropology, Graduate Coordinator
Philip J. Greenfeld, Ph.D., Associate Professor of Anthropology
Ronald S. Himes, Ph.D., Associate Professor of Anthropology
Mary Jane Moore, Ph.D., Associate Professor of Anthropology
Vivian J. Rohrl, Ph.D., Associate Professor of Anthropology
Patricia A. Scollay, Ph.D., Associate Professor of Psychology/Anthropology
Alexander Sonek, Ph.D., Assistant Professor of Anthropology

Assistantships

Graduate teaching assistantships in anthropology 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 Anthropology, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Anthropology. For graduate study in connection with the Master of Arts degree in Social Science, refer to the section of this bulletin under Social Science. The Master of Arts degree with a major in Anthropology is designed to provide systematic advanced training for (a) students who anticipate additional work leading to the doctoral degree in anthropology, and also for (b) students who plan to terminate their graduate training at the master's level.

Research and special instructional facilities provided by the Department of Anthropology include laboratories for California Archaeology, Ethnology, Linguistics, Physical Anthropology, and World Prehistory. Additional facilities available in the community include the Museum of Man and the San Diego Zoo.

Admission to Graduate Standing

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three of this bulletin. In addition, students seeking the Master of Arts degree in Anthropology must have completed or complete 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 or consent of the department.

Copies of transcripts and GREAT 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 Three of this bulletin. In addition, the students must: (1) satisfactorily complete two of the four core seminars (601, 602, 603, and 604) with a grade point average of 3.0 or better; (2) be recommended for advancement to candidacy by the faculty of the Department of Anthropology; and (3) according to the specific recommendation of the Department of Anthropology pass either an examination demonstrating reading 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) a foreign language other than Spanish, German, French or Russian, or
(b) Statistics (i.e., 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 Three 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 grade point average of 3.0 or better in these courses);
2. Anthropology 797, Research (3) (to be taken after advancement to candidacy);
3. Anthropology 799A, Thesis (3).

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 emphases on communication, group structure, aggression, and sex. Various methods of analysis and observation practiced utilizing primate collection at the San Diego Zoo.

501. Human Paleontology (3)
Prerequisite: Anthropology 101.
Comparative anatomy of fossil man and other primates; evolutionary relationships and cultural associations.

502. Microevolution (3)
Prerequisite: Anthropology 101. Recommended: Anthropology 301.
The evolution of human populations over a short period of time. Interaction of the evolutionary forces of mutation, selection, drift and gene flow with the cultural systems of human populations.

503. Human Variation (3)
Prerequisite: Anthropology 101.
Morphological, physiological and genetic aspects of human variability. Significance of this diversity in the biological adaptations of human populations.

504. Primate Anatomy (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101.
Primate anatomy both regional and systemic, including skeletal, cardiovascular and digestive systems; the integument and otolaryngology of primates.

505. Human Osteology (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 101. 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.
Do 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.
Semester I: Application of palynology, paleontology and technologies. Semester II: Practical applications of materials from 561A. Individual laboratory research project required.

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, lexicostatistics, 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 Variation, 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.

635. Seminar in Ethnoscience (3)
Prerequisite: Twelve upper division units in anthropology.
Analysis and comparison of native categories, classifications, and bodies of systematic knowledge as demonstrated in preliterate and literate societies.

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.

Art

Faculty

Keefe L. Baker, M.F.A., Professor of Art
Robert V. Berg, M.F.A., Professor of Art
Donald C. Covington, M.A., Professor of Art
Arline M. Fisch, M.A., Professor of Art
Darryl G. Groover, M.F.A., Professor of Art
Winifred H. Higgins, Ph.D., Professor of Art History
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
Martha W. Longenecker, M.F.A., Professor of Art
Allan W. Miller, M.F.A., Professor of Art
Fredrick J. Orth, 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
JoAnn L. Tanzer, Ed.D., Professor of Art
Robert W. Wallace, Ph.D., Professor of Art History
Joan F. Austin, M.F.A., Associate Professor of Art
Gerald C. Dumlao, M.F.A., Associate Professor of Art
Janet Brody Esser, Ph.D., Associate Professor of Art History
Fay A. Frick, Ph.D., Associate Professor of Art History
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 History
Ida K. Rigby, Ph.D., Associate Professor of Art History
Gail Roberts-Fields, M.F.A., Associate Professor of Art
Curtis C. Sherman, M.A., Associate Professor of Art
Helen Z. Shirk, M.F.A., Associate Professor of Art
Patrick D. Cauley, M.F.A., Assistant Professor of Art
Walter E. Cotten, M.F.A., Assistant Professor of Art
Jesus Y. Dominguez, M.F.A., Assistant Professor of Art
Eric R. Moaney, M.F.A., Assistant Professor of Art
Joy Shipman, 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 Arts degree in Art.

The Art Department is prepared to offer advanced study to graduate students in the fields of painting, environmental design, sculpture, crafts, printmaking, graphic communication, 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.

Admission to Graduate Study

Studio Arts

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three of this bulletin. In general, students must have completed an undergraduate major in art with a minimum of 24 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, 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 porfolios 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 and a 950 score on the GRE aptitude test.

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 with postbaccalaureate unclassified standing.

Art history applications, obtainable from the graduate coordinator, are due on March 23 or October 23 for the following semester and should be accompanied by transcripts of all undergraduate or postbaccalaureate work.

Advancement to Candidacy

Studio Arts

In addition to meeting the requirements for advancement to candidacy as described in Part Three 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 nine 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

Classified graduate students working for the Master of Arts degree in the field of art history must pass a comprehensive examination in art history (western and nonwestern) before advancement to candidacy.

Classified graduates should contact the graduate adviser to sign up for the comprehensive examination and to discuss their individual graduate programs before the third week of the first semester. Before advancement to candidacy graduate students in art history must have completed four semesters of French or German (Italian is acceptable for Renaissance majors only), with an average grade of "B" (3.0) or better. Alternatively, with the consent of the graduate adviser, students may demonstrate a reading knowledge of the appropriate language by passing either the Graduate School Foreign Language Examination or a proficiency examination administered by the respective language departments of the University when such an examination is offered.

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 Three 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 or Art 694, and Art 799A are required. Not more than a total of six units in Art 798 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.

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 candidate 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.
Prerequisites: Art 203 and 204.
Drawing emphasizing the qualitative aspect of visual subject matter. Maximum credit six units.

501. Professional Orientation in the Arts (3) I, II
Prerequisite: Twelve units of upper division art or graduate standing in art.
Conditions met in professional art world as well as opportunities available: Exhibitions, marketing system, legal and tax responsibilities, public and private collections, grants, fellowships and professional positions investigated.

502. Inter-Media (1-3) I, II
Two hours for each unit of credit.
Prerequisites: Art 102 and 103.
Process and materials in plane and space. Maximum credit six units.

503. Life Drawing and Painting (3) I, II
Six hours.
Prerequisites: Art 204 and 403.
Drawing and painting from 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.
The influence of art media, tools, and materials on aesthetic organization in sculpture in relief and in the round. Maximum credit six units.

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

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

523. Advanced Furniture Design (3) I, II
Six hours.
Total credit in Art 323, 423 and 523 limited to twelve units.
Prerequisite: Art 423.
Advanced individual design; exploration of materials, process and function. Maximum credit six units.

525. Ceramics (3) I, II
Six hours.
Prerequisite: Art 425.
Study of ceramic design through creative projects of clay forms. Maximum credit six units.

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

529. Design in Enamels (3) I, II
Six hours.
Prerequisite: Art 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 photoetching 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 435.
Advanced study in nonloom techniques. Techniques to include: looping, braiding, plaiting, and special fabricating techniques. Experimentation with new man-made fibers and with synthetic commercial dyes. Maximum credit six units.

540. Advanced Graphic Imagery (3)
Six hours.
Prerequisite: Art 340.
Investigation of experimental photographic and technical reproductive media.

541. Advanced Graphic Communication – Communication Systems (3) I, II
Six hours.
Prerequisite: Art 341.
Symbolic processes, materials and structures, visual communications systems relating to corporate and visual identification programs. Maximum credit six units.

542. Advanced Professional Problems in Graphic Communication (3)
Six hours.
Prerequisites: Art 341, and 441 or 541.
Refinement of personal visual imagery and the application of design concepts to production situations. Study of professional responsibilities, conduct and business procedures. Development of a professional level portfolio.

543. Advanced Drawing and Illustration for Graphic Communication (3) I
Six hours.
Prerequisite: Art 443.
Refinement of visual imagery and advanced illustration problems.

544. Visual Communication Media (3) I, II
Six hours.
Prerequisite: Art 444.
Experimental, creative and practical exploration of contemporary communication as related to magazine and editorial layout. Production of a student designed limited edition.

547. Environmental Theory (3)
Prerequisites: Art 247, 347.
Survey of alternative solutions to the problem of design of the physical environment.

550. Environmental Prototypes (3)
Six hours.
Prerequisites: Art 247, 249, 250, 450.
Research and development of creative architectural concepts with emphasis in space enclosure systems and cybernetics.

553. Nonresidential Interior Design (3) I
Six hours.
Prerequisites: Art 451, 453.
Projects in nonresidential architectural interiors involving space planning systems analysis, specification writing, equipment and materials appropriate to commercial function. Maximum credit six units.

554. Proxemics and Interior Design (3) I, II
Two lectures and two hours of activity.
Prerequisite: Art 453.
Proxemics and study of literature pertaining to relevant controlled experiments involving use and perception of enclosed spaces. Application to field problems.

557. Art of the Nineteenth Century (3) I, II
Prerequisites: Art 258 and 259.
Development of painting, sculpture, and architecture from the French Revolution to 1900.

558. Art of the Twentieth Century (3) I, II
Prerequisites: Art 258 and 259.
Major movements in sculpture, painting, graphics and architecture from the beginning of this century to the present.

559. Art Since 1945 (3)
Prerequisite: Art 558.
Criticism of developments in the visual arts since 1945.

560. History of American Art (3) Irregular
Prerequisites: Art 258 and 259.
Development of painting, sculpture, and architecture from the Native American Art and Colonial Period to the present.

561. Art of Pre-Hispanic America (3) I
Prerequisite: Upper division standing.
Art of ancient Meso-American, Central America, Caribbean and South America from earliest times until contact with Europe.

562. Art of Latin America (3) II
Prerequisite: Upper division standing.
Art and architecture of Latin America from the colonial period to the present. Field trips included.

565. The Art of India and Southeast Asia (3) II
Prerequisite: Upper division standing.
Prerequisites: Art 258 and 259.
Painting, architecture and sculpture of India and Southeast Asia viewed through their cultural history and aesthetic values. Field/museum trips.

566. The Art of Persia and the Islamic World (3) I
Prerequisite: Upper division standing.
Painting, architecture and sculpture and minor arts of Persia and the Islamic world which manifest cultural history and heritage. Field/museum trips.

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. Medieval Art (3) II
Prerequisites: Art 258 and 259.
Development of painting, sculpture and architecture from the time of Constantine through the Gothic period.

572. Coptic and Byzantine Art (3) Irregular
Prerequisites: Art 258 and 259.
The art of the Eastern Church from the reign of Justinian to the Russian Revolution.

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

574. Northern Renaissance Art (3) II
Prerequisites: Art 258 and 259.
Architecture, sculpture, and painting north of the Alps during the Renaissance period.

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

576. Arts of Native North America (3) Irregular
Prerequisite: Upper division standing.
Form and content of the arts of North American Indians viewed within a cultural context. Field trips.

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

580. History of Costume (3)
One lecture and four hours of activity.
Prerequisites: Art 258 and 259.
Historic origins of body coverings traced from prehistoric to contemporary times. Aesthetic, sociological, political and cultural influences are interrelated to costumes. Lecture with visual activities developing into term projects, both verbal and visual.

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

582. The Decorative Arts (3)
Investigations into the arts of ceramics, enamelling, furniture, glass, jewelry, metalwork and textiles. Analyzing the aesthetic basis which determines their forms in various times and places. Field trips to museums and ateliers.

586. Art Practicum Seminar (3) Irregular
Prerequisites: Twenty upper division units in art and concurrent assignment to student teaching.
Discussion, readings, and research study related to art presentation strategies.

590. Principles and Elements of Visual Aesthetic Organization (3) Irregular
Three hours.
Prerequisites: Art 157; or Art 258 and 259.
Visual aesthetic materials and the psychological principles involved in aesthetic organization.

591. Gallery Exhibition Design (3) I, II
Six hours.
Prerequisite: Fifteen units of art.
Fundamental art elements and principles applied to the theories and techniques of gallery exhibition design.

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

GRADUATE COURSES

600. 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.

604. 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.

609. 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.

616. 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.

623. Advanced Furniture Design (3)
Six hours.
Prerequisite: Art 523.
Problems in the design and construction of furniture. Projects determined by the individual students in conference with the instructor. Maximum credit six units applicable on a master's degree.

625. Crafts (1-3)
Two hours for each unit of credit.
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.

627. Advanced Clay and Glaze Technology in Ceramic Design (3)
Six hours.
Prerequisite: Art 425.
Experimentation with the use of ceramic material and techniques as an integral part of the design process. Maximum credit six units applicable on a master's degree.

629. Enamel Workshop (3) I, II
Six hours.
Prerequisite: Art 529.
Workshop in enamel technology and its application to the craft. Maximum credit six units applicable on a master's 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 conference with the instructor. Maximum credit six units applicable on a master's 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.

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.

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.

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.

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.

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: Art of the Americas, Africa, 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)
Introduction to research methods and materials, compiling of a specialized bibliography, preparatory to writing a master's thesis.

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.

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.

Asian Studies

Faculty Members of the Center for Asian Studies

Allan W. Anderson, Ph.D., Professor of Religious Studies
Paochin Chu, Ph.D., Professor of History, Director of Program
Alvin D. Coox, Ph.D., Professor of History (Graduate Adviser)
Ann B. Cottrell, 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 jin Kahng, Ph.D., Professor of Political Science
Elmer A. Keen, 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
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
Alexander L. Srbich, Ph.D., Professor of Management
Philip S. Staniford, Ph.D., Professor of Anthropology
Robert D. Wallace, D. Litt, Professor of Art
Daniel D. Whitney, Ph.D., Professor of Anthropology
Charles C. Yahr, Ph.D., Professor of Geography
David V. Du Fault, Ph.D., Associate Professor of History
Fay A. Frick, Ph.D., Associate Professor of Art
Ronald S. Himes, Ph.D., Associate Professor of Anthropology
Kenji Ima, Ph.D., Associate Professor of Sociology
David L. Preston, Ph.D., Associate Professor of Sociology
William N. Rogers II, Ph.D., Associate Professor of English and Comparative Literature
Catherine C. Woo, L.L.D., Associate Professor of Chinese and Classics
Rizalino A. Oades, Ph.D., Assistant Professor of History
Hans Neyndorff, L.L.B., Senior Assistant Librarian

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 Director of the Center and representatives from the several departments.

The program is designed to offer systematic advanced training (a) for those planning to enter educational, business, government, or community service involving Asian Studies, and (b) for 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 Three 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 Three 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 Three of this bulletin, the student must complete a minimum of 30 units from courses acceptable on master's degree programs, including Asian Studies 601, with not less than 24 units in courses of Asian content, distributed as shown below.

	600- and 700-numbered Courses	500-, 600- and 700-numbered Courses
Asian Studies	3 units (Asian Studies 601)	3 units
Department A	6 units	3 units
Department B	3 units	3 units
	12 units	9 units

The remaining nine of the total of 30 units will be elective, selected from the above or other relevant departments, as approved by the Graduate Committee. The total program shall include a minimum of 18 units in 600- and 700-numbered courses. The student may elect Plan A (with thesis) or Plan B (comprehensive examination in lieu of thesis) in consultation with the graduate coordinator.

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.

Art Course

565. The Art of India and Southeast Asia (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 (3)
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)

571. Society and Thought in Asia (3)
596. Selected Studies in History (1-4)*

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) I, II*
581. A Metaphysical Doctrine (3) I, II*

Sociology Course

519. Topics in Comparative Societies (3)*

* Acceptable when of relevant content.

GRADUATE COURSES IN ASIAN STUDIES

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)*
665. 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)*

* Acceptable when of relevant content.

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)
795. Area Studies in History (1-3)** Cr/NC

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 Science 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)*

All 797 (Research) and 798 (Special Study) courses in named departments, when relevant, are also applicable upon approval by the Graduate Committee.

* 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
Burt Nelson, Ph.D., Professor of Astronomy, Chair of Department
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
Michael S. Snowden, M.S., 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.

This degree is designed to augment the student's undergraduate training with three or four semesters of more advanced study in the field of astronomy and the associated fields of mathematics and physics. San Diego State University has excellent facilities. A 24-inch reflecting telescope and two 16-inch reflecting telescopes, equipped with photoelectric photometers and a spectrograph, are located at Mount Laguna Observatory 40 miles east of campus, at an elevation of 6,100 feet. An 8-inch photographic refractor of long focus and several other telescopes, ranging from 6 to 12 inches in aperture, are located on campus. Campus computing facilities include an IBM 360/50, a DEC VAX 11/780 and an IBM 1130 digital computer.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Three 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 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 Three 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 Three of this bulletin, the student must also meet 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 or 103 and Physics 197, 197L.
Study of the structures of the planets, their atmospheres and satellite systems, asteroids, comets, and meteoroids, and the interplanetary medium, including the sun's influence in the system.

596. Advanced Topics in Astronomy (2 or 3) I, II
Prerequisite: Consent of instructor.
Selected topics in theoretical astronomy or astrophysics. May be repeated with new content upon approval of instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES

600. Seminar (2 or 3)
Prerequisite: Consent of instructor.
An intensive study in 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 indentification, 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
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.

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 Underseas Center. San Diego State University also operates a marine laboratory on San Diego Bay and has access to research sites in Descanso, 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 Three 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 Graduate Record Examination Aptitude Test (Quantitative plus verbal).
5. Have a score above the 60th percentile rank on the Graduate Record Examination 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.

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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 Three 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 Three 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 are 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 Three 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, phycology, 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 and primary productivity, physiological plant ecology, marine aquaculture and fisheries ecology, animal population ecology and energetics, ecosystems management, and systems ecology.

Genetics and Developmental Biology: The genetics program offers an opportunity for graduate study in population genetics, biochemical genetics, developmental genetics, cytogenetics, and mutagenesis.

Invertebrate Zoology: The emphasis of this program area is based on the study of invertebrates as whole organisms. Faculty and graduate student research interests are diverse but include such areas as the functional morphology and ecology of marine invertebrates, entomology and pest management, invertebrate behavior and navigation, invertebrate symbiosis and parasitology, and invertebrate embryology.

Molecular Biology: The program area is concerned with approaches which aim to explain biology at a molecular level, with particular emphasis on the correlation of structure and function of macromolecules, catalysis and control, molecular genetics and regulation of gene expression, and 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 cellular physiology (especially osmoregulation, immunology, nitrogen metabolism, and sensory reception), radiation biology and radioisotope techniques, nerve and muscle physiology, and biochemistry of nucleic acids.

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:

1. Analysis and modeling of the dynamics of terrestial and aquatic ecosystems: B. Collier, P. Miller, M. Schum.
2. Physiological ecology of plants, particularly of the Mediterranean zone, desert, and Arctic tundra: A. Johnson, P. Miller.
3. Population and community studies of terrestial and aquatic plants and animals: B. Collier, G. Cox, S. Hurlbert, L. McClenaghan, M. Schum, P. Zedler.
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 technological, 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, calculus, computer programming or other suitable mathematical training, introductory ecology, and at least one 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, plus 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 Three 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
Current Sponsors: C. Goldman, R. Loomis, J. Major, D. Munns
Coordinator, Joint Doctoral Program: T. Powell

Genetics*

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, bio-chemical 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 Three 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: J. Fristrom

Principals: Freeling, Fogel, Fristrom, Libby, Paigen, St. Lawrence, Spieth, Sung, Taylor, Thomson

San Diego State University:

Graduate Adviser: C. Barnett

Principals: Abbott, Awbrey, Baer, Barnett, Diehl, Futch, Johnson, Lebherz, McClenaghan, Rinehart, Thwaites, Weiss

Biology

Faculty

Frank T. Awbrey, Ph.D., Professor of Biology
Adela S. Baer, Ph.D., Professor of Biology
Charles L. Brandt, , Ph.D, Professor of Biology
Mary E. Clark, Ph.D, Professor of Biology
Boyd D. Collier, Ph.D, Professor of Biology, Chair of Department
Charles F. Cooper, Ph.D, Professor of Biology
George W. Cox, Ph.D, Professor of Biology
Thomas A. Ebert, Ph.D, Professor of Biology
David A. Farris, Ph.D, Professor of Biology
Richard F. Ford, Ph.D, Professor of Biology
William E. Hazen, Ph.D, Professor of Biology
Stuart H. Hurlbert, Ph.D, Professor of Biology
Albert W. Johnson, Ph.D, Professor of Biology, Vice President for Academic Affairs
Skaidrite Krisans, Ph.D, Professor of Biology
Philip C. Miller, Ph.D, Professor of Biology
James W. Neel, Ph.D, Professor of Biology, Associate Dean of the College of Sciences
Paul J. Paolini, Ph.D, Professor of Biology
John A. Parsons, Ph.D, Professor of Biology
Robert R. Rinehart, Ph.D, Professor of Biology
Harriette C. Schapiro, Ph.D, Professor of Biology
David C. Shepard, Ph.D, Professor of Biology
William C. Sloan, Ph.D, Professor of Biology
Joy B. Zedler, Ph.D, Professor of Biology
Paul H. Zedler, Ph.D, Professor of Biology
Carol A. Barnett, Ph.D, Associate Professor of Biology
Wayne F. Daughtery Jr., Ph.D., Associate Professor of Biology
William P. Diehl, Ph.D., Associate Professor of Biology
David G. Futch, Ph.D., Associate Professor of Biology
Gerald G. Johnson, Ph.D., Associate Professor of Biology
Leroy R. McClenaghan, Ph.D., Associate Professor of Biology, Graduate Coordinator
Roger A. Sabbadini, Ph.D., Associate Professor of Biology
William M. Thwaites, Ph.D., Associate Professor of Biology
Craig H. Davis, Ph.D., Assistant Professor of Biology
Zac Hanscom III, Ph.D., Assistant Professor of Biology
G. Michael Schum, Ph.D., Assistant Professor of Biology

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 credit or concurrent registration in Biology 430.
Principles of population genetics and evolution, advanced topics in population and community ecology.

502. Cellular Physiology (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 215; Chemistry 230 or 231; Physics 180B and 182B.
Cellular structure, macromolecules, energetics, growth, division, transport, excitability and motility.

503. Genetics (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 215; Chemistry 230 or 231.
Principles of transmission and molecular genetics, mutation, population genetics and evolution.

519. Statistical Methods in Biology (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 411 or 430.
Application of statistical techniques to biological data. Not open to students with credit for another upper division course in statistics except with written approval of the chairman of the department offering the student's major filed with the Evaluations Office.

525. Agricultural Ecology (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 320 or 411.
Mechanisms controlling fertility, productivity, and regulation in agricultural ecosystems. The ecological design and management of agroecosystems.

528. Ecology of Renewable Resources (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 320, 411, or 420.
Ecological principles in exploitation and management of forest, range, watershed, and recreation lands for sustained human benefit.

530. Limnology (4)
Two lectures and six hours of laboratory.
Prerequisite: Biology 411.
Biological, chemical, and physical considerations of inland waters.

531. Biological Oceanography (4)
Two lectures and six hours of laboratory.
Prerequisite: Biology 411.
Ecological concepts as applied to pelagic and benthic marine organisms and their environment. Field and laboratory experience in oceanographic techniques, particularly the coastal environment.

532. Fisheries Biology (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 411.
Fisheries of commercial importance. The dynamics of exploited populations.

535. Systems Ecology (4)
Three lectures and three hours of laboratory.
Prerequisites: Biology 411, Mathematics 122 or 150, and consent of instructor.
Theory and techniques of systems analysis and mathematical modeling as applied to ecological problems.

537. Advanced Systems Ecology (4)
Three lectures and three hours of laboratory.
Prerequisites: Biology 535 and consent of instructor.
Advanced topics in the application of mathematical modeling and simulation techniques to analyses of ecological problems.

541. Developmental Biology (3)
Prerequisite: Biology 430 or 503.
Analysis of development with emphasis on embryonic differentiation.

544. Human Genetics (4)
Three lectures and three hours of laboratory.
Prerequisites: Biology 503 and either Biology 502 or Chemistry 361A.
Genetics as related to human biology. Molecular and cytogenetic causes of genetic disease and the genetics of human populations.

545. Cytogenetics (4)
Two lectures and six hours of laboratory.
Prerequisite: Biology 430 or 503.
The physical basis of heredity. Study of the chromosomes and chromosome behavior in relation to problems in heredity and evolution.

546. Mutagenesis (3)
Prerequisite: Biology 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)
Prerequisite: Biology 502 or Chemistry 361A-361B or Chemistry 560A-560B.
Topics selected from chromatin structure function and regulation; cell cycle analysis and regulation; cellular membrane formation, structure and function. Other topics irregularly scheduled. May be repeated once with new content.

562. Topics in Comparative Physiology (3)
Prerequisite: Biology 502 or Zoology 540.
Topics vary each semester and are chosen from three areas: digestion, nutrition, respiration, metabolism, blood, circulation, osmoregulation, excretion; sensory reception, neural integration and muscle function; endocrine mechanisms. May be repeated once with new content. See Class Schedule for specific content.

566. Photobiology (3)
Prerequisite: Biology 502.
Principles underlying visible and ultraviolet radiation effects on plants and animals, including man. Topics include photosensitization, ultraviolet effects, environmental photobiology, photomedicine, chronobiology, extraretinal photoreception, vision, photomorphogenesis, photomovement, photosynthesis and bioluminescence.

568. Immunochemistry (3)
Prerequisite: Biology 502 or Microbiology 330.
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 at the biochemical, cell, organ, 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. Radioisotope 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 radioautography techniques.

572. Physiology of Human Systems (3)
Prerequisites: Physics 180B and 182B; Zoology 200.
Intended for students majoring in one of the natural sciences or engineering. Not open to students with credit in Biology 261 or 362.
Survey of basic themes in human physiology, presented at the cellular and organ system levels. Topics include membrane transport, nerve excitation, muscle contraction, hormone function, cardiovascular physiology, renal function, immunology, and sensory reception and integration.

580. Regional Field Studies in Biology (1-3)
One- to three-week periods during vacations and summer sessions; may be combined with class meetings during academic year.
Prerequisites: 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.

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.

GRADUATE COURSES IN BIOLOGY

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.
Prerequisite: 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 or Psychology 461.
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.

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 adviser 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 four 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.

651. Physiological Genetics (3)
Prerequisites: Biology 503 or 544; Chemistry 231. Recommended: Chemistry 361A-361B.
Biochemical aspects of genetics of microbial and human systems.

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.

663. Seminar in Environmental Radiation (2)
Prerequisites: Biology 570 and 571.
The sources, characteristics, distribution, measurement, and fate of radioactive contaminants in the biosphere and interactions with the biota. Maximum credit four units applicable on a master's degree.

671. Methods in Physiology (2)
Six hours of laboratory.
Prerequisite: Biology 502.
Current methods employed in physiological measurements. Maximum credit four units applicable on a master's degree.

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.

790. 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.

797. Research (1-3) Cr/NC/SP
Research in one of the fields of biology. 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.

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.

Botany

Faculty

Kenneth D. Johnson, Ph.D., Professor of Botany (Graduate Adviser), Chair of Department
Jochen Kummerow, Ph.D., Professor of Botany
David L. Rayle, Ph.D., Professor of Botany
James V. Alexander, Ph.D., Associate Professor of Botany
Richard L. Weiss, Ph.D., Associate Professor of Botany
Nancy Carmichael, Assistant Professor of Botany
Michael J. Donoghue, Ph.D., Assistant Professor of Botany

Courses Acceptable on Master's Degree Programs

Upper Division Courses in Botany

501. Phycology (4) I, II
Three lectures and three hours of laboratory.
Prerequisite: Botany 200.
Morphology and phylogenetic relationships of the algae.

502. Mycology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Botany 200.
The structure, food relations, and classification of fungi.

503. Vascular Plants (4)
Two lectures and six hours of laboratory.
Prerequisite: Botany 200.
Structure, development and phylogenetic relationships of the bryophytes and vascular plants.

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.

511. Advanced Phycology (3)
One lecture and six hours of laboratory.
Prerequisite: Botany 501.
Physiology, ecology, culture and economic aspects of the algae. Maximum credit six units with three units applicable to a master's degree.

514. Plant Taxonomy (4) II
Two lectures and six hours of laboratory, field trips.
Prerequisite: Botany 200.
The study of variation, primarily in flowering plants; classification, identification, nomenclature, distribution.

526. Plant Pathology (4)
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) I
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Botany 530.
Laboratory experiments designed to demonstrate principles of water movement, ion transport, energy metabolism, growth and development in plants.

540. Plant Anatomy (4) II
Two lectures and six hours of laboratory.
Prerequisite: Botany 200.
The arrangement of structural elements within plant organs, with emphasis on cell and tissue types.

562. Agricultural Botany (2)
Field trips to be arranged.
Prerequisite: Botany 200.
California crop plants, their general identification, cultural methods, and regional distribution.

596. Selected Topics in Botany (2-3)
Prerequisite: Consent of instructor.
Selected topics in classical and modern botany. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units with three units applicable to a master's degree.

GRADUATE COURSES IN BOTANY

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.

603. Seminar in Vascular Plants (2)
Prerequisite: Botany 503.
Problems in the evolution of the vascular plants. 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.

Molecular Biology

Faculty

Mitchell T. Abbott, Ph.D., Professor of Chemistry
A. Stephen Dahms, Ph.D., Professor of Chemistry
Kenneth D. Johnson, Ph.D., Professor of Botany
Skaidrite Krisans, Ph.D., Professor of Biology (Graduate Adviser)
Herbert G. Lebherz, Ph.D., Professor of Chemistry
Paul J. Paolini, Ph.D., Professor of Biology
David L. Rayle, Ph.D., Professor of Botany
Charles J. Stewart, Ph.D., Professor of Chemistry
Carol A. Barnett, Ph.D., Associate Professor of Biology
Gerald G. Johnson, Ph.D., Associate Professor of Biology
Roger A. Sabbadini, Ph.D., Associate Professor of Biology
Richard L. Weiss, Ph.D., Assistant Professor of Botany

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 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 Three 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 Three 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 each of Molecular Biology 600 and 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

UPPER DIVISION COURSES

Biology

502. Cellular Physiology (4)
503. Genetics (4)
519. Statistical Methods in Biology (3)
541. Developmental Biology (3)
544. Human Genetics (4)
545. Cytogenetics (4)
546. Mutagenesis (3)
547. Microbial Genetics (3)
559. Advanced Genetics (3)
561. Topics in Cellular Physiology (3)
568. Immunochemistry (3) I, II
571. Radioisotope Techniques in Biology (4)
572. Physiology of Human Systems (3)

Botany

530. Plant Physiology (3)
596. Selected Topics in Botany (2-3)

Chemistry

510. Advanced Physical Chemistry (3)
550. Instrumental Methods of Chemical Analysis (2)
560A-560B. General Biochemistry (3-3)
567. Biochemistry Laboratory (2)
577. Radiochemical Analysis (4)
596. Advanced Special Topics in Chemistry (1-3)

Microbiology

515. Bacterial and Viral Genetics (2)
535. General Virology (2)
535L. General Virology Laboratory (2)
580. Animal Viruses (4)
590. Electron Microscopy (4)
596. Selected Topics in Microbiology (1-3)

Zoology

503. Embryology (4)
508. Histology (4)

GRADUATE COURSES

Biology

600. Seminar (2-3)
640. Seminar in Genetics (2)
651. Physiological Genetics (3)
660. Seminar in Cellular Physiology (2)
671. Methods in Physiology (2)
672. Molecular Biophysics (3)
697. Investigation and Report (3)
790. Bibliography (1)
797. Research (1-3) Cr/NC
798. Special Study (1-3) Cr/Nc

Botany

600. Seminar (2-3)
630. Seminar in Plant Physiology (2)
797. Research (1-3) Cr/NC
798. Special Study (1-3) Cr/NC

Chemistry

711. Chemical Thermodynamics (3)
712. Chemical Kinetics (3)
714. Molecular Structure (3)
760. Advanced Topics in Biochemistry (1-3)
762. Enzymology (2)
763. Cellular Regulation (2)
764. Membrane Biochemistry (3)
767. Advanced Biochemical Techniques (2)
790. Seminar (1-3)
791. Research Seminar (1)
792. Bibliography (1)
797. Research (1-3) Cr/NC/SP
798. Special Study (1-3) Cr/NC/SP

Microbiology

600. Seminar (2-3)
620. Seminar in Microbial Physiology (2)
630. Seminar in Immunology and Serology (2)
640. Seminar in Bacterial and Viral Genetics (2)
670. Seminar in Virology (2)

Total Units to be Required, (27)

Molecular Biology

600. Seminar in Molecular Biology (1-3)
601. Colloquium in Molecular Biology Research (1-3)
610. Advanced Topics in Molecular Biology (2-4)

Biology, Botany and Chemistry

799A. Thesis or Project (3) Cr/NC/SP
799B. Thesis or Project Extension (0) Cr/NC

GRADUATE COURSES IN MOLECULAR BIOLOGY

600. Seminar in Molecular Biology (1-3)
Prerequisite: Consent of instructor.
Evaluation of current literature in molecular biology. May be repeated with new content. Maximum credit six units applicable on a master's degree.

601. Colloquium in Molecular Biology Research (1-3)
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 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
Kurt K. Bohnsack, 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 Collier, 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
Edward W. Huffman, Ph.D., Professor of Zoology
Don Hunsaker II, Ph.D., Professor of Zoology
C. O'Neil Krekorian, Ph.D., Professor of Zoology
Norman McLean, Ph.D., Professor of Zoology (Graduate Adviser)
Ronald E. Monroe, Ph.D., Professor of Zoology
Andrew C. Olson, Ph.D., Professor of Zoology
Wilfred W. Wilson, Ph.D., Professor of Zoology
Vernon L. Avila, Ph.D., Associate Professor of Zoology
Robert W. Cooper D.V.M., Associate Professor of Zoology
Michael J. Novacek, 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 phyletic 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.
Prerequisite: Zoology 200.
Identification, 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 topics.
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 and 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 man. Laboratory including identification of important parasites of man, and collection and preservation of local forms.

540. Physiological Zoology (4)
Three lectures and three hours of laboratory.
Prerequisite: Zoology 200. Recommended: At least one course in each of college algebra, chemistry and physics.
A comparative and evolutionary study of the functions of organ systems and their environmental significance.

555. Principles of Taxonomy, Systematics and Phylogeny (4)
Two lectures and six hours of laboratory.
Prerequisite: Any one of the following: Zoology 200; Botany 501, 502, 503.
Basis for the classification of organisms. Modern concepts and their application in zoology. Specific problems in laboratory and field.

560. Vertebrate Paleontology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 506.
Advanced studies in the evolution of vertebrates, including relations to earth history and topics in paleoecology and functional morphology. Field and laboratory techniques and exercises in identification are included.

570. Animal Behavior (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 215; Zoology 200 or Psychology 210 and 260 for psychology majors.
Biological bases of animal behavior with emphasis on the ethological approach, including the evolution and adaptive significance of behavior.

580. Aquaculture (3)
Prerequisite: Zoology 200.
Principles and practices of the farming of aquatic organisms.

GRADUATE COURSES IN ZOOLOGY

600. Seminar (2-3)
An intensive study in advanced zoology. 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. Seminar in Marine Zoology (2-3)
Prerequisites: Zoology 200 and consent of instructor.
Recent developments in marine zoology. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable on a master's degree.

615. Biogeography (3)
Prerequisite: Biology 411 or 549.
Concepts and principles of the distributional history of plant and animal groups, and the origins and dispersal of modern faunas and floras.

625. Seminar in Ethology and Comparative Psychology (3)
Prerequisites: Biology 411, or Psychology 414 or 417, or Zoology 570, and consent of the graduate adviser.
Current problems in ethology and comparative animal behavior. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree. Not open to students with credit in Psychology 761. (Formerly numbered Biology 610.)

630. Seminar in the Biology of Cold-blooded Vertebrates (2-3)
Prerequisite: Zoology 506.
Biology of ectothermic animals. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

640. Seminar in the Biology of Warm-blooded Vertebrates (2-3)
Prerequisite: Zoology 506.
Biology of endothermic animals. May be repeated with new content. See class schedule for specific content. Maximum credit six units applicable on a master's degree.

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 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.

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 with a major in business administration 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 executives' 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 either of the master's degree curricula offered in the College of Business Administration should make application in the manner set forth in Part Three 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 Three 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 Three 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 Three 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:

1. Complete each of the following twelve courses for which an equivalent has not been satisfactorily completed:
   Accountancy 600 Financial Accounting (3)
   Accountancy 610 Managerial Accounting (3)
   Economics 603 Economic Analysis (3)
   Finance 604 Law for Business Executives (3)
   Finance 615 Financial Principles and Policies (3)
   Finance 616 Managerial Economics (3)
   Information Systems 609 Computer Programming and Systems Analysis (3)
   Management 601 Organization Theory (3)
   Management 602 Quantitative Methods I (3)
   Management 611 Behavior in Organizations (3)
   Management 612 Quantitative Methods II (3)
   Marketing 605 Marketing (3)

Satisfactory completion means that the student's grade in each equivalent course must be "C" (2.0) 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.

2. Complete the following two courses required of all students:
   B.A. 620 Research and Reporting (3)
   Management 726 Seminar in Policy Formulation (3)
3. Complete 18 units in the following two categories of specialization and electives:
   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).
      Specializations available:
      - Finance
      - Information Systems
      - International Business
      - Management
      - Management Science
      - Marketing
      - Personnel and Industrial Relations
      - Production and Operations Management
      - Real Estate

   b. Electives: At least three units in course work outside the specialization.
      The distribution of the 18 units between specialization and electives, and the specific courses in each category, are to be determined by the student and graduate adviser in consultation.
4. Electives, if needed, to total at least 30 units.
5. 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.
6. At least 15 units of course work must be included in subjects outside the area of specialization and outside a defined common body of knowledge in Business Administration. The Associate Dean for Graduate Studies in Business Administration will determine the students completion of the common body of knowledge.
7. 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 Three 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 Three 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 (4)
Economics 101-102 Principles of Economics (6)
Economics 201 Statistical Methods, or
Math 119 Elementary Statistics (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, or
Management 302 Quantitative Methods (3)
Management 350 Management and Organization (3)
Marketing 370 Marketing Principles (3)
Math 120 Mathematics for Business Analysis (3)

Satisfactory completion means that the student's grade in each course must be "C" (2.0) 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 Three 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 Three 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 Management
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 Three of this bulletin.

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.

795. Seminar in Selected Topics (3)
Selected areas of concern in business administration. 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 (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.

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.

Accountancy

Faculty

Allan R. Bailey, , Professor of Accounting, Dean of the College of Business Administration
Arthur Brodshatzer, 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
Vern E. Odmark, Ph.D., Professor of Accounting (Graduate Adviser)
Richard A. Samuelson, Ph.D., Professor of Accounting, Director of Department
Leslie W. Snudden, Ph.D., Professor of Accounting
James E. Williamson, Ph.D., Professor of Accounting
Van Ballew, Ph.D., Associate Professor of Accounting
David Butler, Ph.D., Associate Professor of Accounting
Byron M. Knutsen, M.B.A., Associate Professor of Accounting
Howard R. Toole, Ph.D., Associate Professor of Accounting
Gerald E. Whittenburg, Ph.D., Associate Professor of Accounting (Graduate Adviser)
O. Ray Whittington, Ph.D., Associate Professor of Accounting (Graduate Adviser)
Steven J. Adams, Ph.D., Assistant Professor of Accounting (Graduate Adviser)
Michael D. Chase, M.B.A., Assistant Professor of Accounting
Sharon M. Lightner, Ph.D., Assistant Professor of Accounting
Curt H. Stanley, Ph.D., Visiting Professor of Accounting
Ralph J. Winston, Ph.D., Visiting Professor of 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 adviser. Specialization within the M.S. degree is intended to give students the necessary academic background and research experience to advance their career in a specialized area of accounting and at the same time achieve the broad background necessary for a successful professional career.

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 Three 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 (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
Mathematics 119 Elementary Statistics (3)
Mathematics 120 Mathematics for Business Analysis (3)
Management 301 Statistical Analysis for Business, or
Management 302 Quantitative Methods (3)
Finance 323 Fundamentals of Finance (3)
Management 350 Management and Organization (3)

Marketing 370 Marketing Principles (3)
Accountancy 310 Intermediate Accounting (4)
Accountancy 311 Financial Accounting Theory (4)
Accountancy 312 Managerial Cost Accounting (4)
Accountancy 410 Federal Income Tax (4)
Management 405 Business Strategy and Integration (3)

Satisfactory completion means that the student's grade in each course must be "C" (2.0) or better and that the course must have been completed within ten years prior to the first course completed on the master's degree program. In addition, the student's adviser may request satisfactory completion of additional prerequisite courses.

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 Three 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 Three 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 accountancy 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.

Finance 616, Managerial Economics, is required unless the student has completed sufficient advanced economics courses as a part of his/her undergraduate preparation. Accountancy 634, Auditing, is required unless the student has completed Accountancy 414, Auditing, as part of his/her undergraduate preparation. Accountancy 637, Seminar in Accounting Information Systems, 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 Three 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 312 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.

631. Accounting Concepts and Problems of Financial Reporting (3)
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 as 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 Planning (3)
Prerequisite: Credit or concurrent registration in Accountancy 511.
Tax situations and appropriate alternative plans involving property transaction, securities, interest, investments, and compensation.

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.
Currrent 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.

Finance

Faculty

William H. Hippaka, J.D., Professor of Finance
Robert P. Hungate, Ph.D., Professor of Finance
Robert C. Hutchins, Ph.D., Professor of Finance (Graduate Adviser)
Brian M. Neuberger, Ph.D., Professor of Finance
William W. Nye, Ph.D., Professor of Finance
William W. Reints, Ph.D., Professor of Finance (Graduate Adviser)
James L. Short, Ph.D., Professor of Finance (Graduate Adviser), Real Estate
Pieter A. Vandenberg, Ph.D., Professor of Finance, Chair of Department
Russell L. Block, J.D., Associate Professor of Finance
Keith Brown, Ph.D., Associate Professor of Finance
Robert T. Fisher, Ed.D., J.D., Associate Professor of Finance
Kamal Haddad, Ph.D., Associate Professor of Finance
Thomas M.D. Warschauer, Ph.D., Associate Professor of Finance (Graduate Adviser), Financial Services
John Bost, J.D., Assistant Professor of Finance
Vincent Mercurio, M.B.A., Assistant Professor of Finance
Kanwal S. Sachdeva, Ph.D., Assistant Professor of Finance (Graduate Adviser)
Mehdi Salehizadeh, Ph.D., Assistant Professor of Finance
William Sterk, Ph.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)
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: Accountancy 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 615.
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.
Security valuation and price forecasting. Portfolio management theory. Risk management and reduction analysis. Establishment of performance objectives.

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.

700. Insurance Principles and Practices (3)
Nature and extent of personal, business, and social risk. Risk handling techniques; insurance principles and practices; basic contracts analysis; insurance underwriting and rating; insurance problems and trends; personal and business risk management.

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.

780. 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.
Economic principles of valuation. Data collection, analyses and correlation. The Cost, Market, and Income Approaches. New Appraisal Technology. Special Purpose Appraising.

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.

786. Seminar in Housing Development (3)
Prerequisite: Finance 780 or City Planning 610 or Economics 758 or Geography 655.
The nature of the building industry. Demand characteristics. The local housing market. Low and moderate income housing developments. New housing technology. Government incentives and constraints. Environmental considerations. The role of the private investor and housing developer.

789. Seminar in Current Urban Land Issues (3)
Prerequisite: Finance 780.
Current problems in real property. Regional land use planning. (Formerly numbered and titled Business Administration 781, Seminar in Real Estate.)

Information Systems

Faculty

Maurice Crawford, Ed.D., Professor of Information Systems, Associate Dean of the College of Business Administration
Norman E. Sondak, D. Eng., Professor of Information Systems, Chair of Department
William E. Spaulding, Ph.D., Professor of Information Systems (Graduate Adviser)
William R. Feeney, Ph.D., Associate Professor of Information Systems (Graduate Adviser)
Richard A. Hatch, Ph.D., Associate Professor of Information Systems
James T. Perry, Ph.D., Associate Professor of Information Systems
Gretchen N. Vik, Ph.D., Associate Professor of Information Systems
Marie E. Flatley, Ph.D., Assistant Professor of Information Systems
William V. Ruch, Ph.D., Assistant 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 computers, problem-oriented computer language, flow-charting logic and techniques, 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.

683. Seminar in Advanced Information Systems Topics (3)
Prerequisite: Information Systems 681.
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.

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.

688. Seminar in Management and Control of Information Systems (3)
Prerequisite: Information Systems 681.
Identification, evaluation, and application of management and control techniques in an information processing environment stressing student investigation of current topics.

689. Seminar in Advanced Systems Analysis and Design (3)
Prerequisite: Information Systems 681.
Examination of traditional systems projects, structured systems analysis and other applications to developing business applications on a computer.

Management

Faculty

Thomas J. Atchison, Ph.D., Professor of Management
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)
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
Rick Hesse, Ph.D., Professor of Management
Natasha Josefowitz, Ph.D., Professor of Management
Daryl G. Mitton, Ph.D., Professor of Management
Lynn H. Peters, Ph.D., Professor of Management
A.C. Pierson, Ph.D., Professor of Management
Stephen P. Robbins, Ph.D., Professor of Management (Graduate Adviser)
William R. Sherrard, Ph.D., Professor of Management (Graduate Adviser)
Alex L. Srbich, Ph.D., Professor of Management
Israel Unterman, Ph.D., Professor of Management
Milton M. Chen, Ph.D., Associate Professor of Management
James R. Lackritz, Ph.D., Associate Professor of Management
Delbert M. Nebeker, Ph.D. Associate Professor of Management
William R. Soukup, Ph.D., Assistant Professor of Management
Penny L. Wright, Ph.D., Assistant Professor of Management

Courses Acceptable on Master's Degree Programs in Business Administration

GRADUATE COURSES IN MANAGEMENT

601. Organization Theory (3)
The business organization viewed as a system. Development of organization theory, functions and structure of organizations, control and adaptation, interaction of systems levels and organizational values.

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. Behavior in Organizations (3)
Prerequisite: Management 601.
Nature of the human resource in organizations. Analysis of organizational systems and managerial actions to direct and control human behavior.

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 and Management (3)
Prerequisite: Management 611.
Analysis of problems in business and other organizations. Organization and decision theory and contemporary developments in management science are emphasized.

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.

741. Seminar in Operations Research: Stochastic Systems (3)
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)
Prerequisite: 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 Likert, 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.

Marketing

Faculty

William F. Barber, Ph.D., Professor of Marketing, Associate Dean, College of Business Administration
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 (Graduate Adviser)
Robert B. Settle, Ph.D., Professor of Marketing
Dinoo J. Vanier, Ph.D., Professor of Marketing, Chair of Department
Thomas R. Wotruba, Ph.D., Professor of Marketing
George E. Belch, Ph.D., Associate Professor of Marketing
Michael A. Belch, Ph.D., Associate Professor of Marketing
Gregory M. Gazda, D.B.A., Associate Professor of Marketing
Donald Sciglimpaglia, D.B.A., Associate Professor of Marketing
Kathleen A. Krentler, D.B.A., Assistant 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.

Chemistry

Faculty

Mitchel T. Abbott, Ph.D., Professor of Chemistry
Larry E. Bennett, Ph.D., Professor of Chemistry
James W. Cobble, Ph.D., Professor of Chemistry
Dewitt Coffey Jr., Ph.D., Professor of Chemistry
A. Stephen Dahms, Ph.D., Professor of Chemistry
Edward J. Grubbs, Ph.D., Professor of Chemistry
Lars H. Hellberg, Ph.D., Professor of Chemistry
Reilly C. Jensen, Ph.D., Professor of Chemistry
Walter D. Jones, Ph.D., Professor of Chemistry
Vincent J. Landis, Ph.D., Professor of Chemistry
Herbert G. Lebherz, Ph.D., Professor of Chemistry
Jim G. Malik, Ph.D., Professor of Chemistry
Michael M. Malley, Ph.D., Professor of Chemistry
James H. Mathewson, Ph.D., Professor of Chemistry
H. Edward O'Neal, Ph.D., Professor of Chemistry
William H. Richardson, Ph.D., Professor of Chemistry
Morey A. Ring, Ph.D., Professor of Chemistry
Stephen B. W. Roeder, Ph.D., Professor of Physics and Chemistry, Chair of Department
Clay M. Sharts, Ph.D., Professor of Chemistry
Charles J. Stewart, Ph.D., Professor of Chemistry (Graduate Adviser)
Earl P. Wadsworth, Ph.D., Professor of Chemistry
Harold Walba, Ph.D., Professor of Chemistry
John H. Woodson, Ph.D., Professor of Chemistry
Dale A. Chatfield, Ph.D., Assistant Professor of Chemistry

Assistantships

Graduate teaching assistantships and graduate nonteaching assistantships in chemistry are available to a limited number of qualified students. Application blanks and additional information may be secured from the Graduate Adviser in the Department of Chemistry.

General Information

The Department of Chemistry, in the College of Sciences, in cooperation with the Department of Chemistry, University of California, San Diego, offers a program of graduate study leading to the Doctor of Philosophy degree in Chemistry. This degree is awarded jointly by the Board of Regents of the University of California and the Board of Trustees of The California State University in the names of the University of California, San Diego, and San Diego State University.

Graduate programs leading to the Master of Arts degree in Chemistry and the Master of Science degree in Chemistry are also offered.

The facilities, staff, and equipment of the Department of Chemistry meet the requirements of the American Chemical Society, and students obtaining the A.B. or B.S. degree with the approved curriculum are granted the A.C.S. certification. All graduate study is based on this sound undergraduate foundation.

The Department is well-equipped for the active research programs which are being carried on. Major pieces of equipment include: JEOL Model JNM-PS-100 NMR Spectrometer with Fourier Transform capability, Varian EM390 NMR, Hitachi-P.E. RMU 6E Magnetic Sector and CVC TOF Mass Spectrometers, Cary Model 14 and 16 Spectrophotometers, Gilford Spectrophotometers, Microwave Spectrometer, Perkin-Elmer 621 I.R. Spectrophotometer, two high performance Liquid Chromatographs, Jarrel-Ash Laser Raman Spectrometer, Varian ESR Spectrometer, two Atomic Absorption Spectrophotometers, Hewlett-Packard Reporting Gas 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, Durrum 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 620i 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, biochemistry, 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 Three 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 Three 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 Three 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 Three 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 great 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, analytical, 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 Three 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, Doolittle, Kraut, Miller, Perrin, Schrauzer, Traylor, Vold, Zimm

San Diego State University:
Graduate Adviser: R. W. Isensee; Alternate: S. B. W. Roeder
Staff: Abbott, Bennett, Chatfield, Cobble, Coffey, Dahms, Grubbs, Hellberg, Jensen, Jones, Lebherz, Malley, O'Neal, Richardson, Ring, Roeder, Sharts, Stewart

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.
Theory and application of those instrumental methods of chemical separation and analysis most frequently used in all subdisciplines of chemistry.

551. Advanced Analytical Chemistry (5)
Three lectures and six hours of laboratory.
Prerequisite: Chemistry 550.
Expanded treatment of instrumental methods for separation and quantitation not covered in Chemistry 550. Non-instrumental separations, quantitative organic microanalysis, sampling theory and techniques, reaction rate applications and interpretation of experimental data.

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 radiolysis.

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.

714. Molecular Structure (3)
Prerequisite: Chemistry 410B.
Theory and techniques used in the determination of molecular structure.

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. Microanalytical 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.

767. Advanced Biochemical Techniques (2)
Prerequisite: Chemistry 560A.
Six hours of laboratory. Theory and practice of current research techniques in biochemical research.

790. Seminar (1-3)
An intensive study in advanced chemistry. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

791. Research Seminar (1)
Prerequisite: Consent of department chair.
Discussions on current research by students, faculty, and visiting scientists. Each student will make a presentation based on the current literature.

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

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of instructor.
Research in one of the fields of chemistry. 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.

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 degree.

Communicative Disorders

Faculty

Harriet G. Kopp, Ph.D., Professor of Communicative Disorders, Acting Dean of the College of Human Services
Alan C. Nichols, Ph.D., Professor of Communicative Disorders, Acting Chair of Department, Graduate Coordinator
Richard M. Riedman, Ph.D., Professor of Communicative Disorders
Sadanand Singh, Ph.D., Professor of Communicative Disorders (Graduate Adviser)
Edmund L. Thile, Ph.D., Professor of Communicative Disorders
Elizabeth J. Allen, Ph.D., Associate Professor of Communicative Disorders, Credential Adviser, Speech Pathology
Barbara W. Hodson, Ph.D., Associate Professor of Communicative Disorders
Marilyn E. Newhoff, Ph.D., Associate Professor of Communicative Disorders
Robert E. Novak, Ph.D., Associate Professor of Communicative Disorders
Kathee M. Christensen, M.A., Assistant Professor of Communicative Disorders, Credential Adviser, Deaf Education
Darlene G. Gould, M.A., Assistant Professor of Communicative Disorders
Barry W. Jones, Ph.D., Assistant Professor of Communicative Disorders
Diane R. Williams, M.A., Assistant Professor of Communicative Disorders

General Information

The Department of Communicative Disorders, in the College of Human Services, offers graduate study leading to the Master of Arts degree in Speech Pathology and Audiology, and to the credentials described below. The department offers advanced study in speech and hearing science, speech pathology, audiology, and education of the deaf. The programs utilize the facilities of the Speech and Hearing Clinic in the Clinical Training Center in the Education Building and in the Communication Clinic. Observation, diagnostic and therapeutic experiences with outpatient children and adults are available. Field experience is offered in the public schools and community agencies. Practicum and observation experiences are possible at various hospitals, schools, community agencies, convalescent homes, and rehabilitation agencies.

Admission to Graduate Standing

All students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Three of this bulletin.

Candidates for admission to classified graduate standing, including credential candidates are reviewed by the faculty as a whole, and by a faculty committee from one of the three areas of the department: speech pathology, audiology, and education of the deaf. To initiate this review, a candidate for admission indicates which of these programs he or she intends to enter. The criteria for admission that guide the review committee are as follows:

1. In considering the candidate's ***statement of purpose,*** content, style and clarity of presentation are primary points.
2. Three ***letters of recommendation*** from appropriate persons who can and do attest to the candidate's high potential for graduate study are required by the reviewing faculty.
3. A ***grade point average*** of 3.00 overall or 3.50 during the last 60 units of college or university study will be necessary for consideration for admission.
4. A ***Graduate Record Examination Aptitude Test (GREAT)*** score of 950 (total) is a criterion for admission. Candidates with high grade point averages, 3.50 or above, may be admitted conditionally if the 950 criterion is not met. In such cases, the condition of admission is that the candidate take and pass the GREAT with a total score of 950 or above during the first semester of residence in the department. Continuation in the program may be contingent upon fulfilling this condition.

In cases where these criteria are not met, exceptional strength in one area may balance a deficit in another area. Such candidates may be admitted conditionally, subject to faculty review at the end of the first semester of residence.

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 326, 345, 346, 356.

All transfer students planning a program to include clinical practica must enroll in the appropriate undergraduate practicum as specified for their field of interest (Communicative Disorders 326, 345, 346, 356, 357, 528) prior to enrollment in graduate practica.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Three of this bulletin. In addition, students seeking the Master of Arts degree in Speech Pathology and Audiology 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 Three of this bulletin, the student must complete a graduate program of at least 30 units which includes a major consisting of 24 units in communicative disorders which must include Communicative Disorders 600 and 797 or 799A. Fifteen units of the 24 units must be in 600- and 700-numbered courses in communicative disorders, selected from Communicative Disorders 600, 601, 602, 603, 604, 605, 606, 640, 644, 649, 654, 657, 658 or 797, or 799A. 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).

Credentials

The Department of Communicative Disorders offers academic and practica course work applicable to two credentials in the Ryan Credential Program. Students desiring to work in the public schools with speech, language, or hearing impaired pupils may choose the Specialist Credential for the Communication Handicapped (CH) or the Clinical Rehabilitative Services Credential (C-RS). Each credential is competency based, that is, specified competencies have been identified as requirements for areas of specialization by the State Commission for Teacher Preparation and Licensing. Candidates may satisfy institution requirements, therefore, by either satisfactory completion of required courses or their equivalency, or by demonstrating equivalent competencies by experience or examination. Candidates may enter the CH or C-RS credential programs at undergraduate or graduate levels.

Each credential has designated areas of specialization. Students wishing to prepare to be Teachers of the Deaf or Deaf-Blind are obliged to meet the requirements of the CH credential. Students preparing to serve as School Audiologists must follow the C-RS credential program. Students desiring preparation as itinerant Language, Speech and Hearing Specialists or as Classroom Teachers of Severe Language Handicapped (or Aphasic) pupils may pursue either the CH or C-RS Credential Program.

Specialist Credential for the Communication Handicapped

The Specialist Credential for the Communication Handicapped prepares students for an emphasis in one or more of the following areas of handicap:

Deaf and Severely Hard of Hearing
Deaf-Blind
Severe Oral Language (including aphasia)
Speech and Hearing

The Specialist Credential for the Communication Handicapped specifies a sequence of communicative disorders courses plus a sequence of education courses.

Admission Requirements

1. Formal application to the Department of Communicative Disorders.
2. Interview with a faculty member in the Department of Communicative Disorders.
3. Admission to the program for the Single Subject Credential (Secondary) or Multiple Subjects Credential (Elementary).

   - or -

   A basic teaching credential.
   Students should consult with appropriate advisers in the College of Education for specific requirements.
4. Students applying to the program at the postbaccalaureate level must satisfy the admission requirements of the department for classified graduate standing.

Program

Persons interested in the Special Education Specialist Credential shall:

1. Concurrently or prior to completion of the specialist credential, complete the single subject credential (preliminary or clear) or the multiple subjects credential (preliminary or clear). Students may choose to:
   (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 generic course work Communicative Disorders 106, 205, 320, 321, 340, 341, 453, 531, 551, 552, and 553.
      (2) Additional course work required for the specific area of emphasis within the Credential (Severe Oral Language, Deaf, Deaf-Blind, Speech and Hearing) selected by the student in conjunction with 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)

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, 323, 324, 325 or 357, 326, 340, 341, 345, 346, 527, 530, 531, 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 596.

The Advanced Specialization Program in Language, Speech and Hearing (LSH) requires the following additional courses: Communicative Disorders 401, 433, 528, 528L, 529, 552, 553, 626, and 646 (or 346). 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 342, 358, 433 (Audiology class placement), 529, 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 and 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 and Hearing Association. 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 practica 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 Deaf for more information.

Preparation Leading to State Licensure in Speech Pathology or Audiology

Students may complete the academic and clinical practicum requirements leading to 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, 275 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

527. Diagnostic Methods in Speech Pathology (3) I, II
Prerequisites: Communicative Disorders 320, 323, and 340, and credit or concurrent registration in Communicative Disorders 326.
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 Pathology (3) I, II
One lecture and six hours of laboratory.
Prerequisite: Communicative Disorders 527 and passage of a competency examination.
Supervised clinical practice in diagnostic methods. Experience in multidisciplinary assessment.

528L. Diagnostic Practicum in Communicative Disorders: Multidisciplinary Assessment (1) I, II
Three hours of laboratory.
Prerequisites: Communicative Disorders 527 and credit or concurrent registration in 528.
Participation in Central Intake process of SDSU Clinical Training Center, including diagnostic team assessments and staffings.

529. Orientation to Public School Practicum (3) I, II
Prerequisites: Communicative Disorders 324 and 527. Minimum of 50 hours of supervised clinical practicum, plus departmental approval. Recommended: Credit or concurrent registration in Communicative Disorders 326, 346, 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 326.
The communication environment in the home. Parent-child interaction in relation to the origin and alleviation of functional and organic speech disorders.

531. Language Structure (3)
Prerequisite: 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.
Techniques of language assessment, including administration and evaluation of particular diagnostic tests. Organic implications in auditory perceptual problems. Discussions and demonstrations. Project required.

539. Neuropathologies of Speech, Hearing and Language (3) II
Prerequisites: Communicative Disorders 321 and 340. Recommended: Communicative Disorders 323.
Research and theory concerning the nature, etiologies and principles of treatment of disorders of speech, hearing and language resulting from pathologies of the nervous system.

543. Hearing Amplification (1 or 3) I
Prerequisites: Module I: Communicative Disorders 340. Module II: Communicative Disorders 342.
Module I includes hearing aid components, functions, trouble shooting and client orientation to amplification (1 unit). Module II includes hearing aid evaluations, fittings, and electroacoustical hearing aid analysis (2 units). Students may elect Module I (1 unit) or Modules I and II (3 units).

547. Hearing Conservation (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) I, II
Prerequisites: Communicative Disorders 320 and 340; competency examination. Recommended: Communicative Disorders 357, 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 and 551.
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
Prerequisite: Communicative Disorders 531.
Significant theories and research in language development, disorders and remediation. 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 326 or 356, 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.)

596. Selected Topics in Speech Pathology and Audiology (1-4) I, II
Prerequisite: Twelve units in communicative disorders.
Specialized study of selected topics from the area of communicative disorders. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units. Maximum credit three units applicable to a master's degree.

GRADUATE COURSES IN COMMUNICATIVE DISORDERS

600. Research and Bibliography (3)
Two lectures and three hours of laboratory.
Prerequisites: Undergraduate major or equivalent in Speech Pathology, Audiology, or Education of the Deaf; and Psychology 270.
Bibliographic techniques. Methods and exposition of research in the fields of speech pathology and audiology. Recommended for the first semester of graduate work, and prerequisite to advancement to candidacy.

601. Seminar in Voice Science (3)
Prerequisites: Communicative Disorders 320 and 321.
Relationship of basic principles of sound to speech and language. Analysis of speech sound production. Application of mechanical and electronic equipment to the measurement and control of speech and language.

602. Seminar in Language Disorders (3)
Prerequisites: Communicative Disorders 323 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.

603. Seminar in Cerebral Palsy (3)
Prerequisites: Communicative Disorders 324 and 539.
Review and analysis of research in diagnosis and theories of treatment for persons with speech and language disorders associated with cerebral palsy. Concurrent enrollment in one unit of Communicative Disorders 626 recommended.

604. Seminar in Oro-Facial Anomalies (3)
Prerequisites: Communicative Disorders 321, 340; and 50 hours of supervised practicum.
Review and analysis of research in diagnosis and therapy for persons with cleft palate and other oro-facial anomalies. Concurrent enrollment in Communicative Disorders 626 recommended.

605. Seminar in Stuttering (3)
Prerequisite: Communicative Disorders 322. Recommended: Concurrent enrollment in Communicative Disorders 626.
Differential diagnosis of stuttering. Individual and group therapy for children and adults with dysfluency problems. Concurrent registration in one unit of Communicative Disorders 626 recommended.

606. Seminar in Voice Pathology (3)
Prerequisites: Communicative Disorders 321, 324 and 401. Concurrent registration in Communicative Disorders 626.
Study of voice problems of structural and functional etiologies. Differential diagnosis of vocal anomalies. Theories and therapy for vocal problems. Concurrent enrollment in Communicative Disorders 626 required.

626. Advanced Clinical Practice in Speech Pathology (1) Cr/NC
Three hours of laboratory.
Prerequisites: A minimum of three units of Communicative Disorders 326 and/or 346; Communicative Disorders 340; departmental approval; credit or concurrent registration in appropriate seminar or courses as specified below:
A. Aphasia: Communicative Disorders 531 and 602.
B. Cerebral Palsy and Neuromotor Anomalies: Communicative Disorders 539 or 603.
C. Cleft Palate and Oro-Facial Anomalies: Communicative Disorders 604.
D. Stuttering: Communicative Disorders 322, 605.
E. Articulation: Communicative Disorders 552 or 654.
F. Language Disorders: Communicative Disorders 531, 553.
G. Voice Pathologies: Communicative Disorders 606.
Supervised work with representative advanced speech and language disabilities. Twenty-six hours practicum required per unit. Maximum credit four units. Up to three units may be taken concurrently. Maximum credit four units of Communicative Disorders 626, 645, 646 and/or 656 applicable toward the master's degree. Transfer students must enroll in one unit of Communicative Disorders 326 prior to 626.

640. Seminar in Psychoacoustics (3) I
Prerequisites: Communicative Disorders 342 and credit or concurrent registration in Communicative Disorders 600.
Psychophysical concepts underlying clinical audiology. Relationship of audiologic test results to the conditions under which they were obtained. (Formerly numbered Speech Pathology and Audiology 644.)

644. Medical Audiology (3) II
Prerequisites: Communicative Disorders 345 and credit or concurrent registration in Communicative Disorders 600.
Problems of diagnosis, referral and report writing. Testing in medical setting and medically significant hearing pathologies.
Recommended Communicative Disorders 640. (Formerly numbered Speech Pathology and Audiology 640.)

645. Advanced Clinical Practice in Audiologic Assessment (1) Cr/NC
Prerequisite: Communicative Disorders 345.
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 326, 346 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 342; 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 356, 551, 552, 553.
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 346 or 356. 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.

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.

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.

Counselor Education

Faculty

Paul Bruce, Ph.D., Professor of Counselor Education
James P. Carnevale, Ph.D., Professor of Counselor Education
John D. Chamley, Ed.D., Professor of Counselor Education, Associate Dean of the College of Education
Emery J. Cummins, Ph.D., Professor of Counselor Education (Graduate Adviser), Chair of Department
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
David D. Malcolm, Ph.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
Maria Nieto Senour, Ph.D., Professor of Counselor Education
Raymond C. Howard, Ed.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 A. 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 masters degree is offered for the School Psychologist Endorsement to the above P.P.S. 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 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.

MASTER OF SCIENCE DEGREE IN COUNSELING

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 collegiate work (these may be the applicant's own copies).
4. Scores on the Graduate Record Examination Aptitude Test. Note that receipt of the G.R.E. 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 Three 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; course work 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 meeting the requirements for classified graduate standing and the basic requirements for the master's degree, as described in Part Three 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 CnEd 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.

Part-Time Evening Block Program

The PART-TIME EVENING BLOCK PROGRAM is a program with emphasis on the development of clinical skills in counseling of a specific nature. Rather than a survey approach to many ideas about counseling with an emphasis on knowledge gained in a traditional academic manner, this program focuses on specific theories of counseling learned in depth through a laboratory, practice-oriented method.

Each PART-TIME EVENING BLOCK consists of a group of approximately 25 students who stay together for their entire course of study. They all take the same sequence of courses by the faculty and finish most of their program in counseling in six consecutive semesters (including summers). By staying together as an identified group, there can develop a camaraderie and sense of unity that tends to be lacking for many part-time graduate students. Once a Block begins, no other new students are admitted. If for some reason a student must drop out of his/her Block, transferring into the PART-TIME REGULAR PROGRAM or into the next Block program at the appropriate time is in order.

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 either 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 P.P.S. Credential through this department are required to provide evidence, in each case to the satisfaction of the relevant faculty member, that the designated competencies have been met.
3. Included as part of the above competencies is a field work requirement which involves cross-cultural field experiences with pupils of divergent age levels. The specific nature of the field work will vary according to the background of each student.
4. A master's degree is not a requirement for this credential; however, courses in the program described above may be acceptable also for the Master of Science degree in Counseling for which satisfactory completion of the Comprehensive Examination in 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 596 or 630 (Human Sexuality), 596 or 630 (psychopathology), 596 or 630 (Marriage, Family, and Child Counseling Theory), 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 more than six units of post-master's degree course work provided the 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 can be developed by completing the approved program for the Pupil Personnel Services Credential, or equivalent, and taking the courses in the School Psychology Program, which includes Counselor Education 621, 641A-641B, 720, 752, 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 Three 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.

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.

Criteria for admission require that students submit evidence in written form and through interviews demonstrating personal, professional, and academic adequacy for the Master of Science degree in Rehabilitation Counseling. Only students who show reasonable promise of success in rehabilitation counseling as a career will be admitted to this curriculum. In order to continue in the program, the student must demonstrate ongoing academic and professional growth.

A student may transfer a maximum of 30 semester units from a CORE accredited graduate program in rehabilitation counseling. Evaluation of transfer credits will be made at the time of acceptance to the program. Approval of graduate transfer credit from other programs will be at the discretion of the program director and subject to final approval by the Graduate Division.

A student who has already completed a program leading to a Master of Arts degree in Education with a concentration 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 Three 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 Three 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 680A Introduction to the Rehab Process (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)
CNED 730 Field Work in Counseling (3, 3-3, or 3-3-3)

Nine units selected from the following:

CNED 740 Practicum: Individual Counseling (3, 3-3, or 3-3-3)
CNED 750 Advanced Seminar and Practicum Indiv. Counseling (3 or 6)

Three units selected from the following:

CNED 630 Workshop in Counseling (1-3)
CNED 660L Counseling Prepracticum Laboratory (1)
CNED 670L Group Counseling Laboratory (1)

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

596. Selected Studies (1-3) I, II

Prerequisite: Consent of instructor.

A series of lecture and discussion sessions centering on current problems in counseling and guidance. Designed to serve the needs of any person desiring to keep informed of developments in this area. May be repeated with new content. 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 theories and 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: Credit 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.
Administration and interpretation of instruments and techniques for assessing learning characteristics of children from multicultural settings. 641A: Scholastic status, learning aptitudes, social-emotional maturity, interpersonal relations and behavioral adjustment. 641B: Individualized intellectual assessment of school-aged children.

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 645. Offered during summer sessions only in combination with Counselor Education 640 as 645.

650L. Career Development Laboratory (1) Cr/NC
Three hours of laboratory.
Prerequisite: Credit 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 670 as 667.

660L. Counseling Prepracticum Laboratory (1) Cr/NC
Three hours of laboratory.
Prerequisite: Credit 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: Credit or concurrent registration in Counselor Education 670.
Supervised practice in group counseling, group leadership, and other topics presented in Counselor Education 670.

680A. 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.

680B. 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.

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
Prerequisite: Counselor Education 621.
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 Amble, Ph.D., Professor of Drama
Michael Harvey, Ph.D., Professor of Drama
Gordon Howard, Ph.D., Professor of Drama
Merrill Lessley, Ph.D., Professor of Drama, Chair of Department
Margaret McKerrow, Ph.D., Professor of Drama, Graduate Coordinator
Mack Owen, Ph.D., Professor of Drama
Clarence Stephenson, Ph.D., Professor of Drama
Alicia Annas, M.F.A., Associate Professor of Drama
Joseph Bellinghiere, Ph.D., Assistant Professor of Drama
Raynette Smith, M.F.A., Assistant Professor of Drama

Assistantships

Graduate teaching assistantships in drama 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 Drama, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts degree in Drama and the Master of Fine Arts degree in the areas of costume design, lighting design, scenic design, technical theatre and musical theatre. The department offers advanced study in the various areas of drama as they relate to acting, children's theatre, directing, empirical research, playwriting, stage management and theatre history. The center for graduate students in drama on the San Diego State University campus is the Dramatic Arts Building, one of the best equipped educational theatre plants in the United States. The Dramatic Arts Building contains an adaptable mode Main Stage Theatre, seating 500, with state of the art computer lighting control and a rearrangement 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.

MASTER OF ARTS DEGREE IN DRAMA

Admission to Graduate Study

In addition to the general requirements for admission to the University with classified graduate standing, as described in Part Three of this bulletin, the student will be required to complete the departmental diagnostic examination during his first semester of graduate enrollment in the department. The examination is administered each semester on the second Saturday following the beginning of classes. Each candidate must also provide the department with three letters of recommendation.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, as described in Part Three of this bulletin. In addition, students seeking the Master of Arts degree in Drama are required to have completed Drama 600, and to have removed any deficiencies assigned as the result of the diagnostic 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 Three of this bulletin, the student must complete a graduate program of a minimum of 30 units which includes at least 24 units from courses listed below as acceptable on master's degree programs in drama, of which at least 18 units must be in 600- and 700-numbered courses. Drama 600, Research and Bibliography, Drama 647A or 647B, Seminar in History of Theatre and Drama, and Drama 799A,

Thesis or Project, are required courses. For the master's thesis, the Department of Drama provides the opportunity for a research thesis in a selected area, but does not necessarily guarantee the student a performance thesis or project.

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 Three 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 Graduate Record Examination Aptitude Test.
2. Complete the departmental diagnostic examination which is administered each semester on the second Saturday following the beginning of classes.
3. Possess a baccalaureate degree in drama with a grade point average in drama 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.
4. Complete undergraduate requirements commensurate with the proposed emphasis in the M.F.A. program.
5. Complete a minimum of six units of theatre history.
6. 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 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 and to retake the departmental diagnostic examination.

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:

1. A design portfolio, when appropriate, which contains sketches, graphics, floor plans, elevations, plots, color swatches, and photographs of productions, revealing the applicant's creative ability in the chosen area of design or technical theatre.
2. A resume which contains documentation of participation in not less than five full-length theatrical productions in an accredited college or university theatre, a professional group, or a community theatre approved by the Drama Department.
3. No less than four letters of recommendation regarding 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 representatives from Drama, Music, and Dance. For specific audition dates and requirements, write to the Director, Musical Theatre Emphasis, Department of Drama, San Diego State University, San Diego, CA 92182-0219. 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 Three 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 upon the completion of the departmental diagnostic examination.

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, such as the ability to function within a theatrical organization, acceptable artistic output, the meeting of deadlines, a demonstration of skills commensurate with the specific emphasis area, and the demonstration of the physical and mental stamina to perform under the stress of a production schedule.

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 graduate standing, must complete a 60-unit graduate program which includes a core of courses totaling 21 units as follows: Drama 600, 621, 643, 645, 646A, 646B, and 647A. In addition, six units of departmental graduate level electives are to be selected from Drama 644, 647B, 648, and 798. The student must complete 15 units of practicum, project, and thesis units under the course numbers, Drama 642, 746, 795, and 799A. Twelve elective units are to be selected from the following series of courses, with no more than six units in any one area. Those acceptable courses are Art 694, 760, 771, 775, or English 617, 632, 640, 700, 710, 720, 730, or Telecommunications and Film 602, 603, 615, or Drama 545A or 545B, 546, 551, 552, 554. Six additional units of electives are to be selected from any courses acceptable for graduate credit at the discretion of the student and his major adviser with the approval of the graduate coordinator. Upon completion of Drama 600, 642, 643, 645, 646A and 646B, the student is eligible to make application for a Project/Thesis if a 3.0 average has been maintained in those courses.

Candidates will present a written thesis (799A) with emphasis on analysis/apologia of the Drama 795 project. Candidates must pass a final oral examanation by the faculty, which will include his official thesis committee, upon the completion of all other requirements for the degree.

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 798 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 Thesis/Project under the course numbers: Drama 627, 746, 795, 799A, and Music 650D. Of these 29 units, 4 units of Drama 627 (Studio) and 1 unit of Music 650D (Voice) must be taken each semester. In addition, 11 general elective units are to be selected from the following courses: Drama 533A, 545A, 551, 645, 646A, and 646B; Music 552A, 552B, 554, 613, 648B, 652, 660; and Physical Education 653.

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.

533A-533B. Theory and Styles in Acting and Directing (3-3)
Prerequisite: Drama 231.
Acting and directing problems in theory and style related to the production of plays from great periods in theatre history, with attention to characterization, dramatic values, creative directing and production approaches. Semester I: Shakespearean tragedy and history, melodrama, and farce. Semester II: Greek tragedy, Shakespearean comedy and plays of Ibsen and Strindberg. (Formerly numbered Drama 533 and 534.)

540. Styles in Scenic Design (3) II
Prerequisite: Drama 440.
History of scenic design and the application of contemporary styles to various types of dramatic production for stage, television and cinema.

545A-545B. Stage Lighting (3-3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Drama 545A is prerequisite to 545B.
Light, color, lighting instruments, and control equipment, including the design and planning of lighting for plays.

546. Computer Systems and Special Effects Techniques in Stage and Television Lighting (3)
Two lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Drama 545B.
Functional study of computer systems in stage and television lighting with emphasis on realizing effective methods of using such systems in production.

551. Costume, Movement, and Manners (3) I
Prerequisite: Drama 250.
Interrelationship of period costumes on the movement and manners of the time and their application on the stage.

552. Costume History and Design for the Theatre (3)
Two lectures and three hours of laboratory.
Prerequisites: Drama 250 and 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) I
Two lecture-demonstrations and three hours of laboratory.
Prerequisite: Drama 250.
Period pattern drafting, draping, cutting, construction. Wig, millinery, armour, mask, accessory construction. Costume paint and dye techniques.

555. Musical Theatre Dance Repertory (2) I
Four hours of activity.
Prerequisite: Drama 327.
Musical theatre dance repertory styles and forms for the actor-singer-dancer-director as they pertain to arranged composition of a musical theatre production.

559. Musical Theatre Stage Direction: One Acts (3) II
One lecture and four hours of activity.
Prerequisite: Drama 459.
Experience and group evaluation in directing scenes and one-act musical theatre performances before departmental or public audiences; attendance at musical theatre performances and other selected musical presentations. Problems confronting a musical theatre stage director.

596. Selected Topics in Drama (1-3) I, II
Prerequisite: Twelve units in drama.
A specialized study of selected topics from the areas of drama. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES

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 Grotowsky.

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.
Entry 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 dramatics 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. Seminar in Staging Practices for Theatre and Television (3)
An investigation of the recent developments of modern staging facilities. The application of technological advances and electromechanical devices to the scenic arts for theatre and television.

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) 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 Babilot, Ph.D., Professor of Economics
Robert E. Barckley, 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
Clinton E. Jencks, Ph.D., Professor of Economics
Arthur E. Kartman, Ph.D., Professor of Economics
J. William Leasure, Ph.D., Professor of Economics
M. C. Madhavan, Ph.D., Professor of Economics
Woo H. Nam, Ph.D., Professor of Economics
Edward Neuner, Ph.D., Professor of Economics
Dean Popp, Ph.D., Professor of Economics, Graduate Coordinator
Ibrahim I. Poroy, Ph.D., Professor of Economics
Frederick D. Sebold, Ph.D., Professor of Economics
Yiannis P. Venieris, Ph.D., Professor of Economics
Raford Boddy, Ph.D., Associate Professor of Economics
Louis Green, Ph.D., Associate Professor of Economics
Amyra Grossbard-Shechtman, Ph.D., Associate Professor of Economics
John Hambleton, Ph.D., Associate Professor of Economics
Douglas Stewart, Ph.D., Associate Professor of Economics
Mark Thayer, Ph.D., Associate Professor of Economics
Roger Frantz, Ph.D., Assistant Professor of Economics
Robert Seidman, Ph.D. Candidate, Assistant Professor of Economics
Walter Vogt, 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 of 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 Three 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 Three 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 Three 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 6 units of 500-level courses. Normally a program may contain up to six units of approved courses 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 (325) 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 or 304, and 321 (325).
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)
Prerequisites: Economics 307 and 320 (324).
Recent contributions to the advanced theory of the firm, consumer demand, employment and growth.

541. Econometrics (3)
Prerequisites: 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
Prerequisite: Economics 321 or 453.
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.

558. Methods of Urban Economic Analysis (3)
Prerequisite: One course in economics.
Methods of urban economic analysis for local government staff and others interested in the urban scene; methods include economic base analysis, projection of government revenues, cost-revenue analysis, and pricing of public services; application of methods to actual issues.

561. International Trade Theory (3)
Prerequisites: Economics 320 and 321, or 324 and 325.
The pure theory of international trade and commercial policy.

562. International Economic Expansion and Dependence (3)
Prerequisite: Economics 313 or 365 or 464.
Explores various theories of imperialism and dependence, the behavior of multinational corporations, and role of state from Marxian and other perspectives. Theories examined in terms of experience of specific countries (e.g., Latin America).

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)
Prerequisite: Economics 320 (324) 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. 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.

611. Seminar in the Development of Economic Thought (3)
Prerequisite: Twelve units in economics.
A critical study of the development of economic thought.

620. Seminar in Advanced Economic Theory (3)
Prerequisites: Economics 307; 320 and 321, or 324 and 325.
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, or 324 and 325.
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.

665. Seminar in the Economics of Underdeveloped Countries (3)
Prerequisites: Economics 541 and 620.
Theories regarding underdevelopment and policies for development of economically underdeveloped countries.

680. Seminar in Labor Economics (3)
Prerequisite: Economics 380 or 482.
Individual study and group discussion of selected topics in labor economics.

696. Experimental Topics (3)
Prerequisite: Consent of instructor.
Intensive study in specific areas of economics. May be repeated with new content. Topics to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

701. Seminar in Tax Policy (3)
Prerequisites: Economics 541 and 621.
Advanced study of public finance problems with emphasis on theory of taxation and its applications.

702. Seminar in Public Expenditure Analysis (3)
Prerequisites: Economics 541 and 621.
Theory of social wants and public goods supply. Theoretical treatment of individual community preference orderings. Evaluation of public expenditures, including the use of cost-benefit analysis.

728. Seminar in Development Planning (3)
Prerequisite: Economics 541.
Role of government in development. Choice of target and policy variables. Planning techniques and their application to the national development problems.

741. Seminar in Economic Research (6)
Three hours of seminar and nine hours of independent study.
Prerequisites: Classified standing and 15 units from the approved program including Economics 541, 620 and 621.
Advanced treatment of research design and methodology. Application of empirical techniques to selected problems.

758. Seminar in Urban and Regional Economics (3)
Prerequisites: Economics 541 and 621.
Urban and regional economics; individual research and reports.

777. Seminar in Utilities and Energy Resources (3)
Prerequisite: Economics 452 or 477.
Selected topics in public utility economics and regulation, and the economics of energy resource development.

790. Seminar in Monetary Economics (3)
Prerequisite: Economics 490.
Analysis of theoretical issues associated with the demand for money, the money supply and process of money creation. Emphasis upon interaction of monetary and real factors in domestic-international money and financial markets.

795. Internship in Economics (3) Cr/NC
Prerequisites: Economics 541, 620, 621 and approval of graduate adviser.
Students will be assigned to various jobs in which economics theory can be applied to decision making. Supervision will be shared by the graduate adviser and on-the-job supervisor.

797. Research (3) Cr/NC/SP
Prerequisites: Classified graduate standing and consent of instructor.
Independent research project in an area of economics.

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.

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 and librarianship, 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 Three 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 Three 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.

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 Three 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 Three 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 690 and Plan A, which requires Education 799A, 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 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 plan, permission to transfer to Plan A may be requested. Plan A is designed for students who have a particular research problem they wish to investigate in some detail. Requests for transfer to Plan A 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.

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); SpEd 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.

Administrative Services Credential

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.

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 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)
   and
   ED 688 Workshop in Community College Education (1-6)
3. Education courses (3-6 units) selected with adviser approval.
4. Electives — 6 units selected with adviser approval. May be in cognate area.
5. Education 690 Procedures of Investigation and Report (3)
6. 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 (9 units): Education 661, Seminar in Educational Measurement; Secondary Education 564, Quantitative Methods in Educational Research; Education 691, Seminar in Educational Research Design.

4. Electives (15 units) selected with adviser's approval.
5. Education 799A, Thesis (3 units).

Educational Technology and Librarianship

The Master of Arts degree in Education with a concentration in educational technology and/or librarianship (see Library Services Credential) 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 video; and/or the administration of school library media centers. 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:

1. Prerequisite: Varies with the career goal of the student—see adviser.
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 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): Education 791A-791B, Evaluation (3-3 units); or Education 795A-795B, Seminar (3-3 units); or Education 799A, Thesis (3 units).

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 selected 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, or Elementary Education 711, Diagnostic and Prescriptive Teaching of Young Children (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 601. Philosophy of Cultural Pluralism (3)
   M ED 653. Language Policies and Practices (3)
2. ED 690. Procedures of Investigation and Report (3)
3. Core Program (18 units)
   M ED 552. Teaching Writing in Multilingual Settings (3)
   M ED 553. Oral Language Assessment Techniques (3)
   M ED 631. Teaching Reading in Bilingual Settings (3)
   M ED 650. Bilingual Cross Cultural Curriculum Development and Teaching Strategies (3)
   M ED 651. Multicultural Methods and Curriculum in Content Areas (3)
   M ED 688. Colloquium in Multicultural Education (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); or
   Plan B Education 791A-791B, Evaluation (3-3); or Education 795A-795B, Seminar (3-3).

Plan 2: Resource Specialists

1. Prerequisites:
   M ED 601. Philosophy of Cultural Pluralism (3)
   M ED 653. Language Policies and Practices (3)
2. ED 690. Procedures of Investigation and Report (3)
3. Core Program (18-21 units)
   M ED 603. Sociocultural and Community Influences in Multicultural Education (3)
   M ED 611. Multicultural Education as Social System of Society (3)
   M ED 613. Organizational Strategies and Staff Development for the Multicultural-School Community (3)
   M ED 614. Strategies for Educational Change: Development and Implementation of School Site Programs for Multicultural Education (3)
   M ED 622. Analysis and Issues in Race and Ethnic Relations: Theory, Research and Action (3)
   M ED 686. Seminar in Multicultural Education (Plan A Students) (3)
   M ED 688. Colloquium in Multicultural Education (3)
4. Electives (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); or
   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 601. Philosophy of Cultural Pluralism (3)
   M ED 653. Language Policies and Practices (3)
2. ED 690. Procedures of Investigation and Report (3)
3. Core Program (21 units)
   M ED 554. Cultural Foundations of Education (3)
   M ED 611. Multicultural Education as Social System of Society (3)
   M ED 612. Ethnographic Approach to Classroom Interaction (3)
   M ED 622. Analysis and Issues in Race and Ethnic Relations: Theory, Research and Action (3)
   M ED 623. Action-oriented Policy Research (3)
   M ED 686. Seminar in Multicultural Education (3)
   M ED 688. Colloquium 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.
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 610, Curriculum Theory and Development in Postsecondary Education (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.

Special Education

The Master of Arts degree in Education with a concentration in Special Education provides the professional educator with advanced knowledge and skills in Special Education. This degree is often earned concurrently with a California Specialist Credential in Special Education as there are many requirements in common between the programs. The master's degree can include specialization in the areas of Learning Handicapped, Severely Handicapped, Physically Handicapped, Visually Handicapped, and Gifted, as well as the Seriously Emotionally Disturbed. These programs of study are individually planned with the Graduate Adviser.

1. Prerequisites:
   A. Admission to the appropriate program within the Department of Special Education.
      (1) Complete application to department as well as to the University.
      (2) Complete GRE Aptitude Test (a minimum verbal and quantitative score of 950 is required).
      (3) A minimum GPA of 2.5 for the last 60 units attempted.
      (4) Admissions interview with faculty.
   B. A basic California Teaching Credential or a minimum of 12 units of Education course work.
   C. Completion of prerequisite course work (Special Education 471, 500, 501).
2. Core Courses (15-18)
   Special Education 600 (3)
   Special Education 670 (3)
   Special Education 680 in area of specialty (3)
   * Education 690 (3)
   * Education 791A (3) and 791B (3); or Education 795A (3) and 795B (3); or Education 799A, Thesis (3)
3. Electives (12-15 units)
   Coursework selected with the approval of the Graduate Adviser. These may include coursework completed as part of the Specialist Credential Requirements.

* In a departmentally approved section of these courses.

Teaching/Service Credentials

The College of Education offers programs which lead to teaching, specialist, and services credentials. Students who desire to seek a credential should consult with departmental advisers in order to determine their status and needed requirements. Information on these credentials is available in the offices of the several departments of the College of Education and in the Credentials Office, College of Education.

The College of Education has obtained approval for programs leading to the following credentials:

Approved Credential Programs	School Service Authorized
*1. Multiple subjects credential	Teach in any self-contained classroom, kindergarten through twelfth grade.
*2. Single subject credential	Teach single subject area in grades kindergarten through twelve.
3. Community college instructor credential	Teach in grades thirteen and fourteen, any course in an occupational or subject matter area which appears on the credential document.

* Refer to the General Catalog for a description of this program.

Specialist Credentials

- Bilingual/Cross-cultural
- Early Childhood
- Reading Specialist
- Special Education:
  - Communication Handicapped (Dept. of Communicative Disorders)
  - Physically Handicapped
  - Learning Handicapped
  - Severely Handicapped
  - Gifted
  - Visually Handicapped

Service Credentials

- Administrative Services
- Clinical Rehabilitative Services (Dept. of Communicative Disorders)
- Library
- Pupil Personnel
- School Psychology
- Health – School Nurse (School of Nursing)

Bilingual/Cross-Cultural Specialist Credential

Candidates in the credential program must possess a valid California Teaching Credential, must have completed Multicultural Education 551 or equivalent, and must successfully complete the following 27 units and a comprehensive examination. Candidates must have approval of their adviser for their course of study, and must notify their adviser for their course of study, and must notify the Credentials Office of their program.

		Units
M ED 553	Oral Language Assessment Techniques	3
M ED 601	Philosophy of Cultural Pluralism	3
M ED 602	Cross-Cultural Experience in Classroom Interaction	3
M ED 603	Sociological and Community Influences in Multicultural Education	3
M ED 650	Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies	3
M ED 651	Multicultural Methods and Curriculum in Content Areas	3
M ED 688	Colloquium in Multicultural Education	3
ED 690	Procedures of Investigation and Report Elective	3

Oral and written proficiency in English and in a second language must be demonstrated prior to completion of the Credential 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 in 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 (2)
Education 660 Advanced Educational Psychology (3)
or Education 666 Educational Psychology: Community College (2)
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 day assignment and not in summer session.

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 502, 571, 710, 711, 712, 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.
   -or-
   Possession of a basic teaching credential.
3. Interview(s) with a faculty member in the Department of Educational Technology and Librarianship.
4. Achieve a satisfactory score on the GRE Aptitude Test.

Program

The following program elements are required of all library credential candidates: (31 units.)

		Units
ETL 445	School Library Media Programs	3
ETL 483	Directed Teaching: Educational Technology and Librarianship	Cr/NC 4
ETL 532	Design and Production of Instructional Materials	3
ETL 540	Educational Technology	3
ETL 546	Basic Reference Materials	3
ETL 547	Selection of Instructional Materials	3
ETL 548	Cataloging and Classification	3
ETL 675	Seminar in the Administration of Instructional Media Centers	3
ETL 678	Literature for Children	3
ETL 679	Literature for Adolescents	3
	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. For information concerning this credential, the student is referred to the Clinical Training Center.

Requirements for Admission

1. A valid California basic teaching credential applicable within the range of grades kindergarten to 12.
2. Admission and planning interviews with a program adviser.
3. An approved basic course in methods and materials for teaching reading.

Program

		Units
ED 511	Reading Diagnosis	3
ED 621	Advanced Diagnosis in Reading, to be taken concurrently with ED 625B, Interpersonal/ Interdisciplinary Communication Skills	3 1
ED 631	Reading Clinic (Must be taken concurrently with ED 652A.)	3
ED 690	Procedures of Investigation and Report	3
ELED 611	Seminar in Reading in Elementary Education, *or*	
SECED 681	Seminar in Secondary School Reading	3
ED 652	Topics in Reading Education. Three required categories:	3
	652A Linguistic/Cultural Difference and Reading.	
	652B Interpersonal/Interdisciplinary Communication Skills.	
	652C Children/Young Adult Literature; Oral and Creative Responses to Reading.	4
ED 701	Field Experience for the Reading Specialist	7
Electives		

Additional Requirements

1. A minimum of one year of full-time teaching experience (or the equivalent) within the range of grades kindergarten to 12.
2. Satisfactory completion of a comprehensive examination covering the program course work.

A master's degree is not a requirement for this credential; however, courses in the program described above may be acceptable also for the Master of Arts in Education degree with a concentration in Reading Education. The 7 units of electives for this credential must be selected with the approval of a reading program adviser. Education 795A and 795B may be taken as elective units for the credential, as may up to three additional units of Education 652, Topics in Reading Education.

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 coursework requirements for the M.A. degree.

Requirements for Admission

1. Admission to the appropriate program within the Department of Special Education.
   a. Complete application to department as well as to the University.
   b. Complete GRE Aptitude Test (a minimum verbal and quantitative score of 950 is required).
   c. A minimum GPA of 2.5 for the last 60 units attempted.
   d. Admissions interview with faculty.
2. A basic California Teaching Credential.
3. Completion of prerequisite coursework (Special Education 471, 500, 501, and specific specialty program prerequisites: Special Education 505E for the Visually Handicapped program and one course in Human Growth and Development, approved by an adviser, for Severely Handicapped; 9-12 units).

Program

1. Core Courses
   Special Education 600
   * Education 690

2. Specialization Courses
   a. Learning Handicapped: (26 units) Special Education 480A (4 units), 505A, 510A, 512A, 514A, 514B, and 6 units of electives.
   b. Severely Handicapped: (28 units) Special Education 480B (8 units), 505B, 505C, 510B, 511B, 512B, and 2 units of electives.
   c. Physically Handicapped: (28 units) Special Education 480C (8 units), 505C, 507, 510A, 512C, 513A, or 513B, 514A, 514B, and 1 unit of electives.
   d. Gifted: (20 units) Special Education 480D (2 units), 505D, 622, and 9 units of electives.
   e. Visually Handicapped: (32 units) Special Education 480E (8 units), 510D, 511E, 512D, 520, 521, 523.

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* In a departmentally approved section of this course.

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, 541, 571 plus three units from Educational Technology and Librarianship 544, 553, or 596.

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, race 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
Prerequisites: Educational Technology and Librarianship 571; admission to a credential program or a teaching credential or experience in teaching.
Using the computer, especially the microcomputer, as an instructional tool. Programming techniques and instructional design.

596. Workshop in Adult Education (1-3) II
Prerequisite: Possession of a valid teaching credential.
Designed to meet the needs of individuals or groups of adult educators who wish to study special problems in adult education. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

UPPER DIVISION COURSE IN READING

511. Reading Diagnosis (3)
Two lectures and three hours of laboratory.
Prerequisites: Valid teaching credential and consent of instructor.
Diagnosis of reading difficulties and exploration of remedial techniques.

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 621.)

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 instruction. 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 or an elective category (D). 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
D. Elective Category

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, 666 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.
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 (2)
Prerequisites: Education 666 and concurrent registration in Education 700.
The teaching process at the community college level, including lesson planning, utilization of audiovisual and other instructional materials, 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.

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.

666. Educational Psychology: Community College (2)
Prerequisite: Credit or concurrent registration in Education 680.
The nature of the community college student; the learning process, including contributions of audiovisual materials. The functions of student personnel services in the community college.

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. (Formerly numbered Secondary Education 618.)

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) I
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 maintaining traditional roles. (Formerly numbered Secondary Education 685.)

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 383.
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 383.
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 infuuences 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.

691. Seminar in Educational Research Design (3)
Prerequisite: Education 690.
Principles and methods of planning and conducting systematic investigations of educational problems—including historical, descriptive and experimental methods of research. Practice in the definition of problems, formulation of hypotheses, construction of samples, control of variables, and interpretation of results.

700. Directed Teaching: Community College (4) Cr/NC
Prerequisites: Education 666 (not required for psychology majors) and 680, approval of the Community College Admissions Committee, and concurrent registration in Education 630.
Systematic observation, participation, and teaching under supervision in a community college. A weekly seminar or conference 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 (1-6) Cr/NC
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.

A. Community College Education
Prerequisites: Education 660 or 666, 680 and teaching or administrative experience in a community college.

B. School Nursing
Prerequisites: Secondary Education 667, Special Education 500, Health Science 520, Communicative Disorders 205.

730. Seminar in Adult Learning
Prerequisite: Education 610.
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 lecture 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.

795A-795B. Seminar (3-3)
Prerequisites: Education 690 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.

797. Research (1-3) Cr/NC/SP
Prerequisites: Education 690 and advancement to candidacy.
Research in one of the fields of education. 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.

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.
Social and cultural parameters that have contributed to the shaping of American society and affected developments in education in the last two decades. Emphasis on the impact on multicultural education and human social behavior in pluralistic societies.

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.

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, curricular development, implementation and evaluation. Attention given to innovative programs and to role and process of legislation in curricular change.

812. Planning and Supervising Programs for Persons With Special Needs (3)
Prerequisites: Completion of M.S. in Rehabilitation Counseling, M.S. in Counsel or Education, or M.A. in Special Education; Admission to the Doctoral Program; and consent of the Graduate Coordinator.
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, 690, 691, 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 810 and 820 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.

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.

Educational Administration

Faculty

Howard B. Holt, Ed.D., Professor of Educational Administration
Raymond F. Latta, Ph.D., Professor of Educational Administration, Chair of Department
Alfred Merino, Ph.D., Professor of Educational Administration
William H. Wetherill, Ph.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 660A-660B.
Analysis of theories and practices in the administration and supervision of the elementary school.

650A-650B-650C. Seminar in Secondary School Administration and Supervision 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.

700. Seminar in Legal and Financial Aspects of School District Management (3)
Prerequisites: Teaching credential, and Educational Administration 600, 610, 620, 630.
Principles and practices of law and finance as an aspect of school business administration, school plant planning and development, and the operation and maintenance of school facilities and services.

710. Seminar in School-Community Relationships (3)
Prerequisites: Teaching credential, and Educational Administration 600, 610, 620, 630.
Sociological aspects of school administration with particular emphasis on broad social policy, contemporary issues, community-school relationships, other social and service agencies of the community.

730. Seminar in District Curriculum Development, Evaluation and Improvement (3)
Prerequisites: Teaching credential, and Educational Administration 600, 610, 620, 630.
School district curricular development from kindergarten through community college, relationships of the superintendent and central administrative staff to regular staff and supervisory staff.

740. Advanced Seminar in Educational Administration (3)
Prerequisites: Teaching credential and Educational Administration 700, 710, 730.
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.

750. Seminar in Educational Facilities Planning (3) Cr/NC
Prerequisite: Possession of an administrative credential.
Development of new and/or remodeling of old educational facilities from the planning stage to complete utilization. (Formerly numbered Educational Administration 750B.)

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 and Librarianship

Faculty

Patrick J. Harrison, Ph.D., Professor of Educational Technology and Librarianship, Chair of Department
Allison Rossett, Ed.D., Professor of Educational Technology and Librarianship
Bernard J. Dodge, Ph.D., Assistant Professor of Educational Technology and Librarianship
T. Wayne McAllister, M.A., Assistant Professor of Educational Technology and Librarianship
David M. Sharpe, Ed.D., Assistant Professor of Educational Technology and Librarianship
Mary Jean Weir, Ph.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
Six hours of activity.
Role of instructional systems development in education and training. Issues in instructional technology, self-instructional programs, competency-based instruction, new technologies of instruction and training.

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
Nine hours of laboratory.
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.

549. Ethnic Materials for Children and Young People (3)
Six hours of activity.
Survey and evaluation of instructional material for children and young people of varied ethnic and cultural groups. Opportunity for selective and critical in-depth reading, listening, viewing, analysis and evaluation.

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 inservice students: Information Systems 180 or Mathematics 107 or Engineering 120.
Introduction to uses of computers in education and training. History, present and future hardware and software, social impact, costs, interface between instruction and software development, and survey of computer applications in education and training.

578. Children's Literature on Film (3)
Six hours of activity.
Current and classic children's literature as expressed on film. Selection criteria, sources, and identification of guidance and film-related activities.

596. Workshop in Educational Technology and Librarianship (1-3)
Selected problems in educational technology and librarianship. Maximum credit six units. See Class Schedule for specific content.

GRADUATE COURSES IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP

641. Instructional Graphic Communication (3)
Six hours of activity.
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)
Six hours of activity.
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.

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. Problemsolving 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 areas, 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

Evans Anderson, Ed.D., Professor of Elementary Education
George J. Becker, Ph.D., Professor of Elementary Education
Marlowe J. Berg, Ph.D., Professor of Elementary Education (Graduate Adviser)
Houston Burnside, Ph.D., Professor of Elementary Education
Carol M. Charles, Ph.D., Professor of Elementary Education
Rosalie E. Elliott, 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
Patrick J. Groff, Ed.D., Professor of Elementary Education
Wayne O. Hill, Ed.D., Professor of Elementary Education
Harry E. Huls, Ph.D., Professor of Elementary Education
James E. Inskeep, 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
Thomas S. Nagel, Ph.D., Professor of Elementary Education
Robert R. Nardelli, Ph.D., Professor of Elementary Education, Acting Dean of the College of Education
James N. Retson, 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
Richard E. Servey, 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, Chair of Department
John W. Wilding, Ed.D., Professor of Elementary Education
Patricia T. Botkin, Ed.D., Associate Professor of Elementary Education
Margaret A. Clark, Ed.D., Associate Professor of Elementary Education
Pamela J. Conlon-Ross, Ph.D., Associate Professor of Elementary Education
David H. Ford, Ed.D., Associate Professor of Elementary Education
James M. Kaatz, Ed.D., Associate Professor of Elementary Education
Jack D. Mooers, 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
Corinne F. Klann, M.A., Assistant Professor of Elementary Education
Alba G. Thompson, M.S., 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."

523. Classroom Diagnosis and Remediation of Underachievers in Mathematics (3)
The assessment and remediation of underachievers in mathematics. Techniques in determining difficulties in mathematics and prescribing remedial work; for use by elementary and secondary classroom teachers and mathematics education specialists.

526. Arts and Crafts for Teachers: A Multicultural Approach (3)
One lecture and four hours of activity.
Prerequisite: Twelve units of education.
Art Histories and craft traditions from world cultures. Creation of instructional materials from different cultural sources. Not open to students with credit in Education or Elementary Education 596 "Multicultural Arts and Crafts."

532. Discipline and Classroom Management (3) I, II
Prerequisite: Six upper division units in education, psychology, or sociology.
Analysis of research and theories of classroom discipline, management, and teaching effectiveness, with practical application to the elementary classroom setting.

550. Teaching the Special Child in the Regular Classroom (2)
Prerequisite: Teaching credential or admission to elementary education.
Knowledge, skills, and instructional programs for teaching handicapped students in the regular classroom. Meets the mainstreaming requirements for the California Multiple Subjects Credential (clear). Not open to students with credit in Special Education 550 "Teaching the Special Child in the Regular Classroom." Field work required.

562. Measurement and Evaluation in Elementary Education (3) Irregular
The use of intelligence and achievement tests in the diagnosis and improvement of learning; construction of objective examinations; problems of evaluation in education; the elements of statistical techniques.

571. Seminar in Child Development (3) I, II, S
Prerequisite: One course in child development.
Patterns in human development, especially in children ages eight and younger. Interpreting child development to differentiated staff, paraprofessionals, parents and community members. Planning for continuous progress. Reporting progress to parents.

596. Workshop in Elementary Education (1-6) I, II, S
To meet the needs of individuals or groups of teachers who desire to study selected problems in elementary education. The observation of classroom teaching or other suitable demonstrations will be provided for members in attendance. Interested persons should contact the Coordinator of Elementary Education. May be repeated with new content for more than six units. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

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 developmental sequences 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.

711. Diagnostic and Prescriptive Teaching of Young Children (3)
Prerequisite: One course in educational psychology.
Diagnosing learning needs of young children. Planning varied activities which match learning needs. Evaluation of objectives and pupil attainment. Teaching strategies for children eight and younger.

712. Community Involvement in Early Childhood Education (3)
Parent and community involvement in goalsetting, policy formation and instruction. Cultural influence on communicative skill development, personal identity and value acquisition. Identifying and utilizing community resources for early childhood education programs.

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; to be arranged with department chair and instructor. May involve fieldwork.
Individual study. Maximum credit six units applicable on a master's degree.

Multicultural Education

Faculty

Ricardo J. Cornejo, Ph.D., Professor of Multicultural Education
Henry T. Trueba, Ph.D., Professor of Multicultural Education
Alberto M. Ochoa, Ed.D., Associate Professor of Multicultural Education
Ana Maria Rodriguez, Ed.D., Associate Professor of Multicultural Education, Chair of Department
Ruben Espinosa, Ph.D., Assistant Professor of Multicultural Education
Natalie A. Kuhlman, Ph.D., Assistant Professor of Multicultural Education

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 sociolinguististics 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

601. Philosophy of Cultural Pluralism (3)
Prerequisite: Multicultural Education 551.
Theoretical, sociocultural, linguistic, legal and educational foundations of a culturally pluralistic philosophy of education; comparison with other educational philosophies; study of their implications for the education of ethnolinguistic minority children. (Formerly numbered Education 550.)

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. Ethnographic Approach to Classroom Interaction (3)
Prerequisite: Multicultural Education 554.
Interpersonal interaction in classrooms via analysis of linguistic, paralinguistic, kinesic, and proxemic 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 601.
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.

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 interracial harmony, domestically and internationally.

623. Action-Oriented Policy Research (3)
Prerequisite: Education 690.
Policy 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.

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 (3) Cr/NC
Overview of five major areas of multicultural education: philosophy, socio-cultural awareness, oral language assessment, curriculum and research. Preparation for comprehensive exam.

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.

Secondary Education

Faculty

Robert S. Ackerly, Ed.D., Professor of Secondary Education
Sally Anthony, Ed.D., Professor of Secondary Education
Lester A. 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
Clyde Crum, Ed.D., Professor of Secondary Education
Joan F. Curry, Ed.D., Professor of Secondary Education
Joseph B. Duckworth, Professor of Secondary Education
Paul Erickson, Ed.D., Professor of Secondary Education
Robert T. Gray, Ed.D., Professor of Secondary Education
Philip Halfaker, Ed.D., Professor of Secondary Education
Diane K. Lapp, 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. McLevie, Ph.D., Professor of Secondary Education, Chair of Department
Doris A. Meek, Ed.D., Professor of Secondary Education
Robert B. Pehrson, Ph.D., Professor of Secondary Education
Gerald A. Person, Ph.D., Professor of Secondary Education
Marvin H. Platz, Ed.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
Sigurd Stautland, Ph.D., Professor of Secondary Education
Mark Steckbauer, Ed.D., Professor of Secondary Education
Charlotte B. Yesselman, Ph.D., Professor of Secondary Education
Nicholas C. Altamura, Ph.D., Associate Professor of Secondary Education
Robert Behm, Ph.D., Associate Professor of Secondary Education
James Flood, Ph.D., Associate Professor of Secondary Education
Jaime L. Lujan, Ph.D., Associate Professor of Secondary Education
Cynthia Darche Park, 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. Workshop 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 (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.

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)
Prerequisites: Consent of the Coordinator of Secondary Education and instructor.
Individual study by graduate students who have demonstrated exceptional ability. 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.

790. 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.

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.

Special Education

Faculty

Patricia Cegelka, Ed.D., Professor of Special Education, Chair of Department
Donald Doorlag, Ph.D., Professor of Special Education
Leif Fearn, Ed.D., Professor of Special Education
Shirley Forbing, Ed.D., Professor of Special Education
Donavon McClard, Ph.D., Professor of Special Education
Arthur Singer, Ph.D., Professor of Special Education (Graduate Adviser)
Anita Archer, Ph.D., Associate Professor of Special Education
Richard Brady, Ph.D., Associate Professor of Special Education
Rena Lewis, Ph.D., Associate Professor of Special Education
Ellie Lynch, Ph.D., Associate Professor of Special Education
Ida Malian, Ph.D., Associate Professor of Special Education
Sally Deitz, Ph.D., Assistant Professor of Special Education
Lynn Fox, Ph.D., Assistant Professor of Special Education
Ian Pumpian, Ph.D., Assistant Professor of Special Education

UPPER DIVISION COURSES IN SPECIAL EDUCATION

500. Exceptional Individuals (3) I, II, S
Three lectures/fieldwork.
Principles, procedures and techniques in identifying and programming for exceptional students. Historical, philosophical and legal background which affect current special education practices.

501. Special Education Procedures and Interpersonal Processes (3) I, II, S
Prerequisite: Credit or concurrent registration in Special Education 500.
Introduction to procedures, legal requirements, and interpersonal processes in the identification, prescription, teaching and evaluation of instructional programs for handicapped students.

505. Characteristics and Education of Exceptional Individuals (3)
Prerequisite: Credit or concurrent registration in Special Education 471, 500 and 501.
Review of research, educational programs, curriculum approaches and characteristics of individuals in the area of exceptionality. Historical, philosophical, developmental, sociological, psychological, behavioral and environmental perspectives of the exceptionality.
May be taken in each of the areas of exceptionality:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Visually Handicapped
E. Emotionally Disturbed
F. Multicultural Learning Handicapped
G. Gifted

506. Law and Special Education (2)
Prerequisites: Special Education 471, 500, 501.
Laws, litigation, and the legislative process affecting special education of handicapped students. Knowledge of legal rights and due process for students and teachers. Current issues and trends in special education law.

507. Adaptive Equipment for the Severe Physically Handicapped (3)
Prerequisite: Credit or concurrent registration in Special Education 505C.
Use and simple maintenance of wheelchairs, prone-standers, positioning equipment and other devices used in classrooms for the severe physically handicapped. Purchase, design, construction and modification of school equipment for use by the physically handicapped. Study of legal requirements and liability.

510. Assessment and Evaluation of Exceptional Individuals (3) I, II
Prerequisites: Special Education 501 and 505 in area of specialization. For 510D, Special Education 471, 500, 501; concurrent registration in Special Education 480.
Tests and procedures for assessing, evaluating and monitoring progress of exceptional individuals to meet their physical, intellectual, social, and emotional needs. Problems in the psychoeducational diagnosis and appraisal. Utilization of assessment procedures for the educational and rehabilitation program.
May be taken in each of the areas of specialization.
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
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, 510 in area of specialization. For 511E, Special Education 471, 500, 501; concurrent registration in Special Education 480.
Utilization of data for determining general and specific objectives to meet the needs unique to exceptional individuals. Developing and selecting materials and procedures for the achievement of these objectives. Establishing procedures for monitoring and evaluating pupil progress.
May be taken in each of the areas of specialization.
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted
E. Visually 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
D. Visually Handicapped (Formerly numbered SPED 512E.)

513. Dynamics of Behavior Change and the Exceptional Individual (3) I, II
Prerequisite: Special Education 501.
Management and treatment of individuals with exceptional needs. Current theories and programs in behavioral change studies analyzed with reference to their applications for the educational environment.
May be taken in each of the areas of specialization:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted

514. Curriculum and Instruction Learning Handicapped (2)
Prerequisites: Special Education 505A, 510A.
Utilization of data for determining general and specific objectives to meet the needs of learning handicapped students. Developing and selecting materials and procedures for the achievement of these objectives. Establishing procedures for monitoring and evaluating pupil progress.
May be taken in each of these areas:
A. Elementary Learning Handicapped
B. Secondary Learning Handicapped

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, tactual, visual, and kinesthetic senses in mobility skills for the visually handicapped. Acquisition of basic orientation and mobility skills in simulation.

523. Multihandicapped/Blind and Early Intervention (3)

Prerequisites: Special Education 471, 500, 501; concurrent registration in Special Education 480; consent of instructor and admission to visually handicapped program.

Curricula, teaching methods, and assessment procedures for the multihandicapped populations. Materials for low-functioning visually handicapped students of all ages. Early intervention, counseling, activities for stimulation.

596. Workshop in Special Education (1-4) I, II

Curriculum and methods of teaching in an area of exceptionality; observation of demonstration class; development of materials of instruction. May be repeated once in a second area of exceptionality. See Class Schedule for specific content. Maximum credit six units applicable on any degree. (Formerly numbered Special Education 550.)

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. Special Education 500 and 501 (3)

Prerequisites: Elementary Education 362 and 372.

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. Offered in four categories:

A. Consultation Skills/Multidisciplinary Teams
B. Affective and Social Development
C. Specialized Assessment Techniques
D. Instructional 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.

Nature and educational needs of students in area of exceptionality. 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

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.

771. Directed Internship: Special Education (4) Cr/NC

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.

Engineering

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 Three of this bulletin. Candidates for admission to Civil Engineering and Electrical 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 Three 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 a s described in Part Three 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 conference 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)
EM 601. Advanced Dynamics (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.

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.
Selected topics from vector calculus, partial differential equations, and complex analysis, with engineering applications.

511. Digital Solutions of Engineering Problems (3) I, II
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.

596. Advanced Engineering Topics (1-3) I, II
Prerequisite: Minimum grade point average of 2.5 in engineering or approval of the instructor.
Modern developments in engineering. See Class Schedule for specific content. Maximum credit six units for any combination of Engineering 496, 499 and 596.

Aerospace Engineering and Engineering Mechanics

Faculty

John F. Conly, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics, Chair of Department
Sangiahnadar Dharmarajan, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Govindarajalu Krishnamoorthy, Ph.D., Professor of Engineering Mechanics
Robert D. McGhie, 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
Kuo Chang Wang, Ph.D., Professor of Aerospace Engineering
Dale F. Moses, Ph.D., Associate Professor of Aerospace Engineering (Graduate Adviser)

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, 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.
Kinematics of fluid motion. Conservation of mass, momentum, and energy. Ideal and viscous flows and applications. Boundary layer approximations.

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, magnetofluidmechanics, rarified 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.
Trans-sonic 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 engineering problems. Moving reference axes, generalized coordinates, Lagrangian 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 theorem; compatibility conditions; flexure and torsion.

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 Newtonian fluids. Navier-Stockes equations. Couette and Poiseuille flow. Potential flow. 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)
Prerequisite: 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)
Prerequisite: Engineering Mechanics 621.
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.

Civil Engineering

Faculty

Howard H. Chang, Ph.D., P.E., Professor of Civil Engineering
Fang-Hui Chou, Ph.D., P.E., Professor of Civil Engineering, Assistant Dean of the College of Engineering
Philip E. Johnson, M.S., P.E., Professor of Civil Engineering
Iraj Noorany, Ph.D., P.E., Professor of Civil Engineering (Graduate Adviser), Chair of Department
Sanford H. Stone, M.S., P.E., Professor of Civil Engineering
Frank S. Stratton, Ph.D., P.E., Professor of Civil Engineering
James H. Banks, Ph.D., Associate Professor of Civil Engineering
Victor M. Ponce, Ph.D., Associate Professor of Civil Engineering
M. Nazmi Sharabi, Ph.D., Associate Professor of Civil Engineering
Richard J. Fragaszy, Ph.D., P.E., Assistant Professor of Civil Engineering
Bruce D. Westermo, Ph.D., Assistant Professor of Civil Engineering
Houshang Dezfulian, Ph.D., Lecturer in Civil Engineering

UPPER DIVISION COURSES IN CIVIL ENGINEERING

518. Advanced Surveying and Photogrammetry (3)
Two lectures and three hours of laboratory.
Prerequisite: Civil Engineering 218 with minimum grade of C.
Theory and application of precise control surveys; specialized survey operations. Principles of metrical photogrammetry as applied to engineering. Map compilation from aerial photographs.

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.

555. Water and Wastewater Engineering (2) I, II
Prerequisite: Civil Engineering 355 with minimum grade of C.
Examination of water and wastewater. Physical, chemical and biological methods of treatment. Advanced waste treatment processes. Water reclamation.

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.
Development of matrix methods for the analysis of structural systems. Force methods, displacement methods. Application of the digital computer to structural analysis.

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.
Computational methods applied to hydraulics and hydrology. Explicit and implicit schemes for solving hyperbolic problems. Method of characteristics. One- and two-dimensional nonsteady open channel flow simulation.

634. Surface Water Hydrology (3)
Prerequisite: Civil Engineering 445.
Hydrologic systems. Physical hydrology. Kinematic wave theory. Diffusion and dynamic wave theories. Watershed and stream channel routing. Hydrologic simulation.

635. Water Quality Engineering (3)
Prerequisite: Civil Engineering 555 with minimum grade of C.
Development of water quality criteria. Survey of current methods of water treatment, wastewater treatment and water renovation. Economic considerations of water quality management.

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.

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.
Advanced theories of soil bearing capacity and stress distribution in soils. Analysis and design of foundations and retaining walls. Shallow foundations, piles, piers and caissons. Design of foundations for dynamic loads. Dewatering and other field problems.

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)
Prerequisites: 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.
An intensive study in soil mechanics and foundation engineering. Maximum credit six units applicable on a master's degree.

785. Seminar in Construction Engineering (2 or 3)
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.
An intensive study in construction engineering. Maximum credit six units applicable on a master's degree.

796. Advanced Topics in Civil Engineering (2 or 3)
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 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.

Electrical and Computer Engineering

Faculty

Huseyin Abut, Ph.D., Professor of Electrical and Computer Engineering
Fredric J. Harris, M.S.E.E., P.E., Professor of Electrical and Computer Engineering
Alexander Iosupovicz, Ph.D., Professor of Electrical and Computer Engineering
Vincent R. Learned, Ph.D., Professor of Electrical and Computer Engineering
Long C. Lee, Ph.D., Professor of Electrical and Computer Engineering
Mao S. Lin, Ph.D., Professor of Electrical and Computer Engineering (Graduate Adviser), Chair of Department
Chester R. Lodge, Ph.D., Professor of Electrical and Computer Engineering
Gail A. Massey, Ph.D., Professor of Electrical and Computer Engineering
Donald L. Skaar, M.S.E.E., P.E., Professor of Electrical and Computer Engineering
William L. Brown, E.E., P.E., Associate Professor of Electrical and Computer Engineering
Ching-ten Chang, Ph.D., Associate Professor of Electrical and Computer Engineering
Richard L. Mann, M.S.E.E., P.E., Associate Professor of Electrical and Computer Engineering
Leonard R. Marino, Ph.D., Associate Professor of Electrical and Computer Engineering
Nicholas Panos, M.S.E.E., P.E., Associate Professor of Electrical and Computer Engineering
Robert J. Stuart, Ph.D., Associate Professor of Electrical and Computer Engineering
Kadayam S. Thyagarajan, Professor of Electrical and Computer Engineering
Assistant Professor of Electrical and Computer Engineering

UPPER DIVISION COURSES IN ELECTRICAL ENGINEERING

503. Computer Hardware Organization (3)
Prerequisites: 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, backward, breakdown, multilayer and varactor diodes; silicon controlled rectifiers and switches, unijunction 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, strip line circuits, electromagnetic radiation.

540L. Microwave Measurements Laboratory (1) II
Three hours of laboratory.
Prerequisites: Credit or concurrent registration in Electrical Engineering 430L and 540.
Experimental study of microwave generation including klystrons, Gunn and IMPATT oscillators. TWT and microwave transistor amplifiers. Microwave modulation and detection. Microwave transmission and antennas.

553. Stochastic Signals (3) II
Prerequisite: Engineering 310 or Mathematics 340A.
Random signals, correlation functions, power spectral densities, the Gaussian process, narrow band processes. Applications to communication systems.

554. Communication Principles and Circuits (3) I, II
Prerequisite: Electrical Engineering 430.
Signal transmission in linear networks; modulators and detectors; wide-band and narrow-band amplifiers; oscillators; AM, FM, and phase modulation; transient response of amplifiers.

554L. Communication Circuits Laboratory (1) I
Three hours of laboratory.
Prerequisite: Electrical Engineering 430L.
Regulated power supply systems; oscillator, modulator, detector, and switching circuits; superheterodyne receivers and television circuitry.

555. Modulation Theory (3) I
Prerequisite: Electrical Engineering 410.
Theory and performance characteristics of modulation and demodulation; spectral characteristics and noise performance of carrier systems: amplitude, frequency and phase, pulse coded, and compound modulation.

570. Advanced Digital Circuits (3) II
Prerequisite: Electrical Engineering 470.
Digital applications of linear devices, the digital/analog interface, and ultra high speed logic devices.

571. Synchronous Sequential Circuits (3) I
Prerequisite: Electrical Engineering 373.
Systematic design of high speed synchronous sequential circuits, using standard logic elements and microprogrammable bit slice modules.

573. Computer Organization (3) I, II
Prerequisites: Engineering 120 or Mathematics 107, and Electrical Engineering 370.
Data and information structure, machine and assembly language programming, arithmetic and control units microprogramming, memory devices, input-output devices, channels and operating systems concepts. Not open to students with credit in Electrical Engineering 371 or 373.

575. Microprocessors (3) I, II
Prerequisites: Electrical Engineering 470 and 573.
Microprocessor organization and operation. Comparative analysis of commercially available microprocessors. Circuit design and programming of microprocessor-based computing and controller systems. Not open to students with credit in Electrical Engineering 475.

580. Modern Power Systems I (3) I
Prerequisites: Engineering 310, Electrical Engineering 310 and 380.
Modern power system elements; calculation of load flow, fault currents, and system stability.

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.

630. Synthesis of Active and Passive Networks (3)
Prerequisites: Electrical Engineering 410 and 430.
Frequency-domain synthesis of driving point and transfer impedances in passive and active networks. Canonical forms and network equivalents. Time-domain synthesis and considerations of pulsed-data 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.

645. Antennas and Propagation (3)
Prerequisite: Electrical Engineering 540.
Impedance characteristics and radiation patterns of thin linear antenna elements; field intensity 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. Intersymbol 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, and windows. Fast Fourier transforms. Generalized linear filtering; Cepstral analysis and deltic loops.

670. Microprogramming (3)
Prerequisite: Electrical Engineering 573.
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 573.
Control programs, interrupt procedures, I/O programming techniques, interfaces, channels, magnetic recording techniques, I/O devices.

672. Minicomputer Design and Applications (3)
Prerequisite: Electrical Engineering 573.
Current minicomputer architectures. CPU-oriented and universal bus-oriented machines.

676. Fault Tolerant Computing (3)
Prerequisites: Electrical Engineering 370 and 573.
Triple modular redundancy, standby sparing, quaded logic, parity and residue checking of computer systems and subsystems. Diagnostic programming and fault testing fundamentals.

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 573.
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.

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. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of department chair.
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 be registered in the course when the completed thesis or project is granted final approval.

Mechanical Engineering

Faculty

Robert L. Bedore, M.S., P.E., Professor of Mechanical Engineering, Chair of Department
George T. Craig, Ph.D., Professor of Mechanical Engineering
Richard A. Fitz, Ph.D., Professor of Mechanical Engineering
Nihad A.L. Hussain, Ph.D., Professor of Mechanical Engineering, Associate Dean of the College of Engineering
George Mansfield, P.S., P.E., Professor of Mechanical Engineering
Charles Morgan, M.S., P.E., Professor of Mechanical Engineering
Robert J. Murphy, Ph.D., P.E., Professor of Mechanical Engineering
Basil Ohnysty, M.S., P.E., Professor of Mechanical Engineering (Graduate Adviser)
Singiresu S. Rao, Ph.D., Professor of Mechanical Engineering
John G. Pinto, Ph.D., Associate Professor of 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: Engineering 510 and credit or concurrent registration in Mechanical Engineering 512.
Analysis of the dynamic characteristics of control components and systems. Stability and response of closed loop systems. Design of control systems.

540. Nonmetallic Materials (3)
Two lectures and three hours of laboratory.
Prerequisite: Mechanical Engineering 340.
Fundamentals of plastics, reinforced plastics, and ceramics. Analysis of effect of physical properties upon selection of a material for use in design.

580. Elements of Energy Conversion (3)
Prerequisite: Mechanical Engineering 350.
Principles of physics and chemistry applied to the analysis of a broad spectrum of energy conversion devices from an engineering point of view.

582. Thermal Environmental Engineering (3)
Prerequisite: Mechanical Engineering 470.
Psychrometrics. Mass transfer. Two-phase flow. Heat transfer. Thermoelectric refrigeration. Change of phase.

584A-584B. 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.
Classical Optimization Techniques, Digital Computer Methods of Optimization, Design Decision Theory, Reliability in Design.

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, isolater 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 macroscopic 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: Engineering 510 and Mechanical Engineering 470.
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.
Radiation Heat Transfer, Solar Radiation, Multimode Heat Transfer in Systems that involve change of phase.

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)
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 gradute 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 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. Brashers, Ph.D., Professor of English and Comparative Literature
Jerry D. Bumpus, M.F.A., Professor of English and Comparative Literature
Glover T. Davis, 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
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
Suzanne Henig, Ph.D., Professor of English and Comparative Literature
Karl Keller, 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
James Rother, Ph.D., Professor of English and Comparative Literature
George W. Sanderlin, Ph.D., Professor of English and Comparative Literature, Graduate Coordinator
Glenn A. Sandstrom, 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
Harry C. Stiehl, Ph.D., Professor of English and Comparative Literature
Lowell Tozer, Ph.D., Professor of English and Comparative Literature
Kermit Vanderbilt, Ph.D., Professor of English and Comparative Literature
Kingsley Widmer, Ph.D., Professor of English and Comparative Literature
Roberta F. Borkat, Ph.D., Associate Professor of English and Comparative Literature
Ruth M. C. Brown, Ph.D., Associate Professor of English and Comparative Literature
Gerald J. Butler, Ph.D., Associate Professor of English and Comparative Literature
Frances S. Foster, Ph.D., Associate Professor of English and Comparative Literature
Ronald J. Gervais, Ph.D., Associate Professor of English and Comparative Literature (Graduate Adviser)
James C. Hinkle, M.A., Associate Professor of English and Comparative Literature
Richard C. Kohler, Ph.D., Associate Professor of English and Comparative Literature
Lawrence F. McCaffery, Ph.D., Associate Professor of English and Comparative Literature
Prescott A. Nichols, Ph.D., Associate Professor of English and Comparative Literature
Mary E. Redding, Ph.D., Associate Professor of English and Comparative Literature
Robert W. Redding, Ph.D., Associate Professor of English and Comparative Literature
William N. Rogers II, Ph.D., Associate Professor of English and Comparative Literature (Graduate Adviser)
Richard R. Rush, Ph.D., Associate Professor of English and Comparative Literature
Ita G. Sheres, Ph.D., Associate Professor of English and Comparative Literature
Donald A. Shojai, Ph.D., Associate Professor of English and Comparative Literature (Graduate Adviser)
Hawley C. Taylor, Ph.D., Associate Professor of English and Comparative Literature
Jacqueline D. Tunberg, Ph.D., Associate Professor of English and Comparative Literature
Carey G. Wall, Ph.D., Associate Professor of English and Comparative Literature

663. Boundary Layers in Internal Flows (3)
Prerequisites: Engineering 510 and Mechanical Engineering 470.
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.
Radiation Heat Transfer, Solar Radiation, Multimode Heat Transfer in Systems that involve change of phase.

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)
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 gradute 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 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. Brashers, Ph.D., Professor of English and Comparative Literature
Jerry D. Bumpus, M.F.A., Professor of English and Comparative Literature
Glover T. Davis, 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
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
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Karl Keller, 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
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George W. Sanderlin, Ph.D., Professor of English and Comparative Literature, Graduate Coordinator
Glenn A. Sandstrom, 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
Harry C. Stiehl, Ph.D., Professor of English and Comparative Literature
Lowell Tozer, Ph.D., Professor of English and Comparative Literature
Kermit Vanderbilt, Ph.D., Professor of English and Comparative Literature
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James C. Hinkle, M.A., Associate Professor of English and Comparative Literature
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Lawrence F. McCaffery, Ph.D., Associate Professor of English and Comparative Literature
Prescott A. Nichols, Ph.D., Associate Professor of English and Comparative Literature
Mary E. Redding, Ph.D., Associate Professor of English and Comparative Literature
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Richard R. Rush, Ph.D., Associate Professor of English and Comparative Literature
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Jacqueline D. Tunberg, Ph.D., Associate Professor of English and Comparative Literature
Carey G. Wall, Ph.D., Associate Professor of English and Comparative Literature

Thomas Aninger, Ph.D., Assistant Professor of English and Comparative Literature
Alfred F. Boe, Ph.D., Assistant Professor of English and Comparative Literature
William A. Covino, Ph.D., Assistant Professor of English and Comparative Literature (Graduate Adviser)
Jerome J. Griswold, Ph.D., Assistant Professor of English and Comparative Literature
Dorothea F. Kehler, Ph.D., Assistant Professor of English and Comparative Literature
Edward D. S. Sullivan, Ph.D., Assistant Professor of English and Comparative Literature
James L. Wheeler, Ph.D., Assistant Professor of English and Comparative Literature

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 Three, 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 Three 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. 950 on the Graduate Record Examination
2. Conditional Classified Graduate Standing
   a. Conditional acceptance will be granted to a candidate who is below requirements in one of the above. A student 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.
   b. English major unit deficiencies. Students who lack 24 units of credit in upper division courses in English will receive conditional acceptance if they meet the requirements of 2.75 overall and 950 on the GRE. After the completion of 24 units in the major, students will then be given classified graduate standing if they meet the other requirements.
3. Postbaccalaureate Standing (Unclassified-No Degree Objective). See description in Part Three, 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 stated in Part Three of this bulletin. All candidates may fulfill the foreign language requirement by passing the Graduate School Foreign Language Test, by passing a local examination administered by one of the university's foreign language departments, 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.

To be advanced to candidacy in the Creative Writing program, a student must submit a sample of his or her writing or work in progress for approval as thesis level achievement by a committee of three of the faculty in the Creative Writing area.

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 Three 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, with at least 18 units of 600- and 700-numbered courses. The student may take up to six units of electives outside the Department with the approval of his or her adviser.Students in the Emphasis on the Teaching of Writing may take up to nine units outside the department with approval of the adviser. (Students in Comparative Literature may also take up to six units of foreign language literature courses numbered 500 or above as part of their program area, with approval of adviser.) This major will include a specialization in one program area (British Literature, American Literature, Comparative Literature, Creative Writing, or Emphasis on the Teaching of Writing) and will fulfill requirements of one of the six plans described below. Literature students will follow Plan A (I), or Plan B (I) or (II), Creative Writing students will follow Plan A (II), Emphasis on the Teaching of Writing students will follow Plan A (III) or Plan B (III).

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, 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 600, 720, 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 following courses outside the English Department are recommended: Linguistics 520, Modern English; Linguistics 524, American Dialectology; Linguistics 522, Syntax or 622, (when course content is appropriate for this specialization); Speech Communication 750, Seminar in Rhetorical Theory; Speech Communication 751, Seminar in Rhetorical Criticism. 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 three 700-level (seminar) courses 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's committee. Two of these papers must be from the student's program area, 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, 720, 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. Recommended courses outside the English Department are the same as those listed above under Plan A (III). Three graduate and/or seminar papers are to be revised to meet the 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

GENERAL

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.

501. Literature for Children (3)
Critical analysis of literature intended for children. Study of texts and illustrations.

505. The Bible as Literature (3) I, II
(Same course as Comparative Literature 505.)
Prose and poetry of the King James version.

507. The History of Literary Criticism (3) I
Principles and practices of literary criticism from Greek times to the twentieth century.

508W. The Writing of Criticism (3)
Theory and practice of literary criticism. Emphasis on the work of important critics and on development of student's own critical writing.

American Literature

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 content. See Class Schedule for specific content. Maximum credit six units.

527. Genre Studies in American Literature (3)
Study of a specific literary genre: overview of the genre's development in American literature (The American Novel, The American Short Story, American Poetry) or focus on a narrower period (The Modern American Novel, The Contemporary American Novel, American Autobiographies, others). May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

528. Individual American Authors (3)
Works of a major American author or, if useful comparisons and juxtapositions warrant it, the works of two or three authors: Melville, Twain, James, Faulkner, Steinbeck, Nabokov; or Pound and Eliot, Emerson and Thoreau, Vonnegut and Barth, others. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units.

British Literature

530. Chaucer (3) I, II
Chaucer's works, with emphasis on *The Canterbury Tales* and *Troilus and Criseyde.*

531. Renaissance Literature (3) I, II
English poetry and prose from 1485 to 1603.

533. Shakespeare (3) I, II
An introduction to the writings of Shakespeare.

534. Study of Shakespeare (3) II
Prerequisite: English 533.
Advanced study of Shakespeare's achievement as a poet and playwright.

536. Seventeenth Century Literature (3) II
English poetry and prose from 1603 to 1660.

537. Milton (3) II
Milton's writings, with emphasis on *Paradise Lost.*

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) I, II
The development of English fiction from its beginnings to the end of the nineteenth century. Semester I: The eighteenth century. Semester II: The nineteenth century

541A-541B. English Drama (3-3) I, II
English dramatic literature from its beginnings to the nineteenth century. Semester I: The period from the beginning to 1642. Semester II: The period following reopening of the theatres in 1660.

542A-542B. Nineteenth Century British Poetry (3-3) I, II
Semester I: The Romantic movement. Semester II: The Victorian period.

544A-544B. Modern British Fiction (3-3) I, II
Semester I: English fiction from 1890 to World War II. Semester II: English fiction from 1939 to the present.

545. Modern British Poetry (3) I, II
British poetry since 1900.

546. Modern British Drama (3) I, II
British drama since 1890.

549. Topics in English Literature (3) I, II
The Works of Spenser, The Metaphysical School of Poetry, The English Satirists, Major Movements in Contemporary English Fiction, and the like. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

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 writers. Especially appropriate for those students who have not satisfied the lower division survey requirements, for those who will teach English literature, and for those proceeding on to graduate study.

Creative Writing

570. Techniques of Poetry (3) I, II
A study of the critical and theoretical literature of poetry, from the creative writer's viewpoint, together with reading and discussion of appropriate examples.

571A-571B. Techniques of Fiction (3-3) I, II
A study of the critical and theoretical literature of fiction, from the creative writer's viewpoint, together with reading and discussion of appropriate examples. Semester I: Short Fiction. Semester II: The Novel.

572. Techniques of Drama (3) I
A study of the critical and theoretical literature of drama, from the creative writer's viewpoint, together with reading and discussion of appropriate examples.

579. Topics in Techniques of Writing (3) I, II
A study of the critical and theoretical literature of literary technique or topic such as satire, science fiction, myth and fantasy, children's literature, the long poem, the literary anatomy, etc. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

580. The Writing of Poetry (3) I, II
Prerequisite: English 280.
A writing workshop in poetry. May be repeated with new content. Maximum credit six units.

581W. The Writing of Fiction (3) I, II
Prerequisite: English 280.
A writing workshop in fiction. May be repeated with new content. Maximum credit six units.

582W. The Writing of Nonfiction (3) I
Prerequisite: English 280.
A writing workshop in nonfictional prose. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

589. Senior Workshop in Creative Writing (3) I, II
An advanced workshop intended only for students who have an extensive background in creative writing. Different sections of the course may treat advanced poetry writing, advanced fiction writing, or other special topics. See Class Schedule for specific content.

UPPER DIVISION COURSES IN COMPARATIVE LITERATURE

505. The Bible as Literature (3) I, II
Same course as English 505.
Prose and poetry of the King James version.

510. Medieval Literature (3)
Representative selections from authors of the Middle Ages.

512. Seventeenth and Eighteenth Century European Literature (3)
Selected works by European writers prior to 1800.

513. Nineteenth Century European Literature (3)
Selected works by European writers between 1800 and 1900.

514. Modern European Literature (3)
Selected works by European writers of the 20th Century.

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 content. Maximum credit six units.

550. Seminar (3)
An intensive study of a topic to be selected by the instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

560. The Epic (3)
Selected epic poems from world literature; emphasizes the Western epic tradition from Homer to the present. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

561. Fiction (3)
A comparative approach to themes and forms in fiction (novel and short story). Focus of course to be set by instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

562. Drama (3)
Forms and themes in drama. Focus of course to be set by instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

563. Poetry (3)
A comparative approach to themes and forms in poetry. Focus of course to be set by instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

571. Literary Use of Legend (3)
Literary treatment of such legendary figures as Don Juan, Faust, and Ulysses, in a wide range of literature and genres.

577. Major Individual Authors (3)
In-depth study of the works of a major author, such as Sophocles, Dante, Cervantes, Goethe, Dostoyevsky or Proust. May be repeated with new 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 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 content. See Class Schedule for specific content. Maximum credit six units.

595. Literature and Other Arts (3)
Prerequisite: Six lower division units in English, comparative literature or the arts.
Comparative study of literature and such arts as painting, sculpture, architecture, music, dance and film. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

GRADUATE COURSES IN ENGLISH

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.

612. Renaissance Literature (3)
Prerequisite: Twelve upper division units in English.
Selected works in the literature of the Renaissance.

614. Restoration and Eighteenth Century Literature (3)
Prerequisite: Twelve upper division units in English.
Selected works in the literature of the late seventeenth and the eighteenth centuries.

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.

632. Drama (3)
Prerequisite: Twelve upper division units in English.
The drama 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.
The 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)
Problems 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.

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.

Family Studies and Consumer Sciences

Faculty

Gwen C. Cooke, Ph.D., Professor of Family Studies and Consumer Sciences, Director
Francine Deutsch, Ph.D., Professor of Family Studies and Consumer Sciences
David M. Fulcomer, Ph.D., Professor of Family Studies and Consumer Sciences
Barbara E. Gunning, Ph.D., Professor of Family Studies and Consumer Sciences
Ronald V. Josephson, Ph.D., Professor of Family Studies and Consumer Sciences
Mary Q. Hawkins, Ph.D., Associate Professor of Family Studies and Consumer Sciences
Dorothy W. Hewes, Ph.D., Associate Professor of Family Studies and Consumer Sciences
K. Joan Martin, Ed.D., Associate Professor of Family Studies and Consumer Sciences (Graduate Adviser)
Q. Lee Price, Ph.D., Associate Professor of Family Studies and Consumer Sciences
Helen W. Ross, Ph.D., Associate Professor of Family Studies and Consumer Sciences
Audrey A. Spindler, Ph.D., Associate Professor of Family Studies and Consumer Sciences
Mary E. Dickerson, M.S., Assistant Professor of Family Studies and Consumer Sciences
Jane L. Hoover-Plow, Ph.D., Assistant Professor of Family Studies and Consumer Sciences
Sally A. Koblinsky, Ph.D., Assistant Professor of Family Studies and Consumer Sciences
Kathleen F. Mikitka, M.S., Assistant Professor of Family Studies and Consumer Sciences
Cherie E. Schupp, Ph.D., Assistant Professor of Family Studies and Consumer Sciences

Assistantships

Graduate teaching assistantships and graduate nonteaching assistantships in home economics are available to a limited number of qualified students. Application blanks and additional information may be secured from the Director, Family Studies and Consumer Sciences.

General Information

Family Studies and Consumer Sciences, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Science degree in Home Economics.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Three of this bulletin. In addition, the student must have a bachelor's degree in home economics 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 home economics. 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 Aptitude Test. The applicant must submit a letter stating reasons for choosing graduate work in Family Studies and Consumer Sciences 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.

COMPLETE APPLICATIONS MUST BE RECEIVED BY THE ADMISSIONS OFFICE AND THE DEPARTMENT OF FAMILY STUDIES AND CONSUMER SCIENCES BY NOVEMBER 1 FOR THE SPRING SEMESTER AND MARCH 1 FOR THE FALL SEMESTER.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Three 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 Three 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.

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.

Courses Acceptable on Master's Degree Programs in Home Economics

UPPER DIVISION COURSES

507. Processing Food and Nutrition Data (3)
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 302 and 303.
Application of computer logic to food service management, diet planning and analysis.

508. Advanced Food Systems Management (3)
Prerequisite: Family Studies and Consumer Sciences 404.
Analysis of current topics in food systems management. Application of management principles in individual special projects.

510. Nutrition and Community Health (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 302.
Exploration of nutrition problems in the community with consideration of current and potential means of resolving them.

518. Clothing Design: Flat Pattern (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 315.
Problems involving principles and techniques of flat pattern construction. Development of basic sloper for purpose of interpreting new designs. Investigation of sources of inspiration and their relationship to significant trends in design.

519. Textile Analysis and Testing (3) I, II
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 119 and Chemistry 130.
Analysis based on physical and chemical tests for quality differences due to variation in fibers, content, structure, and finishes and their suitability for specified uses.

520. Clothing and Human Behavior (3)
Socioeconomic influences on consumer clothing behavior patterns.

521. Clothing Design: Draping (3)
One lecture and six hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 315.
Experience in creative designing through fabric manipulation. Designer problems related to mass-production techniques.

522. Clothing Design: Historical Influences (3) II
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 315.
Chronological analysis of men's and women's fashions providing inspiration for original creations in clothing design.

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)
Prerequisite: Family Studies and Consumer Sciences 240 or 440.
Analysis of consumer legislation, consumer information and consumer protection programs.

545. Family Housing (3)
Two lectures and three hours of laboratory.
Prerequisite: Family Studies and Consumer Sciences 245.
Advanced housing problems at various stages of the family life cycle and the different socioeconomic levels.

546. Environmental Factors of Housing (3)
Prerequisite: Family Studies and Consumer Sciences 245.
Problems of developing effective housing for families in various cultural situations. Investigation of sociopsychological, economic and legislative factors of housing.

553. Supervised Field Work in Home Management (3) II
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 271, 451, 536.
Management and social problems as they relate to the home and family. Supervised field work with various community agencies and selected families.

570. Human Development: Infancy (3)
Two lectures and three hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 270 or Psychology 330; Psychology 260. Biology 350 recommended.
Physiological, psychological, social and cultural development of the human organism from birth through age two with directed observation and laboratory demonstration with infants.

576. Supervised Experiences with Young Children (3) I, II
One lecture and six hours of field work.
Prerequisite: Nine units in child development.
Directed experiences in various community settings. Emphasis on application of child development principles in working with young children. May be repeated with new content. Maximum credit six units.

577. Advanced Administration of Child Development Programs (3) I, II
Prerequisite: Family Studies and Consumer Sciences 477.
Problems of organization in conducting programs for young children; interrelationships of staff; personnel 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 behavior. Readings and interpretations of scientific literature which contribute to an understanding of theories of human development.

584. Occupational Home Economics Programs (3)
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.

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 either the bachelor's or master's degree. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

GRADUATE COURSES

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 is recommended.
The biochemical and/or physiological lesions in pathological states and the modifications of diet which should accompany medical treatment to prevent or alleviate patient symptoms.

607. Child Nutrition (3)
Prerequisite: Family Studies and Consumer Sciences 302.
Nutrition, health, and biochemical growth in children. Conditions leading to malnutrition, the prevention and correction of same.

609. Advanced Studies: Food Proteins (3)
Prerequisites: Family Studies 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; nutritional evaluation; processing-induced changes; and food product functionality.

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 a 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.
The study and evaluation of home economics research and philosophical principles which have implications for the secondary homemaking teacher.

682. Current Development in Home Economics Education (3)
Prerequisite: Family Studies and Consumer Sciences 483 or the equivalent, and 18 units in Family Studies and Consumer Sciences.
Current issues and recent developments in home economics education with implications for secondary, adult and postsecondary programs.

700. Seminar in Nutrition (3)
Prerequisite: Family Studies and Consumer Sciences 302.
Reading and analysis of basic and applied research in nutrition.

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.

French

Faculty

Alvord G. Branan, Ph.D., Professor of French
Janis Glasgow, Ph.D., Professor of French
Elizabeth R. Jackson, Ph.D., Professor of French (Graduate Adviser)
Stefan Max, Ph.D., Professor of French
Hilda Nelson, Ph.D., Professor of French
Guerard Piffard, Ph.D., Professor of French
Dennis Palmer, A.B., Associate Professor of French, Chair of Department
Gary Woodle, Ph.D., Associate Professor of French
Thomas J. Cox, Ph.D., Assistant Professor of French

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 is composed 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 with classified standing, as described in Part Three 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 units 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 Three of this bulletin, and 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 Three 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

UPPER DIVISION COURSES

501. Translation (3) I
Prerequisite: French 302.
Stylistic comparison of French and English through translation of a variety of prose styles from English to French and from French to English.

521. Seventeenth Century French Literature (3)
Prerequisites: French 301 and 302.
Major seventeenth century dramatists with emphasis on Corneille, Moliere and Racine.

531. Eighteenth Century French Literature (3)
Prerequisites: French 301 and 302.
Major eighteenth century writers of fiction, with emphasis on Voltaire, Diderot and Rousseau.

541. Nineteenth Century French Novel (3)
Prerequisites: French 301 and 302.
Major novelists of the nineteenth century.

543. Modern French Theatre (3)
Prerequisites: French 301 and 302.
Major dramatists of modern France.

545. Modern French Poetry (3)
Prerequisites: French 301 and 302.
Representative French poets of the modern era.

551. Twentieth Century French Novel (3)
Prerequisites: French 301 and 302.
Major novelists of twentieth century France.

596. Topics in French Studies (1-4)
Prerequisites: French 301 and 302.
Topics in French language, literature and linguistics. May be repeated with new content. Maximum credit nine units. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Taught in French. See Class Schedule for specific content.

GRADUATE COURSES

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.
The 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 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.

731. Seminar in Eighteenth 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.

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: Eighteen upper division units in French and 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 (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

Donald I. Eidemiller, Ph.D., Professor of Geography
William A. Finch, Ph.D., Professor of Geography
Larry R. Ford, Ph.D., Professor of Geography
Ned H. Greenwood, Ph.D., Professor of Geography
Ernst 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
Conrad Kiewiet de Jonge, Ph.D., Professor of Geography
Bob R. O'Brien, Ph.D., Professor of Geography (Graduate Adviser)
Philip R. Pryde, Ph.D., Professor of Geography
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. Blick, Ph.D., Associate Professor of Geography
Barbara E. Fredrich, Ph.D., Associate Professor of Geography
David S. McArthur, Ph.D., Associate Professor of Geography
Albert A. Colombo, M.A., Assistant Professor of 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 Three 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 Three 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 Three 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 15 units of 600- and 700-numbered courses.
2. Geography 600 Seminar in Geographic Research and Techniques of Presentation (3).
3. Geography 670 Seminar in Environment and Resource Conservation Theory (3).
4. At least nine units of geography courses numbered 500 or higher as approved by the Graduate Advising Committee in addition to 799A Thesis.
5. Nine units from appropriate 500 level or higher courses in departments other than geography as approved by the Graduate Advising Committee. Normally these will be from the Social Sciences, the Natural Sciences, and/or Public Administration and Urban Studies.
6. 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.
7. Geography 799A Thesis (3) Cr/NC/SP if following Plan A or Geography 797 Research (3) Cr/NC/SP if following Plan B.
8. A student should have completed a quantitative methods course prior to initiating the program, or take Geography 585, Quantitative Methods in Geographic Research (3), 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 Seminar in Geographic Research and Techniques of Presentation (3)
3. Geography 658 Seminar in Geography of Transportation (3).
4. At least 12 units to be taken from 500- and 600-level geography courses, as approved by the Graduate Advising Committee.
5. 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

Graduate or 500-level courses in other departments that are not listed above may be taken if approved by the Graduate Advising Committee.

6. Geography 795 Geographic Internship (3)
   (Must be in approved transportation activity.)
7. Geography 799A Thesis (3) Cr/NC/SP if following Plan A or Geography 797 Research (3) Cr/NC if following Plan B.
8. A student should have completed a quantitative methods course prior to initiating the program, or take Geography 585, Quantitative Methods in Geographic Research (3), 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) II
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 505. Occasional field trips may be arranged.

507. Geography of Natural Vegetation (3) I, II
Prerequisite: Geography 101.
The natural vegetation associations of the world, their distribution, classification and development, including relationship to human activities. Maximum credit three units.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

508. Physical Climatology (3) I
Prerequisite: Geography 103.
Effects of latitude, altitude, mountains, ocean currents, wind systems, and various surfaces on the distribution of solar radiation, temperature, precipitation, and other climatic elements. Statistical reduction and interpretation of climatic data.

509. Regional Climatology (3) II
Prerequisite: Geography 103.
The causes of climatic types as they occur throughout the world. Principles of several climatic classifications.

521. Urbanization and Modernization in Latin America (3)
Prerequisite: Geography 102, 323 or 324.
Analysis of specific aspects of urbanization and modernization processes in Latin America. Emphasis on changing spatial relationships resulting from rapid urban growth and culture change. Occasional field trips.

522. Historical Geography of Latin America (3) (Offered at IVC only)
Prerequisite: Geography 102, 323 or 324.
Changes in the Latin American cultural landscape over time. The peopling, exploration, settlement and changing geographical patterns of all or a part of the region. Origin and diffusion studies will be stressed.

540. Advanced Regional Geography (3)
Prerequisite: At least one upper division course in the subject region.
Intensive study of a major country or subregion. May be repeated with different course content for a maximum of six units. See Class Schedule for specific content.

555. Historic Preservation and Urban Design (3)
Prerequisite: Geography 102.
Processes of growth and change in cities. Techniques for preserving, renovating, 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.

557. Methods in Urban and Transportation Analysis (3)
Prerequisites: Geography 585 and six units of upper division urban or transportation course work in geography or related field.
Methods and techniques employed in transportation and urban analysis; spatial models of urban activities, land use, population distribution and urban transportation systems. (Formerly numbered Geography 554.)

558. Advanced Transportation Geography (3)
Prerequisite: Geography 358 or 559.
Topics in the spatial analysis of transportation, e.g., spatial interaction patterns, diffusion process, models in 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.

573. Geography as Human Ecology (3)
Prerequisite: Geography 170 or 370.
Human ecology related to resource geography. Occasional field trips may be arranged.

574. Water Resources (3) II
Prerequisite: Geography 170 or 370 or 371.
Occurrence and utilization of water resources and the problems of water resource development. Occasional field trips may be arranged.

575. Geography of Recreational Land Use (3) I, II
Prerequisite: Geography 101 or 102.
Importance of location and environment in the use, management, and quality of recreation areas. Maximum credit three units.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

576. Geography of Marine Resources (3)
Prerequisite: Geography 101 or 102.
Economic geography of use of marine biotic and mineral resources. Occasional field trips may be arranged.

581. Advanced Cartography (3)
Two lectures and three hours of laboratory.
Prerequisite: A three-unit course on mapping.
Advanced laboratory instruction and practice in cartographic techniques.

582. Automated Cartography (3)
Two lectures and three hours of laboratory.
Prerequisite: Three units from Geography 380, 381, 382, 585, 587, or 589, or from graphics or computer programming.
Computerized methods in presenting for comprehension spatially variable information of a quantitative nature; examination of existing automated mapping systems.

585. Quantitative Methods in Geographic Research (3) I, II
Prerequisite: Mathematics 250 or equivalent course in statistical methods.
Quantitative methods in geographic research, including computer solutions.

587. Remote Sensing of the Environment (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geography 101 and 102.
Multiband spectral reconnaissance of the environment. Emphasis on multispectral photography, infrared, microwave scanning systems and multifrequency radar systems, and their 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.

GRADUATE COURSES

600. Seminar in Geographic Research and Techniques of Presentation (3)
Prerequisite: Approval of departmental graduate advisory committee.
Seminar in the use of research materials in the different aspects of geography and the effective presentation of research findings in written and oral form.

610. Seminar in History of Geography (3)
Prerequisite: Approval of graduate adviser.
The evolution of concepts concerning the nature, scope, and methodology of geography.

620. Seminar in Regional Geography (3)
Prerequisite: Approval of departmental graduate advisory committee.
Intensive study of a major world region, such as South America, Southeast Asia, or Northern Europe. May be repeated with new content. See Class 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

650. Seminar in Systematic Geography (3)
Prerequisite: Approval of departmental graduate advisory committee.
Intensive study of an aspect of systematic geography, such as climatology, economic geography, or graphic presentation. May be repeated with new content. See Class 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

654. Seminar in Urban and Settlement Geography (3)
Prerequisites: Geography 556 and approval of departmental graduate advisory committee.
Selected topics in urban geography. Field reconnaissance in the local urban "laboratory" is essential part of the research undertaken. Maximum credit three units applicable on a master's degree.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

655. Seminar in Location of Urban Activities (3)
Prerequisites: Geography 556 and approval of departmental graduate advisory committee.
Systematic analysis of the locations and linkages of activities in urban areas. Maximum credit three units applicable on a master's degree.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

658. Seminar in Geography of Transportation (3)
Prerequisite: Geography 358.
Principles, concepts, and theories in transportation geography.

659. Seminar in Urban Transportation (3)
Prerequisites: Geography 559 and approval of departmental graduate advisory committee.
Intensive study and research on topics in urban transportation geography. Emphasis on transport innovations and their impact on urban spatial patterns. Occasional field trips may be arranged.

660. Seminar in Spatial Structure of Transport Systems (3)
Prerequisites: Geography 358 and approval of departmental graduate advisory committee.
Investigation of specific aspects of transportation systems and spatial interaction. Occasional field trips may be arranged.

670. Seminar in Environment and Resource Conservation Theory (3)
Prerequisites: Geography 370 and 371, and approval of departmental graduate advisory committee.
Theory and general principles involved in natural resources conservation and in attaining and preserving a high level of environmental quality. Maximum credit three units applicable on a master's degree.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

671. Seminar in Problems of Environment and Resource Conservation (3)
Prerequisites: Geography 670 and approval of departmental graduate advisory committee.
Investigation of specific problem areas in natural resources conservation or in the maintenance of environmental quality. May be repeated with different content. See Class 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. Geography 170 or 370 and 371 are recommended.
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. Coursework 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)
Prerequisite: 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.

Geological Sciences

Faculty

Patrick L. Abbott, Ph.D., Professor of Geological Sciences, Chair of Department
Richard W. Berry, Ph.D., Professor of Geological Sciences
Kathe K. Bertine, Ph.D., Professor of Geological Sciences
R. Gordon Gastil, Ph.D., Professor of Geological Sciences
George R. Jiracek, Ph.D., Professor of Geological Sciences
J. Philip Kern, Ph.D., Professor of Geological Sciences
Daniel Krummenacher, Ph.D., Professor of Geological Sciences
Gary L. Peterson, Ph.D., Professor of Geological Sciences
Clive E. Dorman, Ph.D., Associate Professor of Oceanography
David Huntley, Ph.D., Associate Professor of Geological Sciences
Monte Marshall, Ph.D., Associate Professor of Geological Sciences
Richard H. Miller, Ph.D., Associate Professor of Geological Sciences
Anton D. Ptacek, Ph.D., Associate Professor of Geological Sciences (Graduate Adviser)
Michael J. Walawender, Ph.D., Associate Professor of Geological Sciences
Eric G. Frost, Ph.D., Assistant Professor of Geological Sciences

Assistantships

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

General Information

The Department of Geological Sciences, in the College of Sciences, offers graduate study leading to the Master of Science degree in Geological Sciences. The curriculum provides a wide variety of advanced training enabling the graduate to qualify for employment in most branches of earth science.

The present geology facilities are expanding and currently consist of 30,000 square feet of space equipped for classroom and laboratory instruction at both graduate and undergraduate levels and for graduate research within the geological sciences. In addition to these physical facilities, the interesting and diverse geological environment of the San Diego area, and the mild climate which permits year round field work, place San Diego State University in a highly favorable location for graduate work in the geological sciences.

Admission to Graduate Standing

All students must satisfy the general requirements for admission to classifed graduate standing as described in Part Three of this bulletin. In addition, the student must satisfy the following requirements before admission to classified standing is recommended:

1. Have preparation in geological sciences, mathematics, chemistry, and physics at least equivalent to the minimum required for the bachelor's degree in geological sciences at San Diego State University.
2. Have successfully completed all courses listed as deficiencies.
3. Have a minimum GREAT combined score of 1000, with no less than 450 in either verbal or quantitative.
4. Have a minimum Advanced GRE (Geology) score of 650.
5. Have a minimum GPA of 3.0 in any course taken as a graduate student at San Diego State University.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as stated in Part Three 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 Three 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), and 799A, Thesis, and six units of upper division or graduate electives approved by the departmental adviser. Geological Sciences 308 and 508, Field Geology, 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 Programs 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.

507. Stratigraphy (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and 224.
Stratigraphic principles and practices. Consideration of the North American stratigraphic record.

508. Field Geology (4) I, II, S
One lecture and three hours of laboratory and seven weekend field sessions.
Prerequisite: Geological Sciences 308.
Geologic investigation of an assigned area with preparation of an individual report and a geologic map.

510. Petroleum Geophysics (3) I
Two lectures and three hours of laboratory. Occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques as presently used in oil exploration.

512. Mining Geophysics (3) II
Two lectures, and three hours of laboratory or occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques used for delineation of ore bodies.

516. Micropaleontology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 506.
The morphology, classification and geologic significance of the various microfossils.

520. Ore Deposits (3) I
Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.
Geologic relations, origin, distribution, and economics of metallic and nonmetallic mineral deposits.

521. Petroleum Geology (3) II
Prerequisites: Geological Sciences 224 and 305.
Geologic occurrence of petroleum and the application of geologic principles in exploration and production.

524. Optical Mineralogy (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 221.
Theory and use of the polarizing microscope for determining optical properties of minerals as an aid to their identification.

525. Petrography (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 524.
A study of rocks with the polarizing microscope; identification of mineral constituents; interpretation of textures; classification of rocks; problems of genesis.

526. Sedimentology (3) I
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and 224.
Origin, description, and interpretation of sedimentary rocks and structures.

530. Geochemistry (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 224; Chemistry 201; Mathematics 121 and 122, or 150.
The relationship of basic chemical principles to geologic phenomena and environments, including applications to geologic exploration problems.

540. Marine Geology (3) I
Prerequisites: Geological Sciences 105, and either Geological Sciences 224, 314, 502, or 506.
Plate tectonic origin and history of the ocean basins. Formation and distribution of sediments in response to biological, chemical, and geological processes.

545. Descriptive Physical Oceanography (3) I
Prerequisites: Mathematics 121 and 122 or 150; Physics 180A or 195.
Physical environment of oceans including heat, water, and salt budgets, physical properties of sea water, sea ice, air-sea relationships, effects of light and sound, distribution of temperature, salinity, density, surface current, deep circulation, water mass formation, instruments and methods of study.

546. Advanced Physical Oceanography (3) I
Prerequisites: Mathematics 121 and 122 or 150; Physics 180A or 195.
Physical principles behind the dynamics of oceans. Covers physical principles behind surface waves, internal waves, seiches, tsunamies, storm surges, wind wave generation and forecasting, tidal currents, air-sea interaction, heat and light transmission.

548. Coastal and Estuarine Physical Oceanography (3) II
Prerequisites: Mathematics 121 and 122 or 150; Physics 180A or 195.
Physical processes of marine coastal areas and estuaries. Includes longshore currents, rip currents, real waves in shallow water, wave refraction and diffraction, mechanics of sediment transport, forces and dynamics of estuarine circulations and tides.

550. Engineering Geology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 305.
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.

Related Fields: Appropriate courses in the Departments of Biology, Botany, Chemistry, Engineering, Mathematics, Physics, and Zoology may be selected in consultation with and approval of the graduate adviser.

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. Paleoecology (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.

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.

645. Advanced Structural Geology (3)
Prerequisite: Geological Sciences 305.
Topics in advanced structural geology in the light of petrographic, geophysical, and experimental data, combined with classic field observations.

648. 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.

650. Seminar: Physical Properties of Earth Materials (3)
Prerequisite: Geological Sciences 510 or 512.
Theoretical principles and instrumental techniques used to remotely determine the physical properties of earth materials.

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.

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 525; 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.

German

Faculty

Elaine E. Boney, Ph.D., Professor of German
Vytas 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 Westervelt, Ph.D., Professor of German
Julian H. Wulbern, Ph.D., Professor of German, Chair of Department
Harvey I. Dunkle, Ph.D., Associate Professor of German

General Information*

The Department of Germanic and Slavic Languages and Literatures, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in German.

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 German or in Germanic linguistics.

There is a full range of graduate courses in German literature and in Germanic linguistics, and the student may concentrate in the area of preference. Library resources, both books and periodicals, provide excellent research bases in both areas. A taped German dialect library, among the most extensive in the country, is also available for research use.

* 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 Three 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 Three of this bulletin, students may be required to pass a qualifying examination in German given by the Department of Germanic and Slavic 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 Three 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 Programs in German

UPPER DIVISION COURSES

505. Applied German Linguistics (3)
Prerequisites: German 301 and 302.
Linguistic study of modern German; integration of modern linguistic theory with the language classroom.

510. German Phonetics (3)
Prerequisites: German 202 and 212.
Sounds and intonation of German.

540. German Literature from its Beginning to the Baroque Period (3)
Prerequisites: German 202 and 310.
Literature from the eighth century to about 1700.

545. German Literature of the Eighteenth Century (3)
Prerequisites: German 202 and 310.
Reading and discussion of representative works of significant authors and movements of the eighteenth century. (Formerly numbered German 545A-545B.)

549. Goethe's *Faust* (3)
Prerequisites: German 202 and 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)
Prerequisites: German 202 and 310.
Reading and discussion of representative works of significant authors and movements of the nineteenth century. (Formerly numbered German 555A-555B.)

561. German Literature of the Twentieth Century (3)
Prerequisites: German 202 and 310.
Reading and discussion of representative works of significant authors and movements of the twentieth century. (Formerly numbered German 561A-561B.)

596. Topics in German Studies (3)
Prerequisites: German 202 and 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.

798. 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., Professor of Health Science
William C. Burgess, Ed.D., Professor of Health Science
Aubrey C. McTaggart, Ph.D., Professor of Health Science, Chair of Department
Walter D. Sorochan, H.S.D., Professor of Health Science
Warren D. Boskin, Ed.D., Associate Professor of Health Science
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, 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. Not open to students with credit in Sociology 526.

573. Health in Later Maturity (3)
An approach to the conservation of human resources, with emphasis on understandings, attitudes, and practices related to health in later maturity. Designed for those with a personal or professional interest in the field.

574. Habit-Forming Substances (3) I, II, S
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 COURSES

620. Health Science Curriculum Development (3)
Prerequisite: Health Science 320 or 321.
Structuring educational experiences in health science and health education, developing curriculum materials, performance standards and ways of incorporating health education in open learning environments.

793. Evaluation Instruments (3)
Prerequisite: Health Science 490.
Construction, selection and analysis of evaluation instruments in health science and safety.

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
William F. Cheek, Ph.D., Professor of History
Paochin Chu, Ph.D., Professor of History
Alvin D. Coox, 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 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 Hanchett, Ph.D., Professor of History
Neil M. Heyman, Ph.D. Professor of History
Oddvar K. Hoidal, Ph.D., Professor of History
Robert L. Munter, Ph.D., Professor of History
Nelson F. Norman, Ph.D., Professor of History
Albert C. O'Brien, Ph.D., Professor of History
William D. Phillips Jr., Ph.D., Professor of History, Graduate Coordinator
Stanley J. Pincetl Jr., Ph.D., Professor of History
Daniel L. Rader, 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
Richard W. Steele, Ph.D., Professor of History
Francis N. Stites, Ph.D., Professor of History
Douglas H. Strong, Ph.D., Professor of History
Paul J. Vanderwood, Ph.D., Professor of History
Pershing Vartanian, Ph.D., Professor of History
David F. DuFault, Ph.D., Associate Professor of History
Robert E. Filner, Ph.D., Associate Professor of History
Philip F. Flemion, Ph.D., Associate Professor of History, Chair of Department
Harry C. McDean, Ph.D., Associate Professor of History
Richard H. Peterson, Ph.D., Associate Professor of History
Francis M. Bartholomew Jr., Ph.D., Assistant Professor of History
Rizalino A. Oades, Ph.D., Assistant Professor of History

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.

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 doctoral degree in history or related fields.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three 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 Aptitude Test. Students with a GPA in the major of 2.75-3.0 will be admitted if their score on the GRE 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 Three 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 Three 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, requiring a thesis, or 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 680; three units selected from History 615, 625, 635, 645, 655; History 797; and History 799A for those students electing Plan A. Students electing Plan B must enroll in History 795 (six units) in lieu of 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 Three of this bulletin, the student must complete a graduate program 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, requiring a thesis, or 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 680; three units selected from History 615, 625, 635, 645, 655; History 797; and History 799A for those students electing Plan A. Students electing Plan B must enroll in History 795 (six units) in lieu of History 797 and 799A.

No foreign language competency is required in this degree option.

Scholarships

The K. W. 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 his thesis on some aspect of San Diego history. Selection is made by the Department of History with the approval of the Committee on Scholarships.

Courses Acceptable on Master's Degree Programs in History

Field (a). Ancient, Medieval and Early Modern Europe

UPPER DIVISION COURSES

500A-500B. Ancient History (3-3)
Semester I: Greece to the Roman Conquest. Semester II: Rome to the fifth century A.D.

503A-503B. Europe in the Middle Ages (3-3)
European social, cultural, and political developments from the fall of Rome to the Renaissance.

504. Medieval Spain (3)
Survey of the Spanish regions to the early sixteenth century. Social and economic developments. (Formerly numbered History 515A.)

506. The Renaissance (3)
The intellectual, artistic, and social transformation of Europe from the fourteenth through the early sixteenth century. (Formerly numbered History 508.)

507. The Reformation (3)
Continental Europe in the sixteenth century; split of Christendom, the religious wars, national rivalries, the expansion of Europe and the beginnings of the scientific revolution. (Formerly numbered History 509A.)

513A. Scandinavia (3)
The major political, social and economic developments in Scandinavia from the Viking Age to the end of the Napoleonic Wars.

Field (b). Modern Europe

UPPER DIVISION COURSES

509. Europe in the Seventeenth Century (3)
Continental Europe from 1600 to the death of Louis XIV. Shift of power from southern and central Europe to northern Atlantic countries; the growth of the state, and the expansion of commerce. (Formerly numbered History 509B.)

510A-510B. Europe's Age of Enlightenment (3-3)
Semester I: Monarchies and monarchs at peace and war; economic and social transformations; the Baroque and the growth of the Enlightenment from 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. The Great War: A Turning Point in European History (3)
Forces and events that shaped Europe in period prior to and during World War I, 1890-1919.

512B. The Age of Dictators and Contemporary Europe (3)
Europe in the age of dictatorship, world war, decline, and recovery.

513B. Scandinavia (3)
The major political, social and economic developments in Scandinavia from 1814 to the present.

514A. The French Revolution and Napoleonic Era (3) I
Prerequisites: History 105 and 106.
France on the eve of the Revolution; the Great Revolution, 1789-1799, the Napoleonic Era.

514B. Modern France (3)
Prerequisite: History 105 and 106.
The development of France since 1815.

515. Modern Spain (3)
Social, economic and political developments from the sixteenth century to the present. Overseas expansion. (Formerly numbered History 515B.)

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)
Semester I: The Age of the Tudors. Semester II: England during the Stuart Dynasty, 1603-1714.

523A-523B. Modern Britain (3-3)
Semester I: The development of constitutional and social patterns from the Glorious Revolution to the French Revolution, emphasizing the immediate background to the American Revolution. Semester II: From the nineteenth century to the present, including the rise of Parliamentary democracy, imperialism and the Victorian age, and political thought from the Utilitarians to the Fabians.

524. History of Ireland (3) I, II
Social and cultural history of Ireland from earliest historical times to the present, including formation of a national character, literature from the Saga Cycles to the modern literary renaissance, and various movements to achieve independence from Cromwell through World War I.

526. Ideas and Attitudes of Modern Europe (3)
Selected problems in European intellectual history beginning with the seventeenth century, with attention to social and political thought. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units. (Formerly numbered History 526A-526B.)

527A-527B. Diplomatic History of Modern Europe (3-3)
Prerequisites: History 105 and 106.
Diplomatic relations of the various European states with European and non-European powers. Semester I: From the Concert of Europe (1815) to the Era of *Realpolitik* in the late nineteenth century. Semester II: The diplomatic 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 in the Nuclear Age (3)
The United States since World War II.

537A-537B. The Westward Movement (3-3)
The American frontier: Expansion, exploration, settlement and building of the new states, with emphasis on frontier problems of defense, 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 requirements in American history, institutions, and ideals.

545A-545B. Constitutional History of the United States (3-3)
American constitutional history since the establishment of the federal government. This year course meets the graduation requirement in U.S. Constitution and in American history, institutions and ideals.

546A-546B. Development of American Capitalism (3-3)
The changes in agriculture, industry, labor, banking, transportation and commerce in a capitalist society with emphasis on the prominent personalities who made the changes possible.

547A-547B. Intellectual History of the American People (3-3)
Survey of American thought from 1620 to the present, focusing on the ideas of individuals, groups and movements in religion, politics, society, the arts and reform. Emphasis on liberal and conservative impulses and their role in the making of the modern American mind. This year course meets the graduation requirements in American institutions, U.S. Constitution, and California state and local government.

548A-548B. Social History of the United States (3-3)
Historical survey of American society emphasizing demographic trends, the changing role of the family, social structure, immigration patterns, religious movements, developments in education, the economy and entertainment.

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. (Formerly numbered History 552A-552B.)

553. Caribbean Island Nations (3)
History of island nations of Caribbean with emphasis on Cuba, Haiti, and Dominican Republic in the nineteenth and twentieth centuries. (Formerly numbered History 553A-553B.)

554. The Andean Republics of South America (3)
The historical development of Chile, Bolivia, Peru and Ecuador with emphasis on race relations and social revolutions in the 20th century.

555. Modernization and Urbanization in Latin America (3)
Historical treatment of the phenomena of urbanization and modernization in Latin America with attention to pre-Columbian and Iberian traditions and influence of education, church, military, and foreign investment.

557. History of Latin American Popular Culture and Social Thought (3)
Examination of the ways Latin Americans have historically viewed their cultures and societies from the dual perspective of elites and the masses.
Popular Culture—the Latin American self-image reflected in family relations, folklore, myth, legend, popular music and art and mass expression.

558. Latin America in World Affairs (3)
History of Latin America's political and economic relations with Europe, the Soviet Union, the United States, and the Third World. (Formerly numbered History 558A-558B.)

Field (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)
From earliest times to the eighteenth century including Hindu, Buddhist, and Muslim contribution to Indian society, changing political ideas and institutions, and historic trends in art and literature.

563. Modern India and Its Neighbors (3)
British conquest and colonial policy, Hindu and Muslim nationalism, Gandhi's significance, and the emergence of independent India, Pakistan, and Bangladesh.

564A-564B. Southeast Asia (3-3)
Semester I: Cultural traditions of Southeast Asian peoples. Indigenous institutions and the influence of China, India and Islam. Semester II: Southeast Asia in the modern world. Patterns of foreign stimulus and local response among the peoples of the area.

565. Revolution and Social Change in Asia (3)
Comparative study of contemporary problems in Asia emphasizing how indigenous peoples responded to the challenges of nationalism, reform, revolution, modernization, and neo-colonialism. Topics include social structure, education, peasant movements, urbanization, search for cultural identity, and national integration.

566. Chinese Civilization: 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. (Formerly numbered History 567A.)

568. Communist Party and the Chinese Revolution (3)
Mao and the evolution of Chinese Communist Party since 1920, including Red Army, rural soviets, socialist economic and cultural systems, and foreign policy. (Formerly numbered History 567B.)

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.

571. Society and Thought in Asia (3)
Major trends in social and intellectual history of Asia, stressing the interaction of ideas and changing social conditions. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units. (Formerly numbered History 571A.)

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.

Field (g). Topical Subjects

UPPER DIVISION COURSES

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)
Prerequisites: 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)
Prerequisites: 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)
Prerequisites: 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)
Prerequisites: 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)
Prerequisites: 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.

680. 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.

795. Area Studies in History (1-3) Cr/NC
Prerequisite: Advancement to candidacy.

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 six 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 Arts
Dennis A. Dirksen, Ed.D., Professor of Industrial Arts
William D. Guentzler, Ph.D., Professor of Industrial Arts
Gerald K. Hammer, Ed.D., Professor of Industrial Arts (Graduate Adviser)
James D. McMullen, Ed.D., Professor of Industrial Arts
Donald W. Thiel, Ph.D., Professor of Industrial Arts
Alvin E. Lybarger, Ed.D., Associate Professor of Industrial Arts
Harold L. Marsters, M.A., Associate Professor of Industrial Arts, Chair of Department
R. Harold McEowen, Ph.D., Associate Professor of Industrial Arts

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, transportation, 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 Three 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 Three 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 Three 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 either Industrial Arts 799A (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.

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.
Practice in and analysis of modern industrial drafting techniques and theories.

533. Applied Metal Forming Operations (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 131.
Theory of conventional and high energy industrial forming processes augmented with laboratory forming experiences.

540. Photography for Teachers (3)
Six hours of laboratory.
Designed for more mature students to learn photographic skills useful in teaching. Not open to students with credit in Industrial Arts 140 or Journalism 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 photoflash techniques.

553. Advanced Woodworking (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 351.
Wood finishing, residential building construction techniques, and advanced machine operations.

563. Industrial Electronics (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 361.
Advanced problems in industrial electronics circuit development, analysis, theory and application.

573. Accessory Power Systems (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 371.
Study of accessory power systems and technological innovations in education and power related industries.

583. Industrial Arts Graphic Arts (3)
Six hours of laboratory.
Prerequisite recommended: Industrial Arts 381.
Advanced techniques in developing skills involved in graphic arts facilities.

596. 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 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES IN INDUSTRIAL ARTS

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) industrial drawing; (b) general metalworking; (c) general woodworking; (d) electricity-electronics; (e) transportation; (f) graphic arts; (g) photography; (h) industrial crafts; (i) 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: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis in industrial arts 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.

Latin American Studies

Faculty

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
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
Kenneth K. Jones Jr., Ph.D., Professor of Telecommunications and Film
Joseph B. Kelley, Ph.D., 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
Israel Unterman, Ph.D., Professor of Management
Paul J. Vanderwood, Ph.D., Professor of History
Lawrence C. Watson, Ph.D., Professor of Anthropology
John R. Weeks, Ph.D., Professor of Sociology
Joseph W. Ball, Ph.D., Associate Professor of Anthropology
James D. Blick, Ph.D., Associate Professor of Geography
Janet B. Esser, Ph.D., Associate Professor of Art
Barbara E. Fredrich, Ph.D., Associate Professor of Geography, Graduate Coordinator
Philip F. Flemion, Ph.D., Associate Professor of History
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
Malcolm N. Silverman, Ph.D., Associate Professor of Portuguese
Jose R. Villarino, Ph.D., Associate Professor of Mexican-American Studies
Maria-Barbara Watson, Ph.D., Associate Professor of Women's Studies
Raymond D. Weeter, Ph.D., Associate Professor of Spanish
Ronald R. Young, Ph.D., Associate Professor of Spanish
Stephen A. Colston, Ph.D., Assistant Professor of History
Luis Suarez-Villa, Ph.D., Assistant Professor of Public Administration
Iliana L. Sonntag, M.L.S., M.A., Latin American Studies Bibliographer

Committee on Latin American Studies

Thomas M. Davies Jr., Chair

J. B. Esser
P. F. Flemion
B. E. Fredrich
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 meeting the requirements for admission to the University with classified graduate standing, as described in Part Three 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 Three 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 Three 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:

	600- and 700-numbered Courses	500-, 600- and 700-numbered Courses
Department A	6 units	6 units
Department B	3 units	3 units
Department C	3 units	3 units
	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.
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 PreHispanic America (3)
562. Art of Latin America (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. Andean Republics of South 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)

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)
570. Spanish-American Poetry (3)
571. Spanish-American Short Story (3)
572. Dramatic Expression in Modern Spanish-American Theatre (3)
596. Selected Studies in Spanish (3)*

APPLICABLE GRADUATE COURSES

Refer to graduate course descriptions in the sections of this bulletin under the departments of Anthropology, Art, Economics, Geography, History, Political Science, and Spanish and Portuguese Languages and Literatures.

Anthropology Courses

600. Seminar (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

Art Courses

798. Special Study (1-3) Cr/NC/SP
799A. Thesis or Project (3) Cr/NC/SP
799B. Thesis or Project Extension (0) Cr/NC

* Acceptable when of relevant content.

Economics Courses

660. Seminar in International Economics (3)*
665. Seminar in the Economics of Underdeveloped Countries (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

Geography Courses

620. Seminar in Regional Geography (3)*
650. Seminar in Systematic Geography (3)*
797. Research (1-3) Cr/NC/SP
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP
799B. Thesis Extension (0) Cr/NC

History Courses

640. Directed Reading in Latin American History (3)
645. Seminar in Latin American History (3)
795. Area Studies in History (1-3) Cr/NC*
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

Political Science Courses

655. Seminar in General Comparative Political Systems (3)*
661. Seminar in the Political Systems of the Developing Nations (3)*
667. Seminar in Latin American Political Systems (3)
795. Problems Analysis (3)*
797. Research in Political Science (3) Cr/NC/SP
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP
799B. Thesis Extension (0) Cr/NC

Spanish Courses

640. The Spanish-American Novel (3)
650. The Gaucho Epic (3)
660. Modernism (3)
690. The Spanish-American Essay (3)
695. Contemporary Spanish-American Prose Fiction (3)
750. Seminar in Spanish-American Literature (3)
755. Seminar in Spanish-American Culture and Thought (3)
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP
799B. Thesis Extension (0)Cr/NC

* Acceptable when of relevant content.

Linguistics

Faculty

Leonard Frey, Ph.D., Professor of Linguistics
Thomas Donahue, Ph.D., Associate Professor of Linguistics (Graduate Adviser)
Orin Seright, Ph.D., Associate Professor of Linguistics
Robert Underhill, Ph.D., Associate Professor of Linguistics, Chair of Department
Jeffrey Kaplan, Ph.D., Assistant Professor of Linguistics
Charlotte Webb, 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 Three of this bulletin, the student must present the Bachelor of Arts degree in Liberal Arts and Sciences at San Diego State University, or its 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 Three 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 Three 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 795, Seminar in Linguistics.
3. At least nine units chosen from Linguistics 520, 521, 522, 523, 524, 525, 550, 551, 552, 553, 560, 610, 611, 640, 641, 660, 750, 790, 798.
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 548, 549, 610, 770; or other electives outside of linguistics approved by the graduate adviser.
5. Linguistics 799A, Thesis, 3 units.
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

The Linguistics Department offers a Basic and an Advanced Certificate in Applied Linguistics. The Advanced Certificate requires 12 units of study consisting of Linguistics 525, 621, 622, and 795. 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
Prerequisite: Linguistics 101.
Introduction to the theoretical principles of transformational-generative phonology.

522. Syntax (3) I, II
Prerequisite: Linguistics 101.
Introduction to the theoretical principles of transformational-generative syntax.

523. Phonemics and Morphemics (3)
The study of procedures for arriving at the phonetic inventory of languages and the structuring of sound units (both linear and intonational) into phonemic systems; the study of morphemic hierarchies and their arrangements in forming words.

524. American Dialectology (3) I, II
The development of American English; regional and cultural differences in pronunciation, grammar and vocabulary.

525. Semantics and Pragmatics (3)
Prerequisite: Linguistics 101.
Advanced semantic theory; systematic analysis of the interaction of sequences of language with real world context in which they are used.

550. Theory and Practice of English as a Second Language (3) I, II
Prerequisite: Linguistics 450 or 420 or 520.
The nature of language learning; evaluation of techniques and materials for the teaching of English as a second language.

551. Sociolinguistics (3) I, II
Prerequisite: A course in introductory linguistics.
Investigation of the correlation of social structure and linguistic behavior.

552. Psycholinguistics (3) I, II
Prerequisite: A course in introductory linguistics.
Psychological aspects of linguistic behavior.

553. Functional Bilingual Linguistics (3) I, II
Prerequisites: Knowledge of Spanish, Linguistics 520, and consent of instructor.
Recommended prerequisites: Communicative Disorders 528 and 532.
English and Spanish linguistic differences as related to children's second language acquisition; assessment of children's linguistic competence in second language learning through contrastive analyses of English and Spanish phonology, morphology and syntax. Research on current linguistic theories in second language acquisition and in bilingualism.

560. Historical Linguistics (3)
Prerequisites: Linguistics 410 and 520 or 521.
Methods and principles used in historical study of language; processes of language change in phonology, morphology, syntax, and semantics; linguistic reconstruction; origin of language; language families; development of writing; examples from various language families.

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)

Spanish Courses

548. Spanish Linguistics (3)
549. Phonetics and Phonemics (3) II

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)
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 on 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 520 or 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.

641. Structure of a Non-Indo-European Language (3)
The structure of a non-Indo-European language, to be chosen by the instructor, including grammar, reading of texts, and sessions with a native speaker of the language, if possible.

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 to include a variety of approaches.

660. History of Linguistics (3)
Prequisite: 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/or semantic structure of that language. No instruction in speaking or understanding the spoken language is included in this course. Maximum credit six units applicable on 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

Hayes L. Anderson, Professor of Telecommunications and Film
Robert L. Benjamin, Professor of Speech Communication
Mohamed M. E. El-Assal, Ph.D., Professor of Sociology
Glen M. Broom, Ph.D., Associate Professor of Journalism, Chair of Committee and Graduate Coordinator
Barbara W. Hartung, Ph.D., Associate Professor of Journalism
Frederick W. Hornbeck, Ph.D., Associate Professor of Psychology
Myron W. Lustig, Ph.D., Associate Professor of Speech Communication
Michael R. Real, Ph.D., Associate Professor of Telecommunications and Film

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 Three 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 Aptitude Test of 950.

To be considered for admission to the graduate program in mass communications, an applicant must submit the following in addition to the common admissions form:

1. Two copies of all undergraduate transcripts as required by Part Three of this bulletin.
2. Three letters of recommendation, one of which must be from an academic reference and another from an occupational reference.
3. 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 Three 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 Three of this bulletin, the student must complete a minimum of 30 units from courses listed below as acceptable on master's degree programs. These units must be distributed among three of the departments cooperating in the degree program, with a minimum of 18 units in one department (Department A), and six units each in two other departments (Departments B and C). Two appropriate courses in a B department, and C department, at least one of which will be at the 600 or 700 level, will be approved by the Mass Communications Committee representatives of the B and C departments. At least 18 units in the total program must be in graduate-numbered courses, to be distributed among the selected three departments as follows:

	Graduate-numbered Courses	Upper Division for Graduate Credit or Graduate-numbered Courses
Department A	12 units	6 units
Department B	3 units	3 units
Department C	3 units	3 units
	18 units	12 units

A student whose preparation is deemed insufficient by his adviser or by the Mass Communications Committee for graduate level study in his selected A, B, or C department 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 30 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 Communications Committee in lieu of the thesis.

All programs will be approved by the Mass Communications 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.
Forces affecting American mass communications today: government restrictions, economics, pressure groups, censorship, mechanical developments, interrelationships of the media and society; professional ethics.

502. Law of Mass Communication (3)
Prerequisites: Journalism 220, or Political Science 102, or Telecommunications and Film 100, and upper division standing.
Libel, invasion of privacy, censorship, contempt of court, pornography. Constitutional guarantees affecting print and broadcast media. Government restrictions.

503. History of Mass Communication (3)
Prerequisites: Journalism 220 or History 110B, and upper division standing.
American journalism from colonial times to the present, with special attention to twentieth century trends and developments, including the emergent concept of social responsibility.

509. Research Methods in Mass Communication (3)
Prerequisites: Journalism 320 or 450 or 460 or 470 or 480. Upper division standing.
Investigative tools and methods of mass media; research, content analysis, readership studies, audience measurement, experimental designs, and representative studies.

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.
Prerequisites: Journalism 310 and 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)
537. Political Sociology (3)
545. Sociology of Mass Communications (3)

Family and Intimate Relations Area

527. Sociology of Aging (3)

Health and Social Behavior Area

523. The Sociology of Mental Illness (3)
526. Medical Sociology (3)

Law and Society Area

510. Sociology of Deviance (3)
515. Societal Processing of Criminals and Delinquents (3)

Social Change Area

519. Topics in Comparative Societies (3)
547. Sociology of Social Movements (3)
557. Urban Sociology (3)

Speech Communication Courses

530. Semantics (3) I, II
535. Theories of Human Communication (3) I, II
580. Communication and Politics (3)
589. Ethics of Speech Communication (3)
590. Empirical Study in Speech Communication (3) I, II
592. Persuasion (3) I, II

Telecommunications and Film Courses

500. Broadcast Management (3)
505. Government and Broadcasting (3)
510. Script Writing for Broadcasting and Film (3)
530. Radio Programing (3)
540. Broadcast Advertising (3)
570. Public Telecommunications (3)
580A-580B. Advanced Television Producing and Directing (3)
590. International Broadcasting (3)

GRADUATE COURSES

Journalism Courses

600. Seminar in Scope and Method of Mass Communications (3)
Intensive preparation in methodology applicable to the various fields related to mass media study.

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 408.
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.

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.

Psychology Courses

621. Seminar in Personnel 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

710. Seminar in Social Disorganization (3)
720. Seminar in Social Organization (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)
603. Seminar in Mass Communications Message Design (3)
610. Seminar in Writing for Broadcast and Film (3)
615. Seminar in Criticism of Broadcasting and Cinema (3)
620. Seminar in History of Broadcasting (3)
640. Seminar in Broadcast Advertising Problems (3)
670. Seminar in Public Telecommunications (3)
680. Seminar in Programing and Production (3)
700. Seminar in Broadcast Management (3)
705. Seminar in Government and Broadcasting (3)
770. Seminar in Teaching Broadcasting 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

Mathematical Sciences

(Courses in Mathematics)

Faculty

Gerald A. Becker, Ph.D., Professor of Mathematics
Charles B. Bell, Ph.D., Professor of Mathematics (M.S. Statistics Graduate Adviser)
Nicholas A. Branca, Ph.D., Professor of 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. Drobnies, Ph.D., Professor of Mathematics
Francis J. Flanigan, Ph.D., Professor of Mathematics
Leonard D. Fountain, Ph.D., Professor of Mathematics
Betty Garrison, Ph.D., Professor of Mathematics
Herbert A. Gindler, Ph.D., Professor of Mathematics
A. Raymond Harvey, Ph.D., Professor of Mathematics
Hung-Ta Ho, Ph.D., Professor of Mathematics
Calvin V. Holmes, Ph.D., Professor of Mathematics
Edgar J. Howard, Ph.D., Professor of Mathematics
Frank D. Lesley, Ph.D., Professor of Mathematics
Douglas B. McLeod, Ph.D., Professor of Mathematics (M.A.T. 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
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
Newton B. Smith, Ph.D., Professor of Mathematics
R. L. Van de Wetering, Ph.D., Professor of Mathematics, Chair of Department
Arnold L. Villone, Ph.D., Professor of Mathematics
LeRoy J. Warren, Ph.D., Professor of Mathematics
Kasi Ananthanarayanan, Ph.D., Associate Professor of Mathematics
Sara Baase, Ph.D., Associate Professor of Mathematics
Leland L. Beck, Ph.D., Associate Professor of Mathematics
David L. Burdick, Ph.D., Associate Professor of Mathematics
John Donald, Ph.D., Associate Professor of Mathematics
Carl F. Eckberg, Ph.D., Associate Professor of Mathematics (M.S. Computer Science Graduate Adviser)
John D. Elwin, Ph.D., Associate Professor of Mathematics
Richard A. Hager, Ph.D., Associate Professor of Mathematics (M.S. Graduate Adviser)
William R. Hintzman, Ph.D., Associate Professor of Mathematics
Robert P. Kopp, Ph.D., Associate Professor of Mathematics
Genovevo C. Lopez, Ph.D., Associate Professor of Mathematics
David W. Macky, Ph.D., Associate Professor of Mathematics
Bernard Marcus, Ph.D., Associate Professor of Mathematics
Wanda A. Marosz, M.A., Associate Professor of Mathemathics
Nenad Marovac, Ph.D., Associate Professor of Mathematics
Leon Nower, Ph.D., Asociate Professor of Mathematics
Peter Salamon, Ph.D., Associate Professor of Mathematics
Edward A. Silver, Ph.D., Associate Professor of Mathematics
Vernor S. Vinge, Ph.D., Associate Professor of Mathematics
David G. Whitman, Ph.D., Associate Professor of Mathematics
John L. Carroll, 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 Mathematics, to the Master of Science degree in Statistics, and to the Master of Science degree in Computer Science.

The Master of Arts degree in Mathematics is considered to be the basic academic degree in Mathematics. A candidate of the Master of Science degree is expected to concentrate his efforts in a technical area of mathematics. Within these limitations either degree can be considered as a stepping stone to a more advanced degree, if the student so desires.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three of this bulletin.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Three 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 Three of this bulletin, the student must complete a graduate program consisting of at least 24 units in mathematics from courses listed below as acceptable on master's degree programs. At least 15 units must be in 600- and 700-numbered courses in mathematics, exclusive of Mathematics 600, 601, 602, and 799A.

To satisfy the foreign language requirement, the student may present evidence that he/she has completed French 201, German 201, Russian 201, or Spanish 201, or their equivalent, with a grade of "C" or better, or the student may demonstrate a reading knowledge of French, German, Russian, or Spanish.

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 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 Three of this bulletin, the student must complete a graduate program which includes a concentration consisting of at least 21 units in mathematics selected from courses listed below as acceptable on master's degree programs 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 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 Mathematics

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this bulletin, the student must complete a graduate program which includes at least 24 units in mathematics selected from courses listed below as acceptable on a master's degree program to include at least 15 units of 600- and 700-numbered courses exclusive of Mathematics 600, 601, 602, and 799A. 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 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 Three of this bulletin, the student must meet the following departmental requirements:

1. Complete 15 units of 600- and 700-numbered courses, including twelve units from any two of the following year-course sequences:
   Mathematics 690A and 690B
   Mathematics 691A and 691B
   Mathematics 692A and 692B
   Mathematics 693A and 693B
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.

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 Three 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, Thesis. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.

Courses Acceptable on Master's Degree Programs in Computer Science, Mathematics and Statistics

UPPER DIVISION COURSES

510. Introduction to the Foundations of Geometry (3) II
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
Prerequisites: Mathematics 122 or 142 or 151 and consent of instructor.
Concurrence of lines, collinearity of points and other properties of figures not altered by projections; construction and study of ellipses, hyperbolas, and parabolas by means of projections.

512. Non-Euclidean Geometry (3)
Prerequisite: Mathematics 122 or 142 or 151.
History of attempts to prove the fifth postulate; emphasis on plane synthetic hyperbolic geometry; brief treatment of other types of non-Euclidean geometry.

520A. Linear Algebra (3) I, II
Prerequisite: Mathematics 123 or 142 or 152.
A study of linear equations, Euclidean spaces, linear transformations, matrices, determinants, and eigenvalues.

520B. Applied Linear Algebra (3)
Prerequisite: Mathematics 520A.
Jordan forms, vector and matrix norms, condition numbers, generalized inverses, linear programming, analysis of a few standard algorithms in linear algebra.

521A-521B. Modern Algebra (3-3) I, II
Prerequisites: Mathematics 142 or 152. Mathematics 521A is prerequisite to 521B.
Selected topics from modern algebra to include an introduction to the theory of groups, theory of equations, and finite mathematics.

522. Number Theory (3)
Prerequisite: Mathematics 142 or 152.
Selected topics from the theory of numbers to include congruences, Diophantine equations, and a study of prime numbers.

523. Mathematical Logic (3)
Prerequisite: Mathematics 142 or 151 or Philosophy 120.
The logical rules of proof governing sentential connectives and the universal and existential quantifiers with applications. Not open to students with credit in Philosophy 521.

530. Differential Equations (3) I, II
Prerequisite: Mathematics 142 or 152.
Ordinary differential equations with applications to geometry, physics and chemistry. Not open to students with credit in Mathematics 340A.

531. Partial Differential Equations (3)
Prerequisite: Mathematics 530.
Study of boundary-initial value problems via separation of variables, eigenfunction expansions, 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, theorem of Cauchy, Laurent series, calculus of residues.

533. Vector Analysis and Differential Geometry (3)
Prerequisite: Mathematics 142 or 152.
Vector algebra, differentiation and integration, classical theory of curves and surfaces, divergence theorem, Stokes' theorem and related integral theorems, curvilinear coordinates, elements of tensor analysis. Applications to geometry and physics.

534A. Advanced Calculus I (3)
Prerequisite: Mathematics 142 or 152.
The real number system, limits and other topics, with emphasis on functions of one variable.

534B. Advanced Calculus II (3)
Prerequisite: Mathematics 534A.
A continuation of Mathematics 534A with emphasis on functions of two or more variables.

535. Introduction to Topology (3)
Prerequisite: Mathematics 534A.
Topological spaces. Functions, mappings, and homeomorphisms. Connectivity, compactness. Metric spaces.

536. Mathematical Models (3)
Prerequisite: Mathematics 520A.
Analysis of complex systems in biological and social sciences. Applications of graphical methods, systems of differential equations and Markov chains to stability of populations, prices, allocation of resources, etc.

541A. Numerical Analysis and Computation (3) I
Prerequisites: Mathematics 107 and 142 or 152.
Iteration methods for solving nonlinear equations. Curve fitting. Interpolation: Lagrange's formula and Newton's formula. Numerical methods for integration. Runge-Kutta and predictor-corrector methods for solving systems of ordinary differential equations.

541B. Numerical Analysis and Computation (3) II
Prerequisites: Mathematics 340A or 530, 520A and 541A.
Numerical linear algebra: direct and iterative methods for solving systems of equations, methods for finding eigenvalues and eigenvectors. Optimization. Numerical methods for solving partial differential equations.

550. Probability (3)
Prerequisite: Credit or concurrent registration in Mathematics 152.
Definitions, computation of probability by enumeration of the cases, discrete and continuous random variables, density functions, moments, limit theorems, selected distributions.

551A. Mathematical Statistics (3) I, II
Prerequisite: Mathematics 142 or 152.
Probability models in the theory of statistics, sampling distributions with applications in statistical inference.

551B. Mathematical Statistics (3) II
Prerequisite: Mathematics 551A.
Point and interval estimation and hypothesis testing in statistical models with applications to problems in various fields.

553. Stochastic Processes (3)
Prerequisite: Mathematics 550.
Introduction to stochastic processes with selected applications.

554. Computer Oriented Statistical Analysis (3)
Prerequisite: Mathematics 350A.
Using statistical computer packages such as SPSS and BMDP to analyze problems involving experimental data. (Formerly numbered Mathematics 331.)

570. Data Structures (3)
Prerequisite: Mathematics 137.
Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Multilinked structures.

572. Programming Languages (3)
Prerequisite: Mathematics 137.
Formal definition of programming languages including specification of syntax and semantics. Structure of algorithmic languages. Special purpose languages.

573. Automata Theory (3) II
Prerequisite: Mathematics 371 or 521A.
Definition and algebraic description of finite automata. Reduced forms for sequential machines. Regular sets and expressions. Introduction to context-free languages.

574. Introduction to Computability (3)
Prerequisite: Mathematics 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.
Syntactical specification of languages. Scanners and parsers. Precedence grammars. Run-time storage organization. Code generation and optimization.

576. Artificial Intelligence (3) II
Prerequisite: Mathematics 371 or 523.
Heuristic approaches to problem solving. Systematic methods of search of the problem state space. Theorem proving by machine. Resolution principle and its applications.

577. Probability and Statistics (3) I
Prerequisite: Mathematics 142 or 151.
Probability, measures of central tendency and dispersion, characteristics of frequency functions of discrete and continuous variates; applications. Highly recommended for all prospective secondary school teachers of mathematics.

578. Algorithms and Their Analysis (3)
Prerequisite: Mathematics 570.
Algorithms for solving frequently occurring problems. Sorting, merging, fast matrix multiplication, graph problems (e.g., finding shortest paths), the assignment problem and others.

579. Combinatorics (3)
Prerequisite: Mathematics 122 or 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) I, II
Prerequisites: Mathematics 137and 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) I, II
Prerequisites: Mathematics 371 and 570.
Abstract data structures and techniques for their implementation. Review of sentenial 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.

583. Computer Simulation (3) I, II
Prerequisites: Mathematics 350A and 541A.
Methodology of simulation for discrete and continuous dynamic systems. State-of-the-art programming techniques and languages. Statistical aspects of simulation. Students will design, program, execute and document a simulation of their choice.

596. Advanced Topics in Mathematics (1-4) I, II
Prerequisite: Consent of instructor.
Selected topics in classical and modern mathematics. May be repeated with the approval of the instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES IN MATHEMATICS

600. Geometrical Systems (3)
Prerequisites: Mathematics 521A and an upper division course in geometry.
Ordered and affine geometries, decompositions, dilations. Projectivities and projective space. Absolute geometry, isometrics, 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 the 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.

620. Rings and Ideals (3)
Prerequisite: Mathematics 521B.
A development of the theory of rings.

621. Theory of Groups (3)
Prerequisite: Mathematics 521B.
A development of the theory of groups.

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)
Prerequisite: Mathematics 534B. Mathematics 630A is prerequisite to 630B.
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. Functional Analysis (3)
Prerequisites: Mathematics 520A and 535.
Banach spaces, Hilbert spaces, spectral theory and Banach algebras.

633. Topology (3)
Prerequisite: Mathematics 535.
Metric spaces, separation axioms, product and identification spaces, homotopic maps and the fundamental group.

634. Advanced Ordinary Differential Equations (3)
Prerequisites: Mathematics 530 and 534A.
Existence and uniqueness theorems. Wronskians, adjoint systems, Sturm-Liouville boundary value problems, equations of Fuchsian type.

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.

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 quadraic forms; linear and curvilinear models; general linear hypotheses 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.

690A-690B. Theory of Computability and Algorithms (3-3)
Prerequisite: Mathematics 371. Recommended: Mathematics 573, 574 and 578.
Turing machines and other formal models of computation. Application to solvability and unsolvability. Analysis of space and time behavior of numerous algorithms. NP—complete problems. Approximation algorithms.

691A-691B. Formal Languages and Syntactic Analysis (3-3)
Prerequisites: Mathematics 570, 572 and 573 or 574.
Definition of formal grammars; arithmetic expressions and precedence grammars, context-free and finitestate grammars. Algorithms for syntactic analysis. Relationship between formal languages and automata.

692A-692B. Computer Architecture and Programming Systems (3-3)
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.

693A. Advanced Numerical Analysis (3)
Prerequisites: Mathematics 520A and 541B.
Numerical methods in linear algebra (solving linear systems, inverting matrices, eigenvalue problems), Elimination and iteration methods. Ill-conditioned systems. Detailed error analysis.

693B. Advanced Numerical Analysis (3)
Prerequisite: Mathematics 693A.
Polynomial approximation (least squares approximation, orthogonal polynomials, Chebyshev polynomials, trigonometric approximation), numerical solution of partial differential equations.

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.

720. Seminar (1-3)
Prerequisite: Consent of instructor.
An intensive study in advanced mathematics. 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: Six units of graduate level mathematics.
Research in one of the fields of mathematics. 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.

Microbiology

Faculty

William L. Baxter, Ph.D., Professor of Microbiology
Beatrice L. Kelly, 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. Walch, Ph.D., Professor of Microbiology
Barbara B. Hemmingsen, Ph.D., Associate Professor of Microbiology
Leroy N. Phelps, Ph.D., Associate Professor of Microbiology
Mary Ann T. Fuller, Ph.D., Assistant 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 Three 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 Graduate Record Examination 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 Three 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 Three 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; 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 School 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

510. Advanced General Microbiology (4) II
Two lectures and six hours of laboratory.
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.

515. Bacterial and Viral Genetics (2) I, II
Prerequisites: Chemistry 361A; Microbiology 310.
The genetics of bacteriophages and bacteria.

520. Pathogenic Bacteriology (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Microbiology 310 with a minimum grade of C; Chemistry 250 or 251. Recommended: Chemistry 361A.
Bacterial and rickettsial agents of disease in man and other animals. Consideration of host-parasite relationships, the biology of the inciting agents and mechanisms of host resistance. Laboratory experience in isolation and identification of bacterial pathogens.

525. Medical Mycology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Microbiology 310.
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 330 and 520.
Viruses, their structure, function, culture, and methods of study.

535L. General Virology Laboratory (2) II
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Microbiology 535.
The culture, isolation, and characterization of viruses.

560. Marine Microbiology (2) I
Prerequisites: Microbiology 310 or an introductory course in microbiology and consent of instructor.
Microbiological population of estuary and ocean waters; interrelationships with other organisms and the physical and chemical environment.

560L. Marine Microbiology Laboratory (2) I
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Microbiology 560.

580. Animal Viruses (4) I
Two lectures and six hours of laboratory.
Prerequisite: Microbiology 535. Recommended: Microbiology 330, 520 and 535L.
Animal virus identification and investigation, emphasizing cell culture, cytopathic effects and serology.

590. Electron Microscopy (4) II
Two lectures and six hours of laboratory.
Prerequisites: Physics 180A-180B and 182A-182B; Microbiology 310. Recommended: Microbiology 535 and Zoology 508.
Principles and techniques in the biological application of the electron microscope.

596. Selected Topics in Microbiology (1-3)
Prerequisite: Consent of instructor.
Study of specific subject areas. Maximum credit six units to be taken in two different subject areas. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. See Class Schedule for specific content.

Biology Courses

501. Population Biology (4)
502. Cellular Physiology (4)
503. Genetics (4)
519. Statistical Methods in Biology (3)
530. Limnology (4)
531. Biological Oceanography (4)
535. Systems Ecology (4)
545. Cytogenetics (4)
546. Mutagenesis (3)
547. Microbial Genetics (3)
561. Topics in Cellular Physiology (3)
566. Photobiology (3)
568. Immunochemistry (3)
570. Radiation Biology (3)
570L. Radiation Biology Laboratory (2)
571. Radioisotope Techniques in Biology (4)
572. Physiology of Human Systems (3)

Botany Courses

501. Phycology (4)
502. Mycology (4)

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 320 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 320.
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 330.
May be repeated with new content. Maximum credit four units applicable on a master's degree.

640. Seminar in Bacterial and Viral Genetics (2)
Prerequisite: Microbiology 515.
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 320 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.

796. Advanced Topics in Microbiology (1-3)
Study of contemporary subject areas. May be repeated with new content area. Maximum credit six units applicable on a master's degree. See Class Schedule for specific content.

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

640. Seminar in Genetics (2)
672. Molecular Biophysics (3)

Botany Courses

601. Seminar in Phycology (2)
602. Seminar in Mycology (2)

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)

Music

Faculty

Frank W. Almond, Ph.D., Professor of Music
Paul V. Anderson, M.M., Professor of Music
Millard R. Biggs, Ph.D., Professor of Music (Graduate Adviser), Interim Chair of Department
John D. Blyth, Ed.D., Professor of Music
Robert E. Brown, Ph.D., Professor of Music
Conrad Bruderer, D.M., Professor of Music
Theodore R. Brunson, D.M.A., Professor of Music
Russell R. Estes, D.M.A., Professor of Music
Robert E. Forman, Ed.D., Professor of Music
Cleve Genzlinger, M.M., Professor of Music
Merle E. Hogg, Ph.D., Professor of Music
Arthur A. Lambert, Ph.D., Professor of Music
Eddie S. Meadows, Ph.D., Professor of Music
Jaroslav J. S. Mracek, Ph.D., Professor of Music
John M. Sheldon, Ed.D., Professor of Music
Mervin S. Snider, M.A., Professor of Music
David Ward-Steinman, D.M.A., Professor of Music
Charles D. Yates, M.A., Professor of Music
Howard Hill, M.A. Associate Professor of Music
Jack D. Logan, Ph.D., Associate Professor of Music
David M. Loomis, M.M., Associate Professor of Music
Danlee G. Mitchell, M.S., Associate Professor of Music
Jean T. Moe, M.A., Associate Professor of Music
Raymond George, M.A., Assistant Professor of Music
Jane M. Kolar, Ph.D., Assistant Professor of Music
Terry L. O'Donnell, D.M.A., Assistant Professor of Music
Harold D. Warman, M.A., Assistant Professor of Music

Scholarships

Information on music scholarships may be obtained by writing to the Chair, Music Scholarship Committee, Music Department, San Diego State University.

General Information

The Department of Music, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts degree in Music. The department is a member of the National Association of Schools of Music.

With the approval of the department, students may select courses emphasizing one of the following areas: composition, musicology, music history and literature, music education, performance, theory, world music, piano pedagogy, and Suzuki string pedagogy.

Admission to Graduate Study

Application Procedure:

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.

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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 Three of this bulletin, a student must satisfy the following requirements before he or she 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 emphasis of his or her choice by the departmental graduate committee.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Three of this bulletin, and must have removed any deficiencies assigned on the basis of the placement examinations.

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 Three 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 16 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, 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. 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.

Courses Acceptable on Master's Degree Programs 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

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 258B. Music 552A is prerequisite to 552B.
The chronological development of musical art and forms from the Middle Ages to the present. Analytical score study and assigned recordings. Familiarity with musicological resources through individual assignments.

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 258B.
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 — Strings
B. Symphonic Literature
C. Keyboard Literature
D. Song Literature

561. Area Studies: Ethnomusicology (3) I, II
Prerequisites: Music 351E and 351F.
Music of a specific culture. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

562. World Music in Context (2)
One lecture and two hours of activity.
Prerequisites: Music 351E or 351F and consent of instructor.
Practical experience in 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.

566. Advanced Jazz Improvisation (1) I, II
Two hours.
Style analysis of jazz solos. Development of individual styles and approaches. Development of repertoire.

569. Advanced Collegium Musicum (1) I, II
Prerequisite: Music 369.
Preparation and performance of representative works by a specific medieval or renaissance composer on historical instruments. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

570. Advanced Chamber Music (1) I, II
Three hours.
Prerequisite: Consent of instructor.
Study and public performance of established repertory as well as new compositions. Sections for string, woodwind, brass, piano and mixed ensemble groups. May be repeated with new course content. See Class Schedule for specific content. Maximum credit four units.

580. Analogs in Music, Art, and Literature (3) I
Prerequisite: At least one survey course in music history or appreciation, art history, or comparative literature.
Cross-influences and correspondences in the arts from the standpoints of style, texture, rhythm, and form.

596. Special Topics in Music (1-3)
A specialized study of selected topics from the several areas of music. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 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 idiom, 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.

611. Seminar in Analytical Studies of Music (3)
Melodic, formal, contrapuntal and harmonic analysis of music.

613. Seminar: Music Theory (3)
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 448A.
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.

650. Advanced Performance Studies (2) (1-2 units for 650D)
Fifteen one-hour private lessons.
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 eight units, four of which are applicable on a master's 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.

658. Comprehensive Musicianship Practicum (3)
One lecture and six hours of activity.
Prerequisites: 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 Franconian 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.

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 (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.

Natural Science

Faculty

Norman F. Dessel, Ph.D., Professor of Natural Science
Dale E. Ingmanson, Ed.D., Professor of Natural Science (Graduate Adviser)
Charles M. Shull, Ph.D., Professor of Natural Science
Elsa Feher, Ph.D., Associate Professor of Natural Science, Chair of Department

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 COURSE
(Also Acceptable for Advanced Degrees)

522A-522B. Curricula in Physical Science (3-3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Completion of all lower division science preparation for a program of study leading to a teaching credential in a natural science area.
Principles of physical science as presented in national curriculum study courses such as Project Physics, PSSC, IPS, and PSNS.
May be taken for graduate credit only by candidates for a Master of Arts degree in Education in secondary curriculum and instruction.

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, Director of School
Loretta Birckhead, Ed.D., Associate Professor of Nursing
Jan Heineken, Ph.D., Associate Professor of Nursing
Sharon McDonald, Ph.D., Associate Professor of Nursing
Gwendolyn Safier, Ph.D., Associate Professor of Nursing
Muriel Standeven, Ph.D., Associate Professor of Nursing
Pauline Lucas, Ph.D., Lecturer in Nursing

General Information

The School of Nursing in the College of Human Services offers advanced course work in nursing which may be used toward fulfilling the requirements for master's degrees in other departments with the approval of the student's graduate adviser.

Health Services Credential

San Diego State University offers curricula leading to the Health Services Credential. This authorizes the holder to serve as a School Nurse. For information concerning the credential, the student is referred to the School of Nursing Office, SS-101.

The Health Services Credential has been approved by the Commission for Teacher Preparation and Licensing.

The requirements for the credential are in the process of being revised. Consult the School of Nursing for information.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

500. Client Assessment (4)
Three lectures and three hours of laboratory.
Prerequisite: Consent of graduate adviser.
Physical diagnosis and psychosocial assessment of clients with health problems. Nursing process emphasis to include biopsychosocial health history and nursing diagnosis.

GRADUATE COURSES

602. Issues in Nursing and Health Care (2) I
Current literature about issues and trends in nursing and related fields.

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.

Philosophy

Faculty

Michael J. Carella, Ph.D., Professor of Philosophy, Chair of Department
Patricia A. Crawford, Ph.D., Professor of Philosophy
Andrew L. Feenberg, Ph.D., Professor of Philosophy
Roy J. Howard, Ph.D., Professor of Philosophy
Jack McClurg, Ph.D., Professor of Philosophy
Sherwood M. Nelson, Ph.D., Professor of Philosophy
Peter O'Reilly, Ph.D., Professor of Philosophy (Graduate Adviser)
Leon Rosenstein, Ph.D., Professor of Philosophy
Harry Ruja, Ph.D., Professor of Philosophy
William S. Snyder, Ph.D., Professor of Philosophy
Edward W. Warren, Ph.D., Professor of Philosophy
Stanley N. Weissman, Ph.D., Professor of Philosophy
Eugene Troxell, Ph.D., Associate Professor of Philosophy
Thomas S. Weston, Ph.D., Associate Professor of Philosophy

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 Three 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 Three 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 Three 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 796.

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. (Formerly numbered Philosophy 505B.)

507. Twentieth Century Anglo-American Philosophy (3)
Prerequisite: Six units of philosophy.
Major figures and movements in Anglo-American philosophy since World War I. (Formerly numbered Philosophy 505A.)

508. Existentialism (3)
Prerequisite: Six units of philosophy.
The philosophical aspects of Existentialism. Major emphasis is on the diversity of thought within a common approach as this is shown in individual thinkers.

509. Ordinary Language Analysis (3)
Prerequisite: Six units of philosophy.
Foundations of linguistic philosophy with emphasis on achieving an awareness of the relationship between thinking and language.

510. Philosophy of Law (3)
Prerequisites: Three units of philosophy and three units of political science.
The nature of law and the logic of legal reasoning. An exploration of certain key legal concepts such as causation, responsibility, personality and property.

512. Political Philosophy (3)
Prerequisite: Philosophy 101, 102 or 103.
Selected aspects of the political structures within which we live, such as law, power, sovereignty, justice, liberty, 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.
Definition, classification and division. The logic of experimentation and statistics. Formation and validation of hypotheses. Probability theories.

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 1850 to the 1920s: idealism, pragmation, new and critical realism.

575. A Major Philosopher (3)
Prerequisite: Six units of philosophy.
The writings of one major philosopher. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to the major. Maximum credit six units applicable on a master's degree.

596. Selected Topics (3)
Prerequisite: Six units of philosophy.
A critical analysis of a major problem or movement in philosophy. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable toward the major in philosophy. Maximum credit six units for both 596 and 795 applicable to a master's degree. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

GRADUATE COURSES

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., 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.

635. Seminar in Philosophy of Religion (3)
Prerequisite: Twelve upper division units in philosophy.
A philosophical investigation of the nature of religious thought: its structure, growth and significance.

637. Seminar in Philosophy of Science (3)
Prerequisite: Twelve upper division units in philosophy.
The methodology of the empirical sciences. The logical structure of science.

795. Seminar in Selected Topics (3)
Prerequisite: Twelve upper division units in philosophy.
Directed research in a major problem or movement in philosophy. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

796. Studies in Philosophy (1-3) Cr/NC
Prerequisites: An officially appointed examining committee and advancement to candidacy.
Preparation for the comprehensive examination for students taking the M.A. under Plan B. Maximum credit three units applicable on a master's degree.

798. Special Study (1-3) Cr/NC/SP
Prerequisites: Twelve upper division units in philosophy 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.

Physical Education

Faculty

Ruth Andrus, Ph.D., Professor of Physical Education (Graduate Adviser)
B. Robert Carlson, Ph.D., Professor of Physical Education, Chair of Department
Lindsay J. E. Carter, Ph.D., Professor of Physical Education
Lyle Olsen, Ed.D., Professor of Physical Education
William H. Phillips, Ed.D., Professor of Physical Education
Dennis Selder, Ph.D., Professor of Physical Education
Anthony A. Sucec, Ed.D., Professor of Physical Education
Peter Aufsesser, Ph.D., Associate Professor of Physical Education
Roger Simmons, Ph.D., Associate Professor of Physical Education
George Willis, M.A., Associate Professor of Physical Education
Peter Francis, Ph.D., Assistant Professor of Physical Education
Graham Hempel, M.A., Assistant Professor of Physical Education
Harry King, Ph.D., Assistant Professor of Physical Education
Thom McKenzie, Ph.D., Assistant Professor of Physical Education
Robert Mechikoff, Ph.D., Assistant Professor of Physical Education
Melissa Nunn, M.A., Assistant Professor of Physical Education
Susan Bandy, Ph.D., Lecturer in Physical Education
Elizabeth Clark, Ph.D., Lecturer in Physical Education
Pat Sandback, M.A., Lecturer in Physical Education

Assistantships

Graduate teaching assistantships in physical education 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 Physical Education, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts degree in Physical Education

Admission to Graduate Study

Students will be admitted to the graduate program in physical education only after careful consideration of their qualifications by the Physical Education Graduate Committee. Complete applications must be received by the Office of Admissions prior to March 1 for the fall semester and November 1 for the spring semester.

All students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Three of this bulletin. In addition, a student applying for admission to the graduate program in physical education must meet the following requirements:

1. A bachelor's degree in physical education. Applicants who do not have an undergraduate major in physical education may be admitted to conditionally classified graduate standing on the recommendation of the departmental graduate adviser. They will be required to complete the minimum requirements for an undergraduate major in physical education in addition to the minimum of 30 units required for the master's degree.
2. A grade point average of not less than 3.0 in the last 60 units attempted.
3. A total score on the GRE Aptitude Test (verbal and quantitative) of at least 950.

Advancement to Candidacy

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

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 Three 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 are required. Each candidate will be required to complete an area of specialization after consulting the graduate adviser. The student is required to pass a final oral examination on the thesis.

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 Adviser before being forwarded to 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.

Certificate in Cardiopulmonary Specialist

Students wishing to qualify for the American College of Sports Medicine Certificate Technician and Exercise Specialist in Preventive and Rehabilitation Programs should meet the requirements for an undergraduate degree in physical education. In addition the following courses are required: Physical Education 110A, 115A, 125A, 129B, 362, 567, 663, 666, 669, and Chemistry 100. (20 units.)

Adapted Physical Education Credential

Admission Categories

Conditional: 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.

Classified: Physical Education major with a minimum GPA 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.

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. (Preliminary credential.)

Program

Candidates for this program in adapted physical education must complete the requirements for the single subject teaching credential in physical education, apply for the program, be accepted, and complete the following specialist course work.

1. *Adapted Program:* Minimum 15 units.
   a. *Required:* Physical Education 567, 568, 667, 672, and Special Education 501.
   b. *Electives:* Minimum of four units selected with the approval of Adapted coordinator from Physical Education 323, 563, 600 (Therapeutic Exercise), 660, 663, 664, 666, 669. Special Education 500, 510 or 596.
   c. Other courses with approval of Coordinator of Adapted Physical Education.
2. *Practical Experience and Student Teaching:* The candidate must complete four units of Physical Education 368 Adapted Laboratory and a full-time student teaching experience in adapted physical education or equivalent experience.

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* Prerequisites waived.

Courses Acceptable on Master's Degree Programs in Physical Education

UPPER DIVISION COURSES

550. Choreography: Basic Elements (2)
Four hours of activity.
Prerequisite: Completion of preparation for the major in physical education with emphasis in dance.
Using concepts of space, time, and energy to investigate and explore basic elements of choreography. Studies and compositions emphasizing solo and small group works.

551. Choreography: Large Groups (2)
Four hours of activity.
Prerequisite: Physical Education 550.
Introducing large group works, solo and small group work in organizing more complex arrangements of the basic elements of dance composition. Utilizing music and sound as aural contributions to choreography.

552. Choreography: Form and Content (2)
Four hours of activity.
Prerequisite: Physical Education 551.
Approaching dance as a fundamental means of communication. Recognizing the relationship between form and content.

553. Choreography: Recital (2)
Four hours of activity.
Prerequisite: Physical Education 552.
Choreography of solo and group works utilizing symbiotic relationship of movement, sound, lighting, costuming, and other interdisciplinary media. Presentation of a recital.

556. History and Philosophy of Dance (2)
The cultural background of all forms of dance in various civilizations with emphasis on the relationship of the social structure to the existing dance forms.

557. Dance Criticism (2)
Prerequisite: Physical Education 556.
Artistic aspects of dance in general and specifically modern dance. Professional preparation and function of the dance critic.

560. Applied Anatomy and Kinesiology (3)
Prerequisites: Biology 362 and Zoology 108.
Arthrology, syndesmology and myology, with emphasis on movement analysis. Muscle groups and their functional relationships. Application of simple mechanical principles to movement analysis.

561. Physiology of Exercise (3)
Prerequisites: Biology 362 and Zoology 108.
Effects of physical activities on the physiological functions of the body.

562. Cardiopulmonary Laboratory (2)
One lecture and three hours of laboratory.
Prerequisites: Physical Education 362 and 561.
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.

563. Biomechanics of Human Movement (2)
Prerequisite: Zoology 108.
Mechanical principles as applied to movement; analysis and application to selected motor skills.

564. Cause and Prevention of Sport Injury (3)
Prerequisites: Physical Education 265, 560, 561, 563.
Kinesiological, mechanical and physiological bases of the causes and preventative aspects of sport injuries. Sports safety and effects of athletic environment on health and welfare of the athlete, mechanics of injury. Athlete, athletic trainer, physician, coach responsibilities as related to sports injury cause and prevention.

565. Evaluation and Rehabilitation of Sports Injury (2)
One lecture and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Physical Education 564.
Theoretical and practical experience in application of athletic injury evaluation technique. Physiological, mechanical and practical considerations in selecting and applying physical modalities and therapeutic exercise techniques for sports injury rehabilitation.

567. Corrective and Orthopedic Physical Education (3)
Prerequisites: Physical Education 560 and 561.
Etiology, characteristics, and programs for children with corrective and/or physically handicapping conditions will be discussed. This will include evaluating and implementing prescribed activities for individuals with these types of conditions.

568. Special Physical Education (2)
Prerequisites: Psychology 101 and Physical Education 371.
Etiologies, characteristics, and education programs for mentally retarded, emotionally disturbed, learning disabled, blind and hearing impaired individuals. Specific programs and activities are discussed relevant to each of disabled groups mentioned.

570. Psychological Bases of Physical Education (3)
Prerequisite: Psychology 101.
Psychological parameters related to physical performance and the acquisition of motor skills.

585. Measurement and Evaluation in Physical Education (3)
Use of testing and measurement to improve and evaluate instruction: Concepts of elementary statistics, computer use, objectives definition, test construction, test evaluation, and test program administration.

596. Selected Topics in Physical Education (1-3)
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.

GRADUATE COURSES

600. Seminar (3)
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.

631. Seminar in Competitive Athletics (3)
Knowledge and appreciation of the skills, techniques and teaching methods involved in the coaching of athletics; the study of possible solutions to problems associated with the program of competitive school athletics.

651. Administrative Professional/Educational Dance (3)
Planning, implementing, financing, staffing, supervising, and evaluating dance in both the academic and consumer mode.

652. Dance Ethnology: Traditional Dances in Selected Cultures (3)
One lecture and four hours of activity.
Prerequisites: Physical Education 133B and 154.
Role of traditional dances in selected cultures. Research methods used to collect and preserve these dances.

653. Seminar in Dance (3)
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.

654. Dance Apprenticeship (3)
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 repertory. Participate in major production.

655. Dance Internship (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.

660. Seminar in Advanced Kinesiology and Biomechanics (3)
Prerequisites: Physical Education 560, 563. Recommended: Physical Education 364.
Principles of mechanics applied to the analysis of human motion. Electromyography and cinematography as aids in analysis. Kinetic analysis of movement.

661. Seminar in Advanced Physiology of Exercise (3)
Prerequisites: Physical Education 560 and 561.
Advanced aspects of the physiology of exercise. Effects of exercise on human beings in relation to health, longevity, morphology and performance.

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. Fitness of Adults (3)
One lecture and six hours of laboratory.
Prerequisites: Physical Education 362 and 561.
Evaluation, exercise prescription and training of adults. An understanding of the underlying hypokinetic diseases of adults and the procedures used in coping with the associated health problems of an automated environment.

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.

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.

674. 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 376.
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.

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.

685. Seminar in Advanced Evaluation in Physical Education (3)
Prerequisite: Physical Education 585.
Methods, statistical techniques and apparatus used in testing physical performance. Sources of error, limitations on application and interpretation. Practice in construction and use of tests.

791. Seminar in Research Techniques (3)
Prerequisites: Major in physical education and Physical Education 585.
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.)

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
John D. Garrison, Ph.D., Professor of Physics
Roger A. Lilly, Ph.D., Professor of 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. Rehfuss, Ph.D., Professor of Physics
Stephen B. W. Roeder, Ph.D., Professor of Physics and Chemistry
Herbert B. Shore, Ph.D., Professor of Physics
Lester L. Skolil, Ph.D., Professor of Physics
John G. Teasdale, Ph.D., Professor of Physics
Jacques D. Templin, Ph.D., Professor of Physics (Graduate Adviser)
Don M. Cottrell, Ph.D., Associate Professor of Physics
Willard M. Cronyn, Ph.D., Associate Professor of Physics
Jerry E. Solomon, Ph.D., Associate Professor of Physics
Alan R. Sweedler, 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 Three 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 Three 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 Three 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 Three 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 Three 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 the 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 Three 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 Three 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 Three of this bulletin, the student must complete a graduate program of at least 30 units which includes the following courses:

	Units
Biology 570, Radiation Biology	3
Biology 570L, Radiation Biology Laboratory	2
Physics 655, Radiation Physics	3
Physics 659, Health Physics	3
Physics 797, Research	3
Physics 799A, Thesis	3
Four units selected from Physics 515, 560, 563, 565, 657, 667, and 669	
Total units	21

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, Radioisotope Techniques in Biology (4 units) is strongly recommended. The student is required to pass a final oral examination on the thesis.

Courses Acceptable on Master's Degree Programs in Physics

UPPER DIVISION COURSES

510. Quantum Mechanics (3)
Prerequisites: Physics 350A, 354B; Mathematics 340B or 531.
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.

515. Electronics of Nuclear Instrumentation (1)
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.

516A-516B. Theory of Scientific Instrumentation (3-2)
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. (Formerly numbered Physics 416.)

518. Minicomputer Interfacing (3)
Two lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Physics 413.
Theory and practice of minicomputer interfacing and control techniques, including minicomputer architecture on a block-diagram level, bus structure, and I/O signals. Assembly language programming and applications to I/O involving instrumentation peripherals. (Formerly numbered Physics 418.)

520. Microprocessor Instrumentation (3)
Two lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Physics 413.
The electronics of microprocessor-based computer and control systems. Assembly language programming. Interfacing of analog inputs and outputs. The microcomputer as a multipurpose signal processing instrument.

532. Solid State Physics (3) II
Prerequisites: Physics 350A, 354B; Mathematics 340B or 531.
Elastic, thermal, electric, magnetic and optical properties of solids. Introduction to the energy band theory of solids, with applications to semiconductors and metals.

542. Acoustics (3)
Prerequisite: Physics 350A.
Wave motion, production, reception, transmission and analysis of sound. Special applications such as environmental noise, underwater and seismic waves.

552. Modern Optics and Lasers (3)
Prerequisite: Physics 306.
Electromagnetic theory, matrix methods of optics, propagation of Gaussian beams, optical resonators, interaction of radiation and atomic systems, theory of laser oscillation, nonlinear optics, specific laser systems, optical detectors, applications of lasers in physics.

553. Modern Optics Laboratory (2)
Six hours of laboratory.
Prerequisite recommended: Credit or concurrent registration in Physics 552.
Experiments in various fields of modern optics such as holography, physics of lasers, Fourier transform spectroscopy, Raman spectroscopy, light modulation techniques, fiber optics, spatial filtering, diffraction grating spectroscopy, radiometry, and nonlinear optics. May be repeated with new content with the approval of the instructor for a maximum of four units.

560. Physics of Nuclear Medicine (1) II
Three hours of laboratory.
Prerequisite: Physics 561.
Topics and experimental problems in the diagnostic use of radioactive isotopes in nuclear medicine. (Formerly numbered Physics 660.)

561. Nuclear Physics Laboratory (3)
One lecture and six hours of laboratory.
Prerequisites: Physics 303 or 357, Mathematics 123 or 152.
Techniques and instrumentation for the detection, identification and measurement of the properties of nuclear radiations and particles, and their use in the study of nuclear reactions.

563. Physics of Nonionizing Radiation (1)
Three hours of laboratory.
Prerequisite: Physics 303 or 357.
Topics and experimental problems in radiation protection in nonionizing radiation.

564. Nuclear and Elementary Particle Physics (3)
Prerequisite: Physics 354B.
Nuclear and elementary particle phenomena including nuclear structure of reactions, nuclear devices, elementary particle symmetry and structure, and experimental methods.

565. Physics of X-Rays (1) I
Three hours of laboratory.
Prerequisite: Physics 561.
Topics and experimental problems in the use of X-rays.

570. Relativity (3)
Prerequisites: Physics 354A, 400A; Mathematics 340B or 531. Recommended: Mathematics 149 or 520A.
Relative coordinates, Lorentz transformation, covariant formation of the laws of physics, applications of special relativity, introduction to curved space time, cosmology.

596. Special Topics in Physics (1-4) I, II
Prerequisite: Consent of instructor.
Selected topics in classical and modern physics. May be repeated with the consent of the instructor. See Class Schedule for specific content. 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)
Prerequisite: Consent of instructor.
An intensive study in advanced physics. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable on a master's degree.

602A-602B. Mathematics of Physics (3-3)
Prerequisite: Mathematics 340B. Physics 602A is prerequisite to 602B.
Topics from matrix theory, vector and tensor analysis, orthogonal function theory, calculus of variations and probability theory with particular emphasis on applications to physical theory.

604A-604B. Electromagnetic Theory (3-3)
Prerequisite: Physics 400B. Physics 604A is prerequisite to 604B.
Boundary value problems; time varying electric and magnetic fields; propagation of radiation; antennas, wave guides.

606. Statistical Mechanics (3)
Prerequisites: Physics 350B and 510.
Classical and quantum statistics, kinetic theory, low-pressure phenomena, Boltzmann transport equation, irreversible processes.

610. Quantum Mechanics (3)
Prerequisite: Physics 510.
Quantum theory of radiation, molecular and nuclear systems. Approximation methods.

632. Theory of the Solid State (3)
Prerequisites: Physics 510 and 532.
The band theory of solids, with applications to the electrical and optical properties of dielectrics, semiconductors and metals.

652. Advanced Optics (3)
Prerequisite: Physics 552.
Selected topics in advanced optics such as rigorous diffraction theory, optical spectra, lasers, nonlinear optics and applications of Fourier analysis to optical systems and information processing.

653. Advanced Optics Laboratory (2) I II
Six hours of laboratory.
Prerequisite: Registration requires prior approval of instructor.
Experimental projects involving lasers, nonlinear, optical phenomena, Fourier optics, spectroscopy, optical scattering and other areas of current optical interest.

654. Gravitation (3)
Prerequisite: Physics 570.
Differential geometry, metric geodesies, Equivalence Principle, collapsed objects, black holes, gravitational waves, evolution of the universe.

655. Radiation Physics (3) I
One lecture and six hours of laboratory.
Prerequisite: Physics 561.
Topics and problems including sources of nuclear, X-ray and accelerator radiation; its interaction with matter; shielding and detection.

657. Physics of Radiation Therapy (1) II
Three hours of laboratory.
Prerequisite: Physics 655.
Topics and experimental problems in the use of ionizing radiation in therapy.

659. Health Physics (3) II
One lecture and six hours of laboratory.
Prerequisite: Physics 561.
Principles of radiation protection, radiation safety criteria and the assumptions inherent in radiation protection guides.

661. Advanced Nuclear Physics Laboratory (3)
One lecture and six hours of laboratory.
Prerequisite: Physics 561.
Experimental work involving subcritical reactor assembly, neutron generator, whole-body counter.

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
Mel Crain, Ph.D., Professor of Political Science
Ivo K. Feierabend, Ph.D., Professor of Political Science
Richard Y. Funston, Ph.D., Professor of Political Science
Richard C. Gripp, Ph.D., Professor of Political Science
Henry L. Janssen, 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. Loveman, Ph.D., Professor of Political Science
E. Walter Miles, Ph.D., Professor of Political Science
Betty A. Nesvold, Ph.D., Professor of Political Science, Associate Dean of the College of Arts and Letters
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. Cutter, Ph.D., Associate Professor of Political Science
Lyndelle D. Fairlie, Ph.D., Associate Professor of Political Science
John A. Hobbs, Ph.D., Associate Professor of Political Science
Woodrow Jones Jr., 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 Three 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 Three 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 Three 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 797. 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, census data, 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 305 or 320, will also meet all requirements in American Institutions.

523. Community Political Analysis (3)
Prerequisite: Political Science 101 or 102.
Community power structures. Analysis of policy alternatives; strategies of community development and approach to social planning and organization. Examples are primarily from the American experience, but some comparative materials may be discussed.

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.
Analysis of principal institutions, functions and problems of the presidency and federal executive branch. Attention given to presidential leadership, staffing, executive-legislative relations and policy formation.

537. The Politics of Bureaucracy (3)
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, emphasis on industrialized nations. Policy areas chosen from: education, health, nutrition, crime, transportation, housing, energy, population control, poverty, unemployment, inflation.

566. Political Change in Latin America (3)
Prerequisite: Political Science 101 or 103.
General pattern of politics and political development in Latin America with an emphasis on those features which condition domestic and foreign policy making.

567. Political Systems of Latin America (3)
Prerequisite: Political Science 566.
Domestic and international politics of selected Latin American states.

568. The Mexican Political System (3)
Prerequisite: Political Science 101 or 103.
Principal factors in Mexican governmental decision making. Ideology, political groups, tactics of leaders and governmental structure.

571. Seminar in Cross-National Studies (3)
Prerequisite: Any upper division course in comparative politics.
Cross-national analysis of institutional norms, attitudes and behavior in relation to government; factors which determine patterns and styles of political participation in contemporary societies.

577. Principles of International Law (3)
The function of law in the international community. The historical development of the ideas and rules of international law and their place in the modern diplomatic and legal structure.

579. National Security Policy (3)
Objectives, instruments and consequences of national security policy.

GRADUATE COURSES

601. Seminar in the Scope and Method of Political Science (3)
The discipline of political science and systematic training in its methodology. Required of all applicants for advanced degrees 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)
Maximum credit six units applicable on a master's degree.

622. Seminar in Metropolitan Government and Politics (3)
Prerequisite: Political Science 321 or 522 or 523.
Government and politics in the world's major metropolitan areas. Maximum credit six units applicable on a master's degree.

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 344, 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 policies, e.g., energy, environment, protection, taxation, income maintenance, population, health care, education, housing. Use of research findings to analyze policy process, to estimate probable consequences of alternative decisions, and to appraise governmental programs.

639. Seminar in Political Psychology (3)
Prerequisites: Six units selected from Psychology 340, 410, 412; Political Science 325, 326, 515A-515B, 555.
Psychological factors of the individual's political behavior; psychological theory as it applies to political variables such as: ideology, conflict, consensus and participation.

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 or 561, 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.

656. Seminar in Western Political Systems (3)
Prerequisite: Six upper division units in political science.
Comparative study of European and other modern political systems. Conditions responsible for the attainment and maintenance of democratic government. The relationship between social modernity and the functioning of Western democratic political institutions.

658. Seminar in Communist Political Systems (3)
Prerequisite: 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)
Prerequisite: Six upper division units in political science.
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)
Prerequisite: Political Science 555 or 561 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)
Analytical treatment of selected problems in political science. Review of methods for investigation and reporting of data. Consideration of problems in preparation of project or thesis.

797. Research in Political Science (3) Cr/NC/SP
Prerequisite: Consent of the 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
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.

Psychology

Faculty

Edward F. Alf Jr., 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
Rosalind L. Feierabend, 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
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. Hunrichs, Ph.D., Professor of Psychology (Graduate Adviser)
Oscar J. Kaplan, 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
Francis P. Leukel, Ph.D., Professor of Psychology
Joseph R. Levine, Ph.D., Professor of Psychology
Alan J. Litrownik, Ph.D., Professor of Psychology, Chair of Department and Summer Graduate Adviser
Roy D. McDonald, Ph.D., Professor of Psychology
Sandra O. Mollenauer, Ph.D., Professor of Psychology
Edward F. O'Day Jr., Ph.D., Professor of Psychology
Robert Penn, Ph.D., Professor of Psychology
Rod Plotnik, Ph.D., Professor of Psychology
Robert Radlow, Ph.D., Professor of Psychology
Miriam J. Rodin, Ph.D., Professor of Psychology
Dennis P. Saccuzzo, Ph.D., Professor of Psychology
Jerome M. Sattler, Ph.D., Professor of Psychology
Richard H. Schulte, Ph.D., Professor of Psychology
Evalyn F. Segal, Ph.D., Professor of Psychology
John P. Sheposh, Ph.D., Professor of Psychology
John J. Spinetta, Ph.D., Professor of Psychology
Walter R. Stevens, Ph.D., Professor of Psychology
Robert M. Yaremko, Ph.D., Professor of Psychology
Marilyn A. Borges, Ph.D., Associate 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
Frederick W. Hornbeck, Ph.D., Associate Professor of Psychology
Elizabeth Lynn, Ph.D., Associate Professor of Psychology
Sharon M. McCordick, Ph.D., Associate Professor of Psychology
Judy M. Price, Ph.D., Associate Professor of Psychology
Margaret C. Sand, Ph.D., Associate Professor of Psychology
Patricia A. Scollay, Ph.D., Associate Professor of Psychology and Anthropology
John R. Smith, Ph.D., Associate Professor of Psychology
Dorothy M. Fragaszy, Ph.D., Assistant Professor of Psychology
Raymond Lee, 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.

STUDENTS WILL BE ADMITTED TO GRADUATE PROGRAMS IN PSYCHOLOGY ONLY IN THE FALL SEMESTER AND APPLICATIONS MUST BE RECEIVED BY THE DEPARTMENT OF PSYCHOLOGY NOT LATER THAN FEBRUARY 1.

Concurrent with application to the department, the student must file an application for admission to San Diego State University with the Office of Admissions. Acceptance by the University does not guarantee acceptance to the psychology program.

To be considered for admission to the graduate programs in psychology, all students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Three 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 his/her academic performance, and score reports for the GRE Aptitude Test and the GRE 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 Graduate Division or the Admissions Office.**

Students are advised to take the necessary examinations by December of the year prior to the year in which they are seeking enrollment.

To qualify for admission to the graduate program in psychology, the student must have:

1. An undergraduate major in psychology consisting of at least 24 upper division units with a grade point average of at least 3.0. The major must include work in general psychology, physiological psychology, statistical methods, psychological testing, abnormal psychology, and at least two laboratory courses or their equivalent in psychology. At San Diego State University these specific course requirements are met by Psychology 101, 210, 260, 270, 350, 405, 410 and one course from 412, 413, 414, 415, 416, 417, 418 or 419.
2. A grade point average of not less than 3.0 in the last 60 semester units of the undergraduate program.

3. A total scale score of 950 or above on the GRE Aptitude Test. (Verbal and quantitative portions only.)
4. A score above the 50th percentile rank on the GRE Advanced Test in Psychology. The student should take this test as well as the GRE Aptitude Test in sufficient time so that the results will be available by a March 1 deadline. It should be requested by the student that the score reports for these tests be forwarded directly to the Admissions office and the Department of Psychology.

Meeting all of the indicated criteria does not guarantee admission to the program, since admission is also dependent on the facilities and resources available in the department.

Advancement to Candidacy

The student must satisfy the general requirements for advancement to candidacy as stated in Part Three of this bulletin. Having obtained three grades of C or lower in graduate courses automatically precludes advancement to candidacy.

In addition, students must have an approved thesis proposal prior to advancement to candidacy.

General Requirements for all Master's Degree Programs

In addition to meeting the basic requirements for the master's degree as described in Part Three of this bulletin, the student must complete a graduate program of at least 30 units (36 units for the clinical concentration) approved by the departmental graduate coordinator. Students who are not accepted into the graduate program are not permitted to enroll in any 600-numbered (or higher) courses in psychology.

Psychology 798 (Colloquium) and 799A (Thesis), and an oral examination on the thesis, are required in all master's degree programs in the Department of Psychology. A maximum of two units credit in 798 (Colloquium) can apply toward completion of the program. There is no foreign language requirement for any advanced degree in psychology at San Diego State University, but students who aspire to a doctorate in this field should be advised that some doctoral programs require a reading knowledge in one or two languages.

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 587, 605, 670, 745 or 760 or 761, 4 units of 797, 798 (Colloquium), and 799A (Thesis). In special cases and 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 (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 courses graded Cr/NC 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, including 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.

551. Clinical Psychology: Theory and Practice (4)
580. History of Psychology (3)
587. Advanced Principles of Learning (3)
605. Seminar in Theoretical Psychology (3)
621. Seminar in Personnel Psychology (3)
622. Seminar in Organizational Psychology (3)
650. Seminar and Laboratory in Counseling and Psychotherapy (4)
651. Seminar in Behavior Disorders of Childhood and Adolescence (3)
652. Seminar in Behavior Disorders of Adults (3)
654. Seminar in Psychological Assessment I (4)
655. Seminar in Psychological Assessment II (4)
656. Seminar in Behavior Therapy and Laboratory (4)
670. Experimental Design (3)
675. Seminar in Psychological Measurement (3)
745. Seminar in Social Psychology (3)
760. Seminar in Physiological Correlates of Behavior (3)
761. Seminar in Ethology and Comparative Psychology (3)
796. Clinical Practicum (3 or 6) Cr/NC
797. Research (1-3) Cr/NC/SP
798. Special Study (1-3) Cr/NC/SP
799A. Thesis (3) Cr/NC/SP

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.

517. Psychology of Verbal Behavior and Learning (3)
570. Advanced Statistics (3)
571. Correlational Analysis (3)
596. Selected Topics in Psychology (3)
700. Seminar (3)
718. Seminar in Research in Operant Behavior (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 Programs in Psychology

UPPER DIVISION COURSES

517. Psychology of Verbal Behavior and Learning (3)
Prerequisite: Psychology 101. Recommended: Psychology 210.
Analysis of linguistic and cognitive processes within the context of social behavior.

551. Clinical Psychology: Theory and Practice (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Psychology 350.
Clinical assessment, theory and practice of behavior change, and professional ethics.

570. Advanced Statistics (3) I, II
Prerequisite: Psychology 270.
Further study of quantitative methods in psychology with emphasis on methods of correlation, chi-square, and contingency, and an introduction to the analysis of variance.

571. Correlational Analysis (3)
Prerequisite: Psychology 270.
Quantitative methods in psychology with emphasis on methods of correlation, multiple correlation, partial correlation, and factor analysis.

580. History of Psychology (3) I, II
Limited to psychology majors with senior standing or graduate students.
The historical background of modern psychology.

587. Advanced Principles of Learning (3)
Prerequisites: Psychology 210 and 270.
The empirical data, basic principles and theoretical positions of major learning theorists.

596. Selected Topics in Psychology (3)
Prerequisites: Psychology 101 and consent of instructor.
Intensive study in specific areas of psychology. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

GRADUATE COURSES

Graduate courses in psychology are not open to postbaccalaureate 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 321 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.
Prerequisites: Psychology 551 and consent of graduate adviser.
Supervised practice in the application of psychotherapeutic 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.
Contemporary approaches to emotional and behavioral problems of childhood and youth. Considers 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 on adulthood. Considers developmental, cognitive and social variables as well as theory and treatment.

654. Seminar in Psychological Assessment I (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 350, 405, and consent of graduate adviser.
Theory and practice in assessment of intelligence and special abilities.

655. Seminar in Psychological Assessment II (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 654 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.
Prerequisite: 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.

718. Seminar in Research in Operant Behavior (3)
Prerequisite: Consent of graduate adviser. Recommended: Psychology 416 and 587.
Selected research topics in the experimental analysis of behavior. 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 6) 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.

798. Special Study (1-3) Cr/NC/SP
Prerequisite: Consent of graduate adviser.
Individual projects involving library or laboratory research in any area of psychological investigation or interest. Maximum credit six units of 797 and 798 combined 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. Credit is contingent upon acceptance of the completed thesis by the Department of Psychology.

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.

Public Administration and Urban Studies

Faculty

James A. Clapp, Ph.D., Professor of City Planning, Chair of Department
James A. Gazell, Ph.D., Professor of Public Administration
Stuart H. Gilbreath, Ph.D., Professor of Public Administration
G. Thomas Gitchoff, D. Crim., Professor of Criminal Justice Administration
Ronald L. Boostrom, D. Crim., Associate Professor of Criminal Justice Administration
Dipak K. Gupta, Ph.D., Associate Professor of Public Administration
Louis M. Rea, Ph.D., Associate Professor of City Planning (M.C.P. Graduate Adviser)
Joyce D. Ross, Ph.D., Associate Professor of Public Administration
Glen W. Sparrow, Ph.D., Associate Professor of Public Administration (M.P.A. Graduate Adviser)
Robert L. Stock, Ph.D., Associate Professor of Public Administration
L. Paul Sutton, Ph.D., Associate Professor of Criminal Justice Administration
Nico Calavita, D. Arch., Assistant Professor of City Planning
Joel H. Henderson, Ph.D., Assistant Professor of Criminal Justice Administration
Luis Suarez-Villa, Ph.D., Assistant Professor of City Planning
Marco G. Walshok, Ph.D., Assistant Professor of Public Administration

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 is a member of the National Association of Schools of 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, fiscal policy and administration, recreation administration, or urban administration. Also offered is a concentration in Criminal Justice Administration 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 his 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 Three 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 Graduate Record Examination 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 Three of this bulletin and be recommended by the faculty. In order to be recommended for advancement, a student must have (1) achieved a grade point average of 3.5 in Public Administration 600 and three additional courses from among Public Administration 605 or 606 (one selection), 630, 650, 660, with no grade below B-, or (2) passed 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 Three 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, 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. 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 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.

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, 791 and 797.

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 Three of this bulletin. The student must possess a bachelor's or higher degree in sociology, geography, political science, economics, architecture, or landscape architecture, or any fields related to planning (students with degrees other than those listed may be allowed to enter the program under appropriate conditions). 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. Applications for the fall must be received no later than mid-April.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, as described in Part Three of this bulletin and be recommended by faculty. In order to be recommended for advancement, a student must have (1) achieved a grade point avera

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 620, Seminar in Urban Planning Methodologies (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)
4. Other electives to complete the program will be selected with the assistance of an adviser.
5. Students in Plan B are required to pass comprehensive examinations in five areas of study. Students who have the 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 310.
Assessment of problems confronting administrators of law enforcement agencies and of recent efforts to enhance the capability of agencies to control criminal activity while guarding individual liberties.

520. Prosecutorial Function in Administration of Justice (3)
Prerequisite: Criminal Justice Administration 301.
Analysis of prosecutor's function at local, state and federal levels and in selected foreign nations, including appraisal of proposed national standards and goals for prosecutors.

531. Probation and Parole (3) I
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.

540. Applied Planning, Research and Program Evaluation in Criminal Justice Administration (3)
Prerequisite: Criminal Justice Administration 301.
Application of planning, research and program development and evaluation principles to the field of criminal justice.

543. Community Resources in Criminal Justice Administration (3)
Prerequisite: Criminal Justice Administration 301.
Exploration of present and probable roles of public and private agencies and volunteers in criminal justice administration.

550. Crime Prevention Administration and Social Control (3)
Prerequisite: Criminal Justice Administration 200 and 301.
Examination of policies and probable consequences of both public and private crime prevention efforts from a social control perspective.

PUBLIC ADMINISTRATION COURSES

510. Intergovernmental Relations in the United States (3) II
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) I, II
Prerequisite: Public Administration 310 or 312.
Problems of government and administration arising from population patterns and physical and social structures of metropolitan areas.

520. Decision Making in the Urban Community (3) I, II
Prerequisite: Public Administration 310.
Processes of decision making in the management of urban communities.

530. Negotiation and Bargaining in the Public Service (3)
Prerequisite: Public Administration 301.
Specific issues such as strategies, the effects of threat, the physical setting, use of a third-party observer and theories of advocacy. Emphasis on analyzing simulations of the bargaining process and developing effective negotiation skills.

531. Governmental Employer-Employee Relations (3) I, II
Prerequisite: Public Administration 330.
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.

570. Administrative Law (3) II
Prerequisite: Public Administration 301.
The law of public office and public officers, powers of administrative authorities, scope and limits of administrative powers, remedies against administrative action. (Formerly numbered Public Administration 470.)

580. Comparative Public Administration (3) II
Prerequisite: Public Administration 301.
Administrative organization and process of selected foreign and American governments. Analysis of the cultural basis of administrative systems.

GRADUATE COURSES IN PUBLIC ADMINISTRATION

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.

605. Seminar in Research Methods in Public Administration (3)
Prerequisite: Public Administration 600.
Examination of basic research approaches, i.e., legal, historical, and small-group, etc.

606. Seminar in Quantitative Approaches to Public Administration (3)
Prerequisite: Public Administration 600.
Study of techniques for the gathering of data on public administration with reference to survey research and methodology; examination of various data analysis methods.

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 system; tactics 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.

662. Science, Technology and Public Policy (3)
Prerequisite: Public Administration 600, or equivalent seminar in another department.
The influence of science and technology on governmental policy making; scientists as administrators and advisers; governmental policy making for science and technology; government as a sponsor of research and development.

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)
Analytical treatment of selected problems in Public Administration. Review of methods for investigation and reporting of data. Consideration of problems in preparation of projects or thesis.

796. Internship in Public Administration (3-12) Cr/NC
Prerequisite: Consent of instructor.
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. 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 in urban planning.

625. Quantitative Techniques in Urban Planning (6)
Three lectures and nine hours of laboratory.
Prerequisities: City Planning 610 and credit or concurrent registration in City Planning 620 for city planning majors.
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 budgeting, 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. Seminar in 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.

798. Special Study (1-3) Cr/NC/SP
Prerequisite recommended: Consent of staff.
To be arranged with Director of City Planning 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 symbol of SP.
Registration required in any semester or term following assignment of SP in 799A in which 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 CRIMINAL JUSTICE ADMINISTRATION

601. Seminar in the Administration of Criminal Justice (3)
Prerequisite: Criminal Justice Administration 301.
Administrative problems of criminal justice systems.

602. Seminar in the Criminal Justice System as a Social Institution (3)
Prerequisite: Criminal Justice Administration 301.
Examination of criminal justice system as both cause and consequence of social change; nature of institutional change with application to criminal justice system components.

604. Seminar in Criminal Justice and Urban Administration (3)
Prerequisite: Criminal Justice Administration 540.
Critical analysis of influences on crime control and the criminal justice process of actions by urban administrators, legislators and the private sector in areas such as housing, education, public health and transportation, and urban development policies.

610. Seminar in Theory, Research and Analysis in Law Enforcement Administration (3)
Prerequisite: Criminal Justice Administration 301.
Exploration and application of potential role of theory, research and analysis in the administration of law enforcement agencies.

630. Seminar in Theory, Research and Analysis in Correctional Administration (3)
Prerequisite: Criminal Justice Administration 330.
Exploration and application of potential role of theory, research and analysis in the administration of correctional agencies and institutions.

631. Seminar in Correctional Group Method (3)
Prerequisite: Criminal Justice Administration 630.
An exploration of current research and use of group methods in the correctional segment of the criminal justice system.

633. Seminar in Judicial Administration (3)
Prerequisite: Criminal Justice Administration 333.
Exploration of leading issues from state and federal perspectives along with the interrelationships between courts and other components of the justice system, especially police and correctional agencies.

660. Seminar in Selected Topics in Criminal Justice Administration (3)
Prerequisite: Criminal Justice Administration 601 or 602.
Analysis of contemporary issues of major import to the administration of criminal justice. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

791. Seminar in Readings in Criminal Justice Administration (3)
Prerequisite: Six graduate units in criminal justice administration.
Selected readings in the literature of criminal justice administration.

797. Research in Criminal Justice Administration (3) Cr/NC/SP
Prerequisite: Consent of Coordinator of Criminal Justice Administration.
Research in one of the areas of criminal justice 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 Coordinator 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.

Public Health

Faculty

Charles B. Bell, Ph.D., Professor of Biostatistics and Mathematics
Stephen J. Bender, D.H.S., M.P.H., Professor of Public Health and Health Science, Acting Division Head
John B. Conway, Ph.D., M.P.H., Professor of Public Health
Herschel E. Griffin, M.D., Professor of Public Health, Associate Director and Graduate Adviser
Tee L. Guidotti, M.D., M.P.H., Professor of Public Health, Division Head
Robert M. Kaplan, Ph.D., Professor of Psychology and Adjunct Professor of Public Health
F. Douglas Scutchfield, M.D., Professor of Public Health, Director of School
Walter D. Sorochan, H.S.D., M.P.H., Professor of Health Science
Helen M. Wallace, M.D., M.P.H., Professor of Public Health, Division Head
John R. Weeks, Ph.D., Professor of Sociology,
Stephen J. Williams, Sc.D., Professor of Public Health, Division Head
Milton M. Chen, Ph.D., Associate Professor of Management
Cedric Garland, Dr.P.H., M.P.H., Associate Professor of Public Health, Acting Division Head
David A. Sleet, Ph.D., Associate Professor of Health Science
K. Michael Peddecord, Dr.P.H., Assistant Professor of Public Health
Robert Seidman, Ph.D., Assistant Professor of Public Health and Economics
Karen L. Senn, M.P.H., Assistant Professor of Health Science
Abram S. Benenson, M.D., Lecturer in Public Health
John J. Hanlon, M.D., M.P.H., Special Consultant
Antonio S. Medina, M.D., M.P.H., Distinguished Visiting 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.

The student may elect to specialize in one of the following concentrations: Epidemiology, Maternal and Child Health, Health Services Administration, Occupational Health, Environmental Health and Health Promotion.

A significant number of expert practitioners in specialized fields of Public Health are involved in the academic and practical components of the program, to provide breadth and depth of opportunity for the student. Many of the modern health facilities within San Diego are available for field study and practicum requirements. In addition, modern computer facilities and laboratories are available on the San Diego State University campus.

Admission to Graduate Study

Applicants seeking admission to the program leading to the Master of Public Health degree should contact the College of Human Services Admissions office requesting appropriate application materials. 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 in the fall. Applications and required related materials must be received by the Graduate School of Public Health and the University's Admission office by March 1.

In addition to satisfying the requirements for admission to the University with classified graduate standing, as described in Part Three of this bulletin, the student seeking admission to the Graduate School of Public Health must: (1) have a minimum cumulative grade point average of 3.0 in the last 60 semester units attempted; (2) submit a written personal history in the manner described in the application packet provided by the Graduate School of Public Health; and (3) present additional evidence of promise of success in academic and professional studies, based on letters of recommendation and a personal interview.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Three of this bulletin. After completion of the first semester of graduate study, students will be evaluated to ascertain the extent to which they are pursuing graduate work satisfactorily. The student must have completed PH601, 602 and 603 with a minimum grade of B in each course.

In addition, the student must be recommended for advancement to candidacy by the Graduate Committee 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 Three of this bulletin, the student must complete an officially approved 45-unit course of study including: (1) nine units of core courses, PH601, 602 and 603; (2) a minimum of 21 units of graduate courses in the area of concentration (in addition to the courses listed, other courses may be selected with the approval of the Graduate Adviser); and (3) 12 units of supervised field placement (if the student has not had equivalent field experience). In addition, PH799A, 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 the graduate adviser. Up to six semester units may be accepted in transfer from an accredited School of Public Health.

Concentration in Environmental Health

Courses required for the concentration:

PH631 Consumer Health and Safety (3)
PH632 Air Pollution, Measuring and Monitoring (3)
PH634 Environmental Protection (3)

Prescribed electives (at least two courses selected from):

PH633 Air Pollution Control (3)
PH636 Pest Control (3)
PH700 Seminar (3)
PH731 Environmental Health Policy (3)
PH733 Toxicology and Hazardous Substances (3)
PH735 Occupational Health Policy (3)

Electives (6 units):

Biology 528, 530, 531, 535, 537, 541, 544, 546, 568, 570, 572, 620, 621, 622, 630, 631
Civil Engineering 555, 635, 636
Economics 555
Geological Sciences 551
Physics 560, 565, 655, 657, 659, 662, 667

Concentration in Occupational Health

Courses required for the concentration:

PH635 Occupational Medicine (3)
PH721 Environmental Epidemiology (3)
PH732 Industrial Hygiene and Industrial Hygiene Laboratory (3)

Prescribed electives (at least two courses selected from):

PH700 Seminar (3)
PH733 Toxicology and Hazardous Substances (3)
PH734 Noise in the Work Place (3)
PH735 Occupational Health Policy (3)
PH736 Special Problems in Work and Occupational Health (3)
Physics 659 Health Physics (3)

Electives (6 units):

Physics 560, 565, 655, 657, 662, 667

Concentration in Epidemiology

Courses required for the concentration:

PH621 Epidemiology of Infectious Disease (3)
PH622 Epidemiology and Control of Chronic Disease (3)
PH627 Introduction to Statistical Methods (3)
PH700 Seminar (3)

Prescribed electives in Epidemiology (two courses selected from):

PH623 Epidemiological Methods (3)
PH624 Epidemiological Basis for Disease Control (3)
PH721 Environmental Epidemiology (3)
PH798 Special Studies in Epidemiology (1-3) Cr/NC/SP

Electives (6 units):

Microbiology 520, 525, 530, 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

Concentration in Maternal and Child Health

Courses required for the concentration:

PH641 Health Care Delivery Systems (3)
PH651 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):

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)

Electives (6 units):

Family Studies and Consumer Sciences 607, 700
Special Education 510, 512, 513, 670, 680D
Sociology 770

Concentration in Health Services Administration

The following three courses represent prerequisites to admission to this concentration; the student may complete these courses prior to acceptance. However, if they or their equivalents have not been satisfied, the student must complete them prior to being advanced to candidacy during the first year of study.

Accountancy 600 Financial Accounting
Economics 603 Economic Analysis
Sociology 526 Medical Sociology

Courses required for the concentration:

PH641 Health Care Delivery Systems (3)
PH642A-642B Professional Development of the Health Services Administrator (1-1)
PH645 Health Services Economics (3)
PH647 Quantitative Methods in Health Services (3)
PH743 Organization Management and Contemporary Problems in Health Sector (3)

Prescribed electives (select at least one course from):

PH643 Topics in Health Planning (3)
PH644 Health Services Management (3)
PH742 Health Services Financial Management (3)

Skill areas prescribed electives (select at least one area for in-depth skills development; select at least two courses in that skill area):

A. **Technical Planning and Community Organization Skills**
PH643 Topics in Health Planning (3)
PH741 Health Policy and Politics (3)
PH744 Health Planning Methods (3)
Political Science 522, 523, 635
Public Administration 520, 530

B. **Economic and Social Analysis**
PH741 Health Policy and Politics (3)
Economics 502, 505, 541, 621, 702
Sociology 523, 770

C. **Human Behavior and Services**
Social Work 550, 766, 770, 771, 775, 776
Public Administration 620

D. **Management of Organizations**
1. General Management and Organization Theory
Public Administration 632, 642
Management 611, 673, 720, 721
Speech Communication 706
2. Management Science and Operational Research
Information Systems 680, 681, 683, 688, 689
Management 612, 740, 741, 742
3. Financial Management
Accountancy 630, 633
4. Human Resources Management
Public Administration 630, 633
Management 670, 671, 672, 679
Speech Communication 706

Concentration in Health Promotion

Courses required for the concentration:

PH661 Theoretical Foundations of Health Promotion (3)
PH662 Motivating Health Behavior (3)
PH663 Health Promotion Communications Theory & Design (3)

Prescribed electives (choose two of the following):

PH664 Seminar in Health Promotion (3)
PH665 Health Promotion in Clinical Settings (3)
PH666 Program Planning and Evaluation (3)
PH761 Programming Health Promotion (3)
PH762 Behavioral Medicine (3)

Electives (6 units to be chosen 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 103, 104, Zoology 108.
Distribution and determinants of diseases; role of epidemiology in public health. Descriptive, analytic and experimental epidemiology.

602. Biostatistics (3)
Prerequisites: Biology 215, Mathematics 103, 104.
Concepts of statistical reasoning applied to public health problems; design of community health studies, collection, tabulation, presentation and interpretation of data.

603. 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.

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 and Control 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.

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 Pollution, Measuring and Monitoring (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 Pollution Control (3)
Prerequisite: Public Health 632.
Sources of pollution, its control, regulating aspects and air pollution standards.

634. Environmental Protection (3)
Rationale and mechanisms for control of water supplies, liquid and solid wastes disposal, lighting, heat, food and housing, pesticides and community noise.

635. Occupational Medicine (3)
Etiology, diagnosis of disease and stress in the modern industrial environment.

636. Pest Control (3)
Prerequisite: Public Health 634.
Mechanisms for control of potential disease vectors, mosquitos, rats.

641. Health Care Delivery Systems (3)
National health care system; topics include health personnel, facilities, organization and funding of health care.

642A-642B. Professional Development of the Health Services Administrator (1-1)
Ethics of the health professional. Development of standards and practices in health administration.

643. Topics in Health Planning (3)
Prerequisites: Public Health 602 and 641.
Topics in aspects of health planning. Maximum credit nine units of Public Health 643 applicable on a master's degree.

A. Institutional Health Planning
B. Community Health Planning
C. Health Personnel Planning
D. Health Planning Methods

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 in Health Services (3)
Prerequisites: Public Health 602 and 641.
Application of quantitative methods for decision making, stochastic methods, deterministic analysis forecasting and measurement, and control.

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

651. Problems and Programs in Maternal and Child Health (3)
Major problems in health and social care of mothers and children; programs and services designed to meet major needs.

652. Maternal Health (3)
Prerequisite: Public Health 651.
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 651.
Physiology of menstruation, pregnancy and lactation; methods of contraception, effectiveness, safety, acceptance and cost; abortion; sterilization; family planning services and programs.

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 Health Science 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. Seminar in Health Promotion (3)
Prerequisite: Public Health 661.
An intensive study of advanced problems. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree. (Formerly numbered Health Science 600.)

665. Health Promotion in Clinical Settings (3)
Two lectures and three hours of laboratory.
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. Program Planning and Evaluation (3)
Prerequisite: Public Health 661.
Program planning and evaluation theories, systems and procedures in school-community health education. (Formerly numbered Health Science 660.)

700. Seminar (3)
Prerequisites: Public Health 603 and 635.
Current issues in the environment and the workplace. Maximum credit six units applicable on a master's degree.

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.

731. Environmental Health Policy (3)
Prerequisites: Public Health 603 and 622.
Environmental health policy, including assessment of risk, policy development and environmental management.

732. Industrial Hygiene and Industrial Hygiene Laboratory (3)
Prerequisites: Chemistry 251, 431. Recommended Physics 180A.
Techniques and rationale for evaluating the industrial environment for stress and toxic substances which affect the health of workers. Mechanisms for organizing programs to prevent industrial accidents.

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 (3)
Measure of noise levels, biological effects of noise and methods of noise control.

735. Occupational Health Policy (3)
Prerequisite: Public Health 635.
Foundations, principles and models of occupational health policy.

736. Special Problems in Work and Occupational Health (3)
Prerequisites: Public Health 603 and 635.
Social problems relating to the workplace, stress, changing labor trends which affect health.

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 Management and Contemporary Problems in Health Sector (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
D. Health Maintenance Organizations
E. Public Health Departments

744. Health Planning Methods (3)
Prerequisite: Public Health 643.
Health planning methods applicable to the specialist in methodology.

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

751. Perinatal Health Care Services (3)
Prerequisite: Public Health 651.
Perinatal mortality and morbidity; recent efforts at prevention, planning and providing services; results; regionalization of care; follow-up programs and results.

752. Health Care of Children of School Age (3)
Prerequisite: Public Health 651.
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 651.
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.

761. Programming Health Promotion (3)
Prerequisites: Public Health 661 and 663.
Current programs, practices, and problems in health promotion activities of hospitals, clinics, public health departments, and government. Issues necessitating health promotion programs. Formulation of effective promotion programming in various settings.

762. Behavioral Medicine (3)
Prerequisites: Public Health 661 and 662.
Behavioral management approaches to health care problems.Diseases and conditions that arise from physical, psychological and environmental courses; behavioral interventions that attenuate disease process and improve compliance.

797. Research (1-3) Cr/NC/SP
Prerequisite: Consent of instructor.
Research in one of the fields of public health. 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
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.

Recreation

Faculty

Mary R. Duncan, Ph.D., Professor of Recreation (Graduate Adviser), Chair of Department
Bruno H. Geba, Ph.D., Professor of Recreation
Robert F. Hanson, Rec.D., Professor of Recreation
Jesse T. Dixon, Ph.D., Associate Professor of Recreation
Dan Dustin, Ph.D., Associate Professor of Recreation
George Hutchinson, Ph.D., Associate Professor of Recreation
Gene G. Lamke, M.A., Associate Professor of Recreation
Don W. Peterson, Ph.D., Associate Professor of Recreation
Richard Namba, M.A., 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.

UPPER DIVISION COURSES

(Also Acceptable for Advanced Degrees)

548. Aquatic Administration (3)
Management of swimming pools, beaches, lakes and marinas; safety factors; legal requirements; health standards; facilities and programming.

549. Camp Administration (3)
Prerequisite: Recreation 110.
Operation of resident, day and travel camps. Staff management, health and safety, finances, food services, maintenance, planning and publicity.

565. Recreation Systems Administration and Research (3) I, II
Prerequisite: Recreation 101.
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. Management of Recreation Areas and Facilities (3) I, II
Role of the recreation administrator in the planning, acquisition, development, financing, staffing and maintaining of recreational lands, waters, and structures. Use of natural and manmade resources in the environment.

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 agencies.

760. Recreation Administration and Supervision (3) Alternate Years
Prerequisites: Recreation 484 and 565.
Methods, techniques and evaluation systems used by chief administrators, department heads and supervisors in both public and private agencies.

Russian

Faculty

Vytas Dukas, Ph.D., Professor of Russian and German (Graduate Adviser)
Leland Fetzer, Ph.D., Professor of Russian
Ludek A. Kozlik, Ph.D., Professor of Russian
Julian H. Wulbern, Ph.D., Professor of German, Chair of Department

General Information

The Department of Germanic and Slavic 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 Three 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 Three of this bulletin, students may be required to pass a qualifying examination in Russian given by the Department of Germanic and Slavic 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 Three 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 Programs in Russian

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.

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.
Major developments in the literature of the time.

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.

798. Special Study (1-3) Cr/NC/SP
Prerequisites: Eighteen upper division units in Russian 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.

Social Science

Faculty

Faculty members in the Departments of Anthropology, Economics, Geography, Political Science and Sociology are listed in the appropriate sections of this bulletin.

General Information*

The Master of Arts degree in Social Science is offered in the Departments of Anthropology, Economics, Geography, Political Science, and Sociology, in the College of Arts and Letters. (The Master of Arts degrees in Anthropology, Economics, Geography, History, Political Science, and Sociology are described in the appropriate sections of this bulletin.)

* No students will be admitted to this 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 Three of this bulletin. In addition, students are expected to have completed at least 30 upper division units in at least three of the social sciences, of which at least 15 upper division units must be in the field in which they plan to concentrate, and at least six units in each of two other social science fields. A course in statistics, either upper or lower division, is required. In addition, the following courses or equivalents are required in the concentrations specified:

Anthropology: Have a minimum of 3.0 grade point average in anthropology courses taken for the baccalaureate degree; and at least 15 upper division units including courses in archaeology, ethnology, physical anthropology, and social anthropology.

Economics: Economics 320 and 321 or 324 and 325.

Geography: Geography 101 and 102, and 15 units of upper division courses in geography, including three units from each of the following blocks of courses: Systematic-Physical Geography; Theoretical Geography; Regional Geography; Systematic-Cultural Geography; Geographical Techniques and Methods.

Political Science: The required upper division units must be distributed among at least three of the six subfields listed in the General Catalog.

Sociology: Sociology 101, 110 and 401.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy which are described in Part Three of this bulletin.

Specific Requirements for the Master of Arts Degree in Social Science

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree as described in Part Three of this bulletin, the student must complete the following:

1. A minimum of 30 units from courses listed in this bulletin as acceptable on master's degree programs by the Departments of Anthropology, Economics, Geography, History, Political Science, and Sociology, including at least 15 units of 600- and 700-numbered courses in the social sciences.
2. A concentration in one of the areas of Social Science, except History, as determined by the graduate adviser. A concentration is defined to include at least 15 units in one area on the master's degree program including at least nine units of 600- and 700-numbered courses in the area of concentration.
3. Six units in each of two additional fields of social science, for a total of 12 units, including at least three units of 600- and 700-numbered courses in each.

4. Course 799A. Thesis, is required in concentrations in Anthropology, Political Science, and Sociology. Plan B, requiring a written comprehensive examination in lieu of thesis, is available in the Economics and Geography concentrations. In addition, the following courses are required in the concentrations specified.
   Geography: Geography 600 Seminar in Geographic Research and Techniques of Presentation (3).
   Political Science: Political Science 601 Seminar in the Scope and Method of Political Science (3).

Courses Acceptable on Master's Degree Programs in Social Science

Refer to course listings in the sections of this bulletin under the Departments of Anthropology, Economics, Geography, History, Political Science, and Sociology. In addition, other courses may be accepted on master's degree programs provided that such courses are approved by the graduate adviser in the field of concentration and by the Academic Requirements Committee of the Social Science Graduate Advisers.

Social Work

(Courses in Social Welfare and Social Work)

Faculty

E. Clifford Brennen, D.S.W., Professor of Social Work
Harry Butler, Ph.D., Professor of Social Work
Inger Davis, Ph.D., Professor of Social Work
Ronald W. Griffin, Ph.D., Professor of Social Work, Associate Director of Department
Anita S. Harbert, Ph.D., Professor of Social Work, Director of Department
Glenn Haworth, D.S.W., Professor of Social Work
Wesley Ishikawa, D.S.W., Professor of Social Work
Marion Kahn, M.S.W., Professor of Social Work
Joseph B. Kelley, D.S.W., Professor of Social Work
Ruth M. Kukkonen, M.S.W., Professor of Social Work, Coordinator of Graduate Program and Field Instruction
William Lee, D.S.W., Professor of Social Work
Percil Stanford, Ph.D., Professor of Social Work
Jack Stumpf, Ph.D., Professor of Social Work
Juan Ramon Valle, Ph.D., Professor of Social Work
E. Frederick Anderson, Ph.D., Associate Professor of Social Work
Arthur L. Ellis, D.S.W., Associate Professor of Social Work
Rosalind Guidry, Ph.D., Associate Professor of Social Work
Elsie Herman, M.S.W., Associate Professor of Social Work
Lynne Riehman, D.S.W., Associate Professor of Social Work
Maria A. Sardinas, M.S.W., Associate Professor of Social Work (Graduate Adviser)
Alan Siman, Ph.D., Associate Professor of Social Work
James Ajemian, Ph.D., Assistant Professor of Social Work
Lester Cohen, M.S.W., Assistant Professor of Social Work
Olita Harris, D.S.W., Assistant Professor of Social Work
Sandra Jones, D.S.W., Assistant Professor of Social Work
David Pritchard, Ph.D., Assistant Professor of Social Work
Paul Raymer, M.S.W., Assistant Professor of Social Work
Marilyn Rumelhart, Ph.D., Assistant Professor of Social Work
Mary Gwynne Schmidt, Ph.D., Assistant Professor of Social Work
Vincent Sucato, Ph.D., Assistant Professor of Social Work

Program and Objectives

The School of Social Work offers a two-year graduate curriculum leading to the Master of Social Work degree under approval granted by the Board of Trustees of The California State University in May, 1963. The curriculum was developed in close cooperation with the Council on Social Work Education and was fully reaccredited by its Accreditation Commission in September, 1979. Along with a full-time program, a part-time program is offered to a limited number of students.

In addition to the undergraduate and graduate degree programs, the School maintains a Continuing Education Program in Social Work. The School of Social Work is committed to ethnic and cultural diversity in its student body, its faculty, the populations it serves and the unique concerns on which it focuses.

The objectives of the School of Social Work at San Diego State University are to equip students with the essential knowledge, philosophy and basic skills for their responsible practice in the profession of social work. In order to achieve these objectives, the School will assist

students to develop a philosophy which recognizes individual human welfare as the purpose and goal of social policy; to acquire attitudes which will permit the development and maintenance of professional relationships and professional standards; to develop the discipline and self-awareness essential to the professional social worker; to attain a level of competence necessary for professional practice; to acquire knowledge in methods of research in social work; and to accept responsibility for the continued development of their competence in the practice of social work.

Concentrations

The preparation of a broadly educated social worker with maximum transferability of skills is an ambitious objective to achieve directly in a two-year graduate curriculum. To aid the student toward this goal the School of Social Work provides the opportunity for grounding the student's learning in the content and interventive modes appropriate to certain populations and the associated service delivery arrangements. Four "concentrations" are offered for this purpose.

At admission each student will be assigned to a concentration based on student preference and concentration availability. The concentrations are:

A. Social Work with Aging
The concentration is concerned with the process of aging in this society and the problems and needs of the aged as a population at risk. Students are prepared for a wide range of professional roles in policy, planning, program development and direct services. Curriculum content includes implications of a changing demography; characteristics and needs of the elderly; functional and dysfunctional elements in service systems; personal and social significance of life cycle changes; policy and program implications of theories on aging and social, psychological and biological research; interventive skills and strategies. There are opportunities for research and advanced study in selected areas.

B. Social Work in Mental Health
The concentration addresses human and institutional problems related to personal and family dysfunction reflected in acute life crises, and emotional, behavioral and mental disorders. The objective is social work knowledge and skill development in interdisciplinary community mental health planning, practice and research, with emphasis on roles and modalities of intervention that promote mental health, prevent mental disabilities and treat personal and family dysfunctions. Sociocultural responsiveness and accountability are stressed in comprehensive community oriented services. Roles include clinical diagnosis and treatment of outpatient and inpatient clientele, advocacy, community education, planning, program development and administration. These may be emphasized in accordance with students' career objectives.

C. Social Work in Health
The concentration focuses on the universal quest for health and the human and societal problems contributing to or resulting from illness in all phases of health care, various age groups and vulnerable populations. Development of knowledge and skills prepares students for a range of emerging and established social work roles, modalities and strategies, applied collaboratively with other disciplines in health promotion, prevention and treatment of psychosocial components of illness in individuals, families and groups, and in humanizing health care through consumer advocacy, policy and program development, planning and administration. Research and advanced study in selected areas are geared to individual student interests.

D. Social Work with Children, Youth and Families
The concentration focuses on social work practice in a variety of professional roles in developing and delivering services to children, youth and families. Functional and dysfunctional aspects of human development, socialization, education and other institutions are identified and analyzed from a cross-cultural perspective. Appropriate intervention strategies, involvement in planned change and prevention through social policy analysis, research evaluation, program planning and development are offered.

Full- and Part-time Programs

Full-time Program

The first semester is campus based with the students grouped by their concentration choice for study of both the generalized perspectives and special concentration content in the areas of Social Policy and Services, Human Behavior and Social Environment, Practice and Research.

The second and third semesters are essentially field instruction in the concentration accompanied by related practice instruction and completion of the research requirement.

The final semester is designed for maximum individualization of student program within the overall curriculum framework and outside of the concentration format based on student choice with advisory consultation.

Part-time Program

The Part-time Program is designed to accommodate persons whose financial and family responsibilities make two-year Full-time Program impossible. The sequencing of courses as given above are modified over an extended period of time.

Application for Admission

In seeking tentative admission to the full-time or part-time programs leading to the Master of Social Work degree, the applicant should write directly to the College of Human Services Admissions Office requesting appropriate application materials. Detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms.

STUDENTS ARE ADMITTED ONLY IN THE FALL SEMESTER OF EACH YEAR AND APPLICATIONS MUST BE RECEIVED BY THE DIRECTOR OF THE COLLEGE OF HUMAN SERVICES ADMISSIONS OFFICE NOT LATER THAN FEBRUARY 1.

THE APPLICANT MUST ALSO FILE AN APPLICATION FOR ADMISSION TO THE SAN DIEGO STATE UNIVERSITY OFFICE OF ADMISSIONS.

Admission to Graduate Study

In addition to satisfying the requirements for admission to the University with classified graduate standing, as described in Part Three of this bulletin, an applicant seeking admission to the School of Social Work must:

1. Have earned not less than a 2.75 grade point average on the undergraduate work taken for the baccalaureate degree. Desirable undergraduate preparation should include work in the behavioral and sociohumanistic studies and in statistics.
2. Take the Graduate Record Examination Aptitude Test (there are no exceptions to this requirement). A combined total score of at least 950 (verbal and quantitative; analytical section is used as a separate indicator) is expected.
3. Submit a written personal history in the manner prescribed by the School of Social Work.
4. Be considered by references to be capable of graduate study and of developing professional responsibility. Such references may be secured from the student or otherwise obtained by the faculty.
5. Possess personal attributes judged suitable for the profession.
6. Arrange for an interview only if requested by the School.
7. For part-time consideration only, have potential practicum arrangements evaluated and approved prior to admission decision if one's paid employment is to be considered for practicum purposes.

Master of Social Work Degree

Advancement to Candidacy

Students who have been admitted to the School of Social Work *for the fall semester* will meet with their advisers during the second half of the spring semester following to discuss the advisability of undertaking the second year of the professional degree program.

To be eligible for advancement to candidacy, the student must, in addition to holding classified graduate standing:

1. Have earned a 3.0 (B) grade point average in academic courses and received credit (CR) in field practicum.
2. Be recommended by the faculty of the School of Social Work.
3. Be approved for advancement by the Graduate Division.
4. Successfully pass a written comprehensive examination on the first year's program under conditions determined by the Director and the faculty of the School of Social Work.

Specific Requirements for the Master of Social Work Degree

1. Fifty-six units of 500-, 600-, and 700-numbered courses within the curriculum of the School of Social Work are required for the degree. Of these units:
   a. at least 24 must be completed in residence at San Diego State University.
   b. all transfer credits accepted for the degree must have been earned in a school of social work accredited by, or in the process of being accredited by, the Council on Social Work Education at the time of the student's attendance. Normally, a student who wishes to transfer credit earned in such a school of social work must have completed the requirements of that school for the first full academic year of graduate study.
   c. of the 56 units required for the MSW degree, nine units, taken after matriculation into the MSW program, and with permission of the Director of the School of Social Work, may be in courses in other schools and departments on the campus.
2. Credits earned more than five years prior to the date of admission to the School of Social Work at San Diego State University are not acceptable and all work for the degree must be completed within seven years of the date of entering the program.
3. All candidates for the degree must pass satisfactorily a comprehensive examination in lieu of a thesis under the provisions of Plan B as described elsewhere in this bulletin.
4. For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, see the section titled "Basic Requirements for the Master's Degree," in Part Three of this bulletin. In addition, the student must have earned a 3.0 (B) grade point average in academic courses and demonstrated professional competence, responsibility and performance including achieving credit (CR) for all required field practica. The 16 units of field practicum are exempted from the 30 percent Cr/NC grade regulations.
5. A candidate for the degree must complete a *minimum* of 38 units in a concentration, not including the research requirement Social Work 691 A, B, C or D and Social Work 692 A, B, C or D.
6. All candidates for this degree must, in the judgment of this faculty, meet the standards for beginning practice in the profession. If a negative judgment is made, students must correct the deficiencies prior to the granting of the degree.

Course Requirements

The normal course of study to be followed by a student seeking the MSW degree is as given below. (The course of study is extended to three years in the Part-Time Program. Specific information is available on request through the Director of Admissions, College of Human Services.)

Sequence	Semester I	II	III	IV	Total Units
Seminar in Social Work Analysis	SW 755A, B, C, or D (2)	SW 755A, B, C, or D (2)			(4)
Seminar in Social Welfare Policy & Services	SW 600A, B, C, or D (3)				(3)
Seminar in Human Behavior and Social Environment	SW 620A, B, C, or D (3)				(3)
Research	SW 690A, B, C, or D (3)	SW 691A, B, C or D* (3)	SW 692A, B, C or D* (3)		(9)
Practice	SW 630A, B, C, or D (3)	SW 730A, B, C, or D (3)	SW 731A, B, C, or D (3)		(9)
Practicum		SW 650A, B, C, or D (8)	SW 750A, B, C, or D (8)		(16)
Electives				(12)	(12)
Total Units	(14)	(16)	(14)	(12)	(56)

* Student to do research project related to concentration (exceptions by permission of Director).

Program of Study

The above course requirement pattern represents the Official Program of Study for MSW candidates. Each student must plan with his/her adviser, based on school guidelines, an individual program of study. By Advancement to Candidacy the student must file with the Director or designee a plan for completion of the program that includes preferred electives. Revisions of the plan require approval by the Director.

Additional Information

Withdrawals

Students in the School of Social Work are governed by the general regulations of San Diego State University and the Graduate Division. For regulations governing withdrawals from courses, unofficial withdrawals, and probation and disqualification from San Diego State University, see the section titled "Regulations of the Graduation Division," in Part Three of this bulletin.

Any graduate student who has been admitted to the curriculum offered in the School of Social Work and whose performance therein is judged to be unsatisfactory with respect to scholastic, personal, or professional standards by the faculty of the School of Social Work and the Graduate Council, may be required to withdraw from all graduate curricula at San Diego State University.

Conditional Admission

Students who do not fully meet all requirements for admission to the School of Social Work may, under special circumstances, be admitted to the School of Social Work in conditionally classified graduate standing. At the end of the first semester's work, the faculty of the School of Social Work shall recommend to the Dean of the Graduate Division and Research that the student:

1. Be disqualified from further participation in the curriculum, or
2. Be continued in conditionally classified standing for a second semester,or
3. Be admitted to full participation in the curriculum with classified graduate standing.

Financial Assistance

Students in the School of Social Work are eligible for financial assistance as described in Part Three of this bulletin.

The School of Social Work has some scholarships, fellowships and other financial stipends available to students admitted to the School who need such help to finance their period of study. The requirements for these various stipends vary and can best be dealt with by direct correspondence with the Director of the School of Social Work.

Students who need assistance in financing their professional education may request such help at the time of application. Such requests will be considered on an individual basis. An applicant must be accepted for admission to the School of Social Work before he/she will be recommended for an award.

Field Practicum

Field practicum assignments are confined to San Diego County. Under unusual circumstances, and with approval by the Director, exceptions may be considered. Consideration of utilization of paid employment for practicum purposes is limited to the Part-Time Program.

Field Practicum During Periods of University Holidays

Because of the nature of field education and the student's responsibility to the agency to which he/she is assigned, and the clientele it serves, field activities may continue on the regular work schedule of the agency under specially arranged circumstances.

REQUIRED COURSES IN M.S.W. PROGRAM

All with appropriate concentration section (A-Aging, B-Mental Health, C-Health, D-Children, Youth and Families):
Social Work 600, 620, 630, 650, 690, 691, 692, 730, 731, 750, 755.

Courses Acceptable on Master's Degree Program in Social Work

UPPER DIVISION COURSES

540. Seminar in Social Effects of the Legal Process (3)
Prerequisite: Upper division, undergraduate social work major; or classified graduate standing in the School of Social Work; or classified graduate standing or unclassified standing with consent of the director.
Structure and functions of law as it bears upon such groups as defendants in criminal prosecutions, recipients of welfare programs, conservatees in mental health hearings, children in juvenile court dependency proceedings. The legal conflicts social workers may encounter between their ethics and their duties to clients and agency.

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. 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. Health
D. 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

630. Seminar in Social Work Practice (3)
Theories, principles, skills and objectives of social work practice with individuals, families, groups, organizations and communities. Sections related to needs of practice in:
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

650. Field Practicum (8) Cr/NC
Prerequisite: Concurrent registration in Social Work 730 in same concentration.
Field instruction in public or voluntary social work setting. 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

691. Research Project Design (3)
Prerequisite: Social Work 690.
Design research project in the field of social work. Individual or group project related to:
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families
(Formerly numbered Social Work 797A.)

692. Research Project (3)
Prerequisite: Social Work 691.
Completion of research project in the field of social work. Individual or group project related to:
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families
(Formerly numbered Social Work 797B.)

700. Seminar in Social Welfare Policy and Services (3)
Prerequisite: Social Work 600.
Problems and issues in emerging social welfare programs, including analysis of the structure of social services and of social work as a profession.

710. Seminar on Selected Topics (3)
Selected topics such as alcoholism, drug abuse, human sexuality, legislative processes and violence against children and implications to social work. May be repeated with new content. Topics announced in Class Schedule. Maximum credit nine units applicable on a master's degree.

720. Seminar in Human Behavior and Social Environment (3)
Prerequisite: Social Work 620.
Theories of natural and induced change in human behavior which have utility for social work practice.

730. Seminar in Social Work Practice (3)
Prerequisites: Social Work 630 in same concentration and concurrent registration in Social Work 650 in same concentration.
Social work practice with the objective of personal, family, organization and institution social situation analysis and problem solving. Emphasis on societal and cultural interactional contexts appropriate to:
A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

731. Seminar in Advanced Social Work Practice (3)
Prerequisites: Social Work 730 in same concentration and concurrent registration in Social Work 750 in same concentration.
Advanced social work practice in the areas of:
A. Aging **C.** Health
B. Mental Health **D.** Children, Youth and Families

734. Seminar in Social Work Practice With Organizations and Communities (3)
Prerequisite: Completion of first year courses.
Examines community problems, power and strategies in social planning and development under auspices of interorganizational systems, bureaucracies and informal associations. Applications of concepts and principles of planning social change in situational analysis, community organization, program development and evaluation.

740. Seminar in Management Knowledge and Technique (3)
Prerequisite: Social Work 600.
Examines problems and roles of administrators in social agencies; administrative and organizational theories; executive functions of planning, budgeting, directing, reporting and staffing; relationships and communications in ordinate, superordinate and subordinate levels.

741. Facilitative and Educational Roles in Human Service Organizations (3)
Prerequisite: Completion of first year courses.
Examines 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)
Prerequisite: Social Work 741.
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 given to learning professional roles in agencies employing multiprofessional staff.

750. Advanced Field Practicum (8) Cr/NC
Prerequisites: Social Work 650 in same concentration and concurrent registration in Social Work 731 in the same concentration.
Advanced field instruction in public or voluntary social work setting. Continuation and intensification of experiences in the application of social work objectives, principles and skills in service to individuals, families, groups and communities related to:
A. Aging **C.** Health
B. Mental Health **D.** Children, Youth and Families

755. Seminar: Social Work Analysis (1-4) Cr/NC
Student orientation to concentration in context of social work profession to include discussion, attendance at general presentations, field observation, and written assignments integrating experiences.
Maximum credit four units applicable on a master's degree.
A. Aging **C.** Health
B. Mental Health **D.** Children, Youth and Families

760. Seminar in Social Work and Racial-Ethnic Groups (3)
Prerequisite: Completion of first year courses.
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)
Prerequisite: Completion of first year courses.
Exploration of social survival techniques of ethnic minority groups, their similarities and differences and implications to development of social service delivery systems and practice.

765. Seminar in Social Work and Aging (3)
Prerequisite: Completion of first year courses.
Exploration of social work principles and techniques related to the impact of the aged population on our society. Focus on becoming sensitive to the implied and actual changes taking place in service delivery systems, living arrangements, etc., which affect social work practice.

766. Seminar on Aging (3)
Prerequisite: Completion of first year courses.
Indepth 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 modifications in the field of aging.

770. Seminar in Social Work and Health (3)
Prerequisite: Completion of first year courses.
Examination of changing health definitions and health service delivery systems; their effects on consumers and providers of social services and implications for social work practice.

771. Seminar on Health (3)
Prerequisite: Completion of first year courses.
Examination of selected health-related topics: social and emotional aspects of health and disability; continuity of health care; relationship of social work to other health professions.

775. Seminar in Social Work and Mental Health (3)
Prerequisite: Completion of first year courses.
Analysis of selected areas of mental health service that critically examines social work responsibilities and roles in addressing a continuum of mental health needs in a changing society.

776. Seminar on Mental Health (3)
Prerequisite: Completion of first year courses.
Overview of mental health needs, problems and services with emphasis on philosophical, social, legal and therapeutic concerns, particularly as these relate to vulnerable population groups.

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.

781. Seminar on Selected Populations-at-Risk (3)
Knowledge about and analysis of selected populations-at-risk, social work responsibilities in 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.

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.

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 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 Mouratides, Ph.D., Professor of Sociology
Joann Sandlin, Ph.D., Professor of Sociology
Rolf Schulze, Ph.D., Professor of Sociology
George Sorensen, Ph.D., Professor of Sociology and Journalism
John R. Weeks, Ph.D., Professor of Sociology, Chair of Department
Robert Winslow, Ph.D., Professor of Sociology
James L. Wood, Ph.D., Professor of Sociology
Robert E. Buck, Ph.D., Associate Professor of Sociology
Shelly 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 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
Bohdan Kolody, Ph.D., Associate Professor of Sociology
David Preston, Ph.D., Associate Professor of Sociology
William B. Sanders, 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, Ph.D., Associate Professor of Sociology
Joan T. Werner, Ph.D., Associate Professor of Sociology
R. George Kirkpatrick, Ph.D., Assistant 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. For graduate work in connection with the Master of Arts degree in Social Science, refer to the section of this bulletin under Social Science. 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 Three 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 Three 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 Three 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 six units, 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 macrosocial change.

508. Sociology of the Future (3)
Prerequisite: Sociology 101.
Examines sociological aspects of alternative futures and the role of contemporary behavior in creating those futures. Analysis of projections in selected areas such as family, technology, work and leisure.

510. Sociology of Deviance (3) I, II
Prerequisite: Sociology 101.
Survey of many alleged abnormal phenomena in society as seen in society today in various forms of individual, family, community and world disorganization, such as crime, prostitution, extreme alcoholism, migratory workers, divorce, revolution, war, etc.

513. Criminology (3) I, II
Prerequisite: Sociology 101.
The extent and characteristics of crime; consideration of physical, mental, economic and sociological causes of crime

514. Juvenile Delinquency (3) I, II
Prerequisite: Sociology 101.
The nature and extent of delinquency; the causative factors involved; methods of control and prevention, with special attention to the protective and remedial measures offered by the school, home, juvenile court, correctional institutions and camps, probation and parole, and recreational agencies.

515. Societal Processing of Criminals and Delinquents (3)
Prerequisite: Sociology 101.
Sociological features of 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.
Group relationships within economic organizations. Problems of leadership, morale and conflict. Some attention to the sociology of occupations and professions.

521. Sociology of Occupations and Professions (3) I, II
Prerequisite: Sociology 101.
Division of labor, status ranking of occupations, authority structures, occupational and professional organization, occupational socialization, problems of identity and role conflict.

523. The Sociology of Mental Illness (3) I, II
Prerequisite: Sociology 101.
The social definition, ecology and control of mental illness across various societies. The implications of social differentiation, stratification and urbanization upon the incidence, prevalence and control of mental illness and the use of these empirical problems for sociological research.

526. Medical Sociology (3) I, II
Prerequisite: Sociology 101.
A sociological analysis of health and medical institutions. Cultural factors in conceptions of disease, health and healing. Social structure of medical facilities and the role of personnel in such institutions. Relation of illness to income, housing and other socioeconomic factors. Not open to students with credit in Health Science 561.

527. Sociology of Aging (3) I, II
Prerequisite: Sociology 101.
Status and roles of men and women in the second half of the life cycle. Ethnic, sex and class variables in aging. Cross-cultural comparisons of occupational, educational, familial, recreational and political opportunities for the aging.

528. Sociology of Death (3) I, II
Prerequisite: Sociology 101.
Examines sociological concepts and theories of the process of dying. Comparative study of death and dying with emphasis on social, psychological and social organization approaches. Consideration of contemporary social-ethical issues surrounding dying in our society.

534. Sexuality in Modern Society (3) I, II
Prerequisite: Sociology 101.
Analysis of landmark sex research and pornography in the United States and in selected other societies. Changing norms in premarital, marital and extramarital attitudes and behaviors. Implications for the individual, family and society.

535. The American Family and Its Alternatives (3) I, II
Prerequisite: Sociology 101.
Analysis of contemporary dating, engagement, marriage, family, and other intimate relationships in the United States as they are affected by changes in the culture.

536. The Family in Cross-Cultural Perspective (3)
Prerequisite: Sociology 101. Recommended: Sociology 535.
Comparative study of selected family systems in the past and present. Family and parafamily forms in intentional communities of the 19th century compared with contemporary communal experiments. Ethnic and class differences in family organization. (Not open to students with credit in Family Studies and Consumer Sciences 536.)

537. Political Sociology (3)
Prerequisite: Sociology 422.
Social organization of political processes. Power and authority, social class, primary groups, collective behavior, social change and other sociological factors considered in their relationships to political processes.

538. Sociology of Religion (3)
Prerequisite: Sociology 101. Recommended: Sociology 401 and 546.
The role of religion in society as cult and institution, including primitive religion, modern sects and churches, ritual, secularization and religious movements.

539. Sociology of Education (3) I, II
Prerequisite: Sociology 101.
Social organization of education, teaching as a profession. Class, ethnic and other social factors affecting the educational process. Educational institutions and the community.

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. Sociology of Social Movements (3)
Prerequisite: Sociology 101. Recommended: Sociology 422 and 545.
Revolutionary and reform movements in relationship to the larger society. Conditions leading to development of social movements, emergence of leadership, ideologies, strategies, recruitment of members and social consequences, case studies in depth.

548. Small Groups (3)
Prerequisite: Sociology 440.
Processes, morale and organization of small groups; their role in society and institutions such as industry, military, recreation and education; recent studies and methods of research.

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.

596. Current Topics in Sociology (1-3) I, II
Prerequisite: Sociology 101.
Selected specialized, controversial or currently relevant topics in sociology. Maximum opportunity provided for student initiative in determining course content and procedures. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units. (Formerly numbered Sociology 511.)

597. Investigation and Report (3) I, II
Prerequisites: Fifteen units in sociology and consent of instructor.

GRADUATE COURSES

601. Advanced Social Theory: Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 401.
Systematic treatment of the original European and American classic sociological writing and an overview of the major developments in contemporary social theory.

602. Advanced Research Methods: Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 464.
Problems and techniques in social research with stress on philosophy of science, theory building, research design, measurement, and data analysis including fundamental critiques and alternatives.

603. Advanced Social Psychology (Sociological Approaches): Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 440.
Investigation and analysis of original works in classical social psychological theory focusing on implications for research on topics such as socialization, motivation, perception, role, self, interaction and symbolic processes.

604. Advanced Social Organization: Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 422.
Concepts, theories and findings concerning structure and change in society, institutions, formal organizations, the community and small groups. Special attention given key concepts of culture, stratification, division of labor, power, bureaucracy, role relationships and interaction.

695. Topics in Directed Readings (3)
Prerequisite: Credit or concurrent registration in at least one core course or one seminar.
Selected reading providing coverage of social theory, social disorganization, social organization, social institutions, social psychology (sociological approaches), community research methods, population and demography, or special topics. Maximum credit six units applicable on a master's degree.

700. Seminar in Social Theory (3)
Prerequisites: Sociology 401 and 464.
Classics of sociology, American social theory, theory construction, application of theory to research, theoretical models, sociology of knowledge, special topics. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable on a master's degree.

710. Seminar in Social Disorganization (3)
Prerequisites: Sociology 464 and 510.
Theories of social disorganization, anomie and alienation, deviance, crime, delinquency, personal pathology, institutional malfunction, social conflict, disaster, special topics. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable on a master's degree.

720. Seminar in Social Organization (3)
Prerequisites: Sociology 422 and 464.
Social groups, formal organization, organizational change, authority and leadership, special topics. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable on a master's degree.

730. Seminar in Social Institutions (3)
Prerequisites: Sociology 422 and 464.
The family and kinship, political organization, economic organization, religion, education, industry, occupations and professions, social stratification, special topics. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable on a master's degree.

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 464 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
Prerequisite: 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
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.

Spanish

Faculty

Ernesto M. Barrera, Ph.D., Professor of Spanish, Chair of Department
Thomas E. Case, Ph.D., Professor of Spanish (Graduate Adviser)
C. Ben Christensen, Ph.D., Professor of Spanish
Gerald L. Head, Ph.D., Professor of Spanish
Arturo Jimenez-Vera, Ph.D., Professor of Spanish
George Lemus, Ph.D., Professor of Spanish
Gustavo V. Segade, 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
Joaquin Santalo, Ph.D., Associate Professor of Spanish
Malcolm Silverman, Ph.D., Associate Professor of Spanish
Florence W. Talamantes, 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 chair 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 Three 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.

Advancement to Candidacy

In addition to meeting the requirements for advancement to candidacy as described in Part Three of this bulletin, students may be required to pass a qualifying examination in Spanish given by the Department of Spanish and Portuguese 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 Three of this bulletin, the student must complete a graduate program of at least 30 units that includes a major consisting of 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; 12 units in 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 Peninsular Literature:* Spanish 601 and 620; 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.

Certificate in Translation and Interpretation in Spanish

The Department of Spanish and Portuguese Languages and Literatures offers a Certificate in Translation and Interpretation. The Certificate requires 15 units in Spanish dealing with problems of translation and interpretation and includes both translation and interpretation from Spanish into English and from English into Spanish.

Prospective candidates for the Certificate must meet the requirements for a minor in Spanish and acquire a bilingual facility (written and oral) in English and Spanish by completing with a grade of B or better, English 305W, or the University Upper Division Writing Exam. Students must also complete Spanish 301, 302 and 490.

After meeting the basic requirements for admission, a student must complete 15 units selected from the following courses with a GPA of 3.0 or better: Spanish 544, 545, 556, 557; and either 499 or 596 when offered with translation or interpretation content..

Graduate students specializing in Spanish linguistics may select for credit toward the M.A. program, with written permission by the Graduate Adviser, a maximum of six units from the above list and also from Spanish 790 and 798.

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.

533. Contemporary Spanish Novel (3)
Prerequisites: Spanish 305A-305B.
The development of the novel and short story in Spain since 1936.

544. Translation and Interpretation: Spanish-English/English-Spanish (3)
Prerequisites: Spanish 490; one English composition course and one linguistics course.
Theoretic problems of translation and interpretation: linguistic obstacles; lexicological problems of translation; interpersonal communication and language translation, syntax, morphology and translation.

545. Advanced Spanish-English/English-Spanish Translation (3)
Prerequisites: Spanish 544; one English composition course and one linguistics course.
Techniques and methods of translating legal or governmental papers; banking documents, and business contracts from Spanish into English and from English into Spanish.

548. Spanish Linguistics (3)
Prerequisites: Spanish 301 and 302.
Structural, historical and applied Spanish linguistics.

549. Phonetics and Phonemics (3)
Prerequisites: Spanish 301 and 302.
The sounds of Spanish, and Spanish phonemic systems, with special attention to the problems involved in the teaching of Spanish pronunciation to English-speaking students.

550. Golden Age Literature I (3)
Prerequisites: Spanish 305A-305B.
Major writers and works, concentrating on prose and lyric poetry.

556. Translation of Literary Works: A Critical Comparison (3)
Prerequisite: Spanish 544.
Techniques and methods of translating literary texts from English to Spanish and Spanish to English; textual and stylistic problems in different periods, genres, and dialects, with emphasis on contemporary literature.

557. Spanish/Spanish-American Dialectology (3)
Prerequisites: Spanish 490; one English composition course and one linguistics course.
Phonological, morphological, syntactic and lexical characteristics of the principal dialects of Spanish.

561. Methods in Teaching Spanish as a Second Language (3)
Prerequisite: Spanish 490 or 548.
Teaching of Spanish as a second language: contemporary theory and methods.

570. Spanish-American Poetry (3)
Prerequisites: Spanish 306A-306B.
Spanish-American poetry of the 19th and 20th centuries.

571. Spanish-American Short Story (3)
Prerequisites: Spanish 306A-306B.
Principal Spanish-American short story writers.

572. Dramatic Expression in Modern Spanish-American Theatre (3)
Prerequisites: Spanish 306A-306B.
Principal Spanish-American dramatists and movements. Use of dialogue as a dramatic expression in Modern Spanish-American theatre with examples from novels.

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.

Related Fields: Related courses in the fields of anthropology, geography, history, political science, comparative literature, and others, may be selected with the approval of the graduate adviser.

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)
Purposes and methods of research in the fields of the language and literature, including bibliography, literary terms and textual criticism.

610. History of the Spanish Language (3)
Prerequisite: Credit or concurrent enrollment in Spanish 548 or 549.
The development of the Spanish language in Spain and Spanish America, with particular attention to the phonology, morphology and syntax of medieval Spanish.

620. Cervantes (3)
The principal prose works of Cervantes: The *Novelas ejemplares* and *Don Quixote.*

630. Golden Age Drama (3)
The works of Lope de Vega and Calderon among others.

640. The Spanish-American Novel (3)
The Spanish-American novel to 1935.

650. The Gaucho Epic (3)
The *Poesia gauchesca,* with particular emphasis on *Martin Fierro , Fausto,* and *Santos Vega.*

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)
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 548 or 549.
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 490, 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 coherence 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, 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 Three 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 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 Three 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 Three 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.

General Procedures for the Program

1. 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.
2. When the student's portion of the form has been completed, the major adviser selected, and other potential supervisory committee members contacted, an appointment with the Dean or Associate Dean of the Graduate Division and Research should be arranged. Both the applicant and the proposed major adviser should be present at this meeting. Other proposed committee members are also welcome to participate in these discussions.
3. 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.
4. 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 Graduate Council Curriculum Committee. 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.
5. 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 and/or the Graduate Division Office.

Speech Communication

Faculty

William J. Adams, Ph.D., Professor of Speech Communication
Robert L. Benjamin, Ph.D., Professor of Speech Communication
Stephen W. King, Ph.D., Professor of Speech Communication, Chair of Department
Jerry E. Mandel, Ph.D., Professor of Speech Communication, Dean of the College of Professional Studies and Fine Arts
Jack Mills, Ph.D., Professor of Speech Communication
Larry A. Samovar, Ph.D., Professor of Speech Communication
Al R. Weitzel, Ph.D., Professor of Speech Communication (Graduate Adviser)
Janis F. Andersen, Ed.D., Associate Professor of Speech Communication
Myron W. Lustig, Ph.D., Associate Professor of Speech Communication
Paul C. Gaske, Ph.D., Assistant Professor of Speech Communication
Susan A. Hellweg, Ph.D., Assistant Professor of Speech Communication, Assistant Dean of the College of Professional Studies and Fine Arts

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 Three of this bulletin.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, as described in Part Three of this bulletin. In addition, students seeking the Master of Arts degree in Speech Communication are required to have completed Speech Communication 700.

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 Three of this bulletin, the student must complete a graduate program which includes at least 30 units acceptable on master's degree programs of which at least 18 units must be in 600- and 700-numbered courses. 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 the 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 111A.
Analysis of techniques of literary composition as guides to oral interpretation. Achievements of the creative artists as they affect the interpretive artist.

509. Readers Theatre (3)
Prerequisite: Speech Communication 508.
Theory, concepts and history of Readers Theatre. Principles of literary analysis and oral interpretation applied to methodologies and techniques in the development of texts into media of group communication of non-dramatic literature.

530. Semantics (3) I, II
Recognition of various types of linguistic meaning; logical distinctions in discourse; distinction between real and verbal disagreement; recognition and correction of semantic fallacies.

535. Theories of Human Communication (3) I, II
Prerequisite recommended: Speech Communication 135.
Theoretical approaches for the study of human communications; relationship of meaning, message, and behavior in the communication process; special issues in communication theory.

580. Communication and Politics (3)
Prerequisite: Speech Communication 103 or 104.
Contemporary political communication events and processes, with a focus on speeches, debates, and campaigns.

589. Ethics of Speech Communication (3)
Classical and modern ethical concepts applied to oral persuasion.

590. Empirical Study in Speech Communication (3) I, II
Philosophy of social science and application to current research in speech communication. Theories and constructs related to communication: analysis of current research literature. (Formerly numbered Speech Communication 537.)

592. Persuasion (3) I, II
Prerequisite recommended: Speech Communication 103 or 104.
Persuasion with emphasis on psychological principles. Research project on a significant problem.

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, communication networks, communication relations, and the design and management of communication systems.

708. Seminar in Oral Interpretation and Forensics (3)
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)
Prerequisite: Speech Communication 530.
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.

750. Seminar in Rhetorical Theory (3)
Leading figures in rhetorical theory from Plato to contemporary theorists. Special attention given to the application of theory to public address.

751. Seminar in Rhetorical Criticism (3)
Major systems of speech criticism. Special attention to measuring the effectiveness of a given piece of discourse in terms of actuality and potentiality.

775. Seminar in Intercultural Communication (3) I, II
Prerequisite: Speech Communication 475.
Analysis of cultural influences on human communication acts. Emphasis on cultural values, perception, social organizations, language and nonverbal codes.

780. Seminar in Public Address (3)
Case studies of rhetorical events which illustrate rhetorical theory. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

790. Seminar in Experimental Procedures in Speech Communication (3)
Prerequisites: Credit or concurrent registration in Speech Communication 592 and 700.
Examination and evaluation of appropriate experimental procedures and traditional methods; special problems in research design.

791. Seminar in Group Communication (3)
Prerequisite: Speech Communication 391.
A study of descriptive and experimental literature on group discussion covering such topics as interaction, leadership, and means of evaluation.

792. Seminar in Persuasion (3) I, II
Prerequisite: Speech Communication 592.
Contemporary theories and models of persuasion, methods of assessing persuasive effect, and analysis of research 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 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 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.

Telecommunications and Film

Faculty

Hayes L. Anderson, Ph.D., Professor of Telecommunications and Film, Chair of Department
Elizabeth J. Heighton, 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
Kenneth K. Jones, M.A., Professor of Telecommunications and Film
Robert E. Lee, M.A., Professor of Telecommunications and Film
Roy P. Madsen, Ph.D., Professor of Telecommunications and Film
Denis Sanders, M.A., Professor of Telecommunications and Film
Paul J. Steen, M.A., Professor of Telecommunications and Film
Donald G. Wylie, Ph.D., Professor of Telecommunications and Film
Donald R. Martin, Ph.D., Associate Professor of Telecommunications and Film
Thomas C. Meador, M.A., Associate Professor of Telecommunications and Film
Michael R. Real, Ph.D., Associate Professor of Telecommunications and Film (Graduate Adviser)
Paul E. Cahill, M.A., Assistant Professor of Telecommunications and Film

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 telecommunications and film management, process and effects, and public telecommunications. In addition, the department participates in the Master of Science degree in Mass Communications which 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 junior college teaching; or (3) who seek a broad background for careers in the mass media, business, or government service (see Mass Communications in this bulletin for specific requirements for this degree).

Both the Master of Arts in Radio and Television and the Master of Science in Mass Communications (with an emphasis in Telecommunications and Film) assume a scholarly interest in theoretical and applied problems relating to media. Postbaccalaureate students interested in learning basic techniques of television and film production should consider pursuing a second bachelor's degree in media production or completing basic production courses elsewhere before applying for graduate study at San Diego State University. Students with an undergraduate major or minor in media may enroll in advanced production courses approved for graduate credit.

Telecommunications and film facilities now in use at San Diego State University include a television production center with two studios, a radio complex with five control rooms, and a film production center. The Department of Telecommunications and Film participates in the operation of KPBS-TV/FM, operates a television production center for the origination and syndication of public television programs, and maintains the San Diego State University closed-circuit instructional television production and origination facility. The entire operation provides telecommunications and film experience for all students in the curriculum and a laboratory for investigating media problems for graduate students.

Admission to Graduate Study

Applications for admission to the graduate programs in telecommunications and film will be referred to the graduate adviser of the department who will send to the applicant detailed instructions concerning applications procedures. Applications must be submitted prior to March 1 for the fall semester, and October 1 for the spring semester, in order to be considered by the Graduate Admissions Committee of the Department of Telecommunications and Film.

In addition to meeting the general requirements for admission to the University with classified graduate standing, as outlined in Part Three of this bulletin, a student applying for admission to a graduate program in the Department of Telecommunications and Film must meet the following requirements:

1. Undergraduate major in telecommunications and film (or its equivalent) if advanced study of media development is proposed. Students with other baccalaureate degrees may pursue a nonproduction course of study leading to the M.A. or M.S. degree, but will be expected to complete one or more media survey courses (such as Telecommunications and Film 315) which will not apply toward the units required for the degree.
2. Undergraduate grade point average not less than 2.75 overall, and 3.0 in the last 60 units attempted.
3. Total score (verbal and quantitative) on the GRE Aptitude Test of 950.

To be considered for admission to a graduate program in the department, a student must submit the following in addition to materials required by the University:

1. Three letters of recommendation.
2. 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 telecommunications and film 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 meeting the requirements for classified standing described in Part Three of this bulletin, all students must complete Telecommunications and Film 600 in their first semester in residence.

Specific Requirements for the Master of Arts Degree

Candidates for the Master of Arts in Radio and Television must include the following in their programs (candidates for the Master of Science degree should consult the "Mass Communications" section of this bulletin for specific requirements for the degree):

1. Telecommunications and Film 600.
2. Either Telecommunications and Film 799A (Thesis, Plan A) or Telecommunications and Film 795 (Project and Comprehensive Examination, Plan B).
3. At least 21 units from the courses listed below as acceptable for graduate credit. Up to nine units from other departments can be included in the program (to comprise the thirty units required for graduation) providing the courses are acceptable for graduate credit in the department in which they are taken, and they are approved by the Graduate Adviser of the Department of Telecommunications and Film.
4. At least 18 units in the program must be graduate-level (600-700) courses.

Selection of Plan A or Plan B

In general, applicants will be programmed for Plan B, the project plan, which requires the completion of three units of Telecommunications and Film 795 in lieu of thesis, and a comprehensive examination. After the student has completed approximately half of the program for the degree, he or she may request permission to transfer to Plan A, the thesis plan, if he or she has by this time established a plan for the thesis and has secured a thesis adviser. Requests for transfer to Plan A must be prepared as an official change in the program for the master's degree, countersigned by the faculty adviser, and submitted to the Graduate Adviser in Telecommunications and Film.

In general, Plan A is designed for students who have a particular research problem they wish to investigate in some detail, and who wish to have a thesis registered in reference publications of the university and the fields of telecommunications and film. Plan B provides students the opportunity (1) to conduct research and undertake projects in a seminar environment with other advanced graduate students in the department, and (2) to subject their research and project activity to regular critical evaluation by other graduate students as well as the faculty person conducting the seminar. Both plans require the ability to formulate and define research problems, or to justify undertaking a major media project with extensive written documentation before, during and after the actual execution of the project. Both plans involve the presentation to the faculty of a report written in acceptable form which will be evaluated as serious scholarly activity. It is expected that the three units of Telecommunications and Film 795 and preparation for the comprehensive examination will be at least as demanding as the thesis with respect to the difficulty and quantity of the work required.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, which are described in Part Three of this bulletin.

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, film production, audio production, media criticism, interactive media, or research. Graduate assistants are needed for both teaching and research. From four to ten positions are available for each semester.

Interested parties should contact Mr. 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.

501. Business Aspects of Television and Film Production (3) I, II
Prerequisites: Telecommunications and Film 260 or 280. Normally taken concurrently with Telecommunications and Film 560 or 580B.
Financing, preproduction planning, and postproduction of television and film.

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 Programing (3) II
Two lectures and more than three hours of scheduled activity.
Prerequisites: Telecommunications and Film 100 and 121.
Formats, policies, production practices and research in modern programing. Student work is broadcast on KPBS-FM.

535. Television Programing (3) I, II
Prerequisite: Telecommunications and Film 100.
Structure of television programing. Problems such as ratings, advertisers and scheduling. Social effects and criticism of television programing.

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.

550. Advanced Lighting and Staging for Television and Film (4) I, II
One lecture and more than nine hours of activity.
Prerequisites: Telecommunications and Film 120, 122, 123, and consent of instructor.
Production elements of television and film, to include lighting and staging techniques, art and graphics, scene design and scene decoration. Practical experience in University-sponsored productions.

560A-560B. Advanced Film Production (3-3) 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. (Formerly numbered Telecommunications and Film 560 and 561.)

562. Documentary and Propaganda Film/Television (3) I, II
Prerequisite: 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 filmograph 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.

580A-580B. Advanced Television Producing and Directing (3-3) I, II
One lecture and more than six hours of activity.
Prerequisites: Telecommunications and Film 280, 510, 520 and consent of instructor.
Program development, presentational techniques and individual projects in the producing, direction and production of television programs. Practical experience in University-sponsored productions. (Formerly numbered Telecommunications and Film 580 and 581.)

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 exposition of research as it relates to the various areas of telecommunications and film.

602. Seminar in Mass Communication Theory (3)
Prerequisite: Speech Communication 535.
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.

603. Seminar in Mass Communications Message Design (3)
Prerequisite: Speech Communication 535.
Selection and organization of message design elements in the mass communications media. Analysis of different effects of various types of mass communications formats, presentations, and systems on individuals and groups.

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 History of Broadcasting (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
The development of bradcasting 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, 560A-560B, 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)
Prerequisite: 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 Programing and Production (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
The theory and analysis of programing 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.

705. Seminar in Government and Broadcasting (3)
Prerequisite: Telecommunications and Film 505 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 600 and consent of instructor.
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.
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.

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

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. (Formerly numbered European Studies, 580.)

LATIN AMERICAN STUDIES

580. Special Topics (1-4)
Prerequisite: Six upper division units in Latin American content courses.
Interdisciplinary study of selected Latin American topics. Credit will vary depending on the scope and nature of the topic. Whenever appropriate, the course will be taught by a team of instructors representing two or more disciplines. May be repeated with different content. See Class Schedule for specific content. Maximum credit eight units.

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.

RELIGIOUS STUDIES 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.

580. A Major Figure (3) I, II
Prerequisite: Three units of religious studies.
Life works and significance of one major figure in a religious tradition. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

581. A Metaphysical Doctrine (3) I, II
Prerequisite: Three units of religious studies.
Systematic study of a selected theme or problem basic to the teachings of one of the major religious traditions. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

WOMEN'S STUDIES COURSES

590. Feminist Thought (3) I
Prerequisite: Six upper-division units in women's studies.
Readings in feminist theory and contemporary theoretical perspectives on core concepts and issues in feminist scholarship. Focus on understanding from a feminist perspective and on the significance of analyzing female experiences.

595. Seminar in Women's Studies (3)
Prerequisites: Six upper-division units 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 adviser.
Individual research project. May be taken in place of Women's Studies 595, Seminar in Women's Studies.

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 taking place through broadly based consultative procedures. The Academic Senate of The California State University, made up of elected representatives of the faculty from each campus, recommends academic policy to the Board of Trustees through the Chancellor.

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

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 1981 totaled approximately 313,000 students, who were taught by a faculty of 18,000. Last year the system awarded over 50 percent of the bachelor's degrees and 30 percent of the master's degrees granted in California. Over 800,000 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.

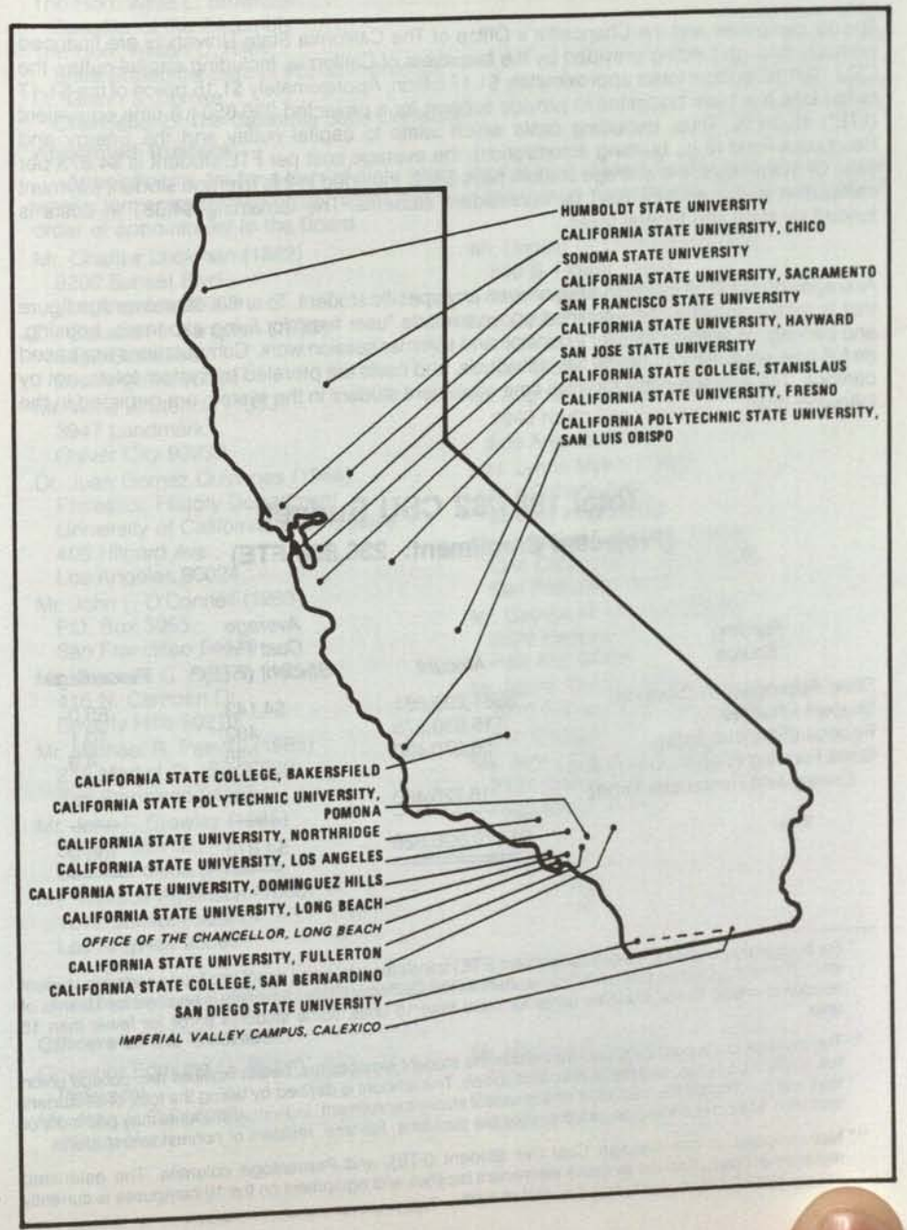
The Consortium was established in 1973 to meet the needs of adults who find it difficult or impossible to participate in regular on-campus programs. Instruction is thus provided students in convenient places at convenient times. Currently, programs are offered in more than 20 geographic areas throughout 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 upper division or graduate level. All courses offer residence credit leading to bachelor's or master's degrees. Credit and course work are transferable statewide. Programs are financed by student fees.

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

For more information contact The Consortium of The California State University, 400 Golden Shore, Long Beach, California 90802; (212) 590-5696. The statewide Admissions and Records Office may be reached by dialing the following local numbers: San Diego (714) 265-4775, Sacramento (916) 445-5864, San Francisco (415) 469-1355, or Los Angeles (213) 498-4119.



Average Annual Costs and Sources of Funds per Full-time Equivalent* Student in The California State University

The 19 campuses and the Chancellor's Office of The California State University are financed primarily through funding provided by the taxpayers of California. Including capital outlay, the CSU 1981/82 budget totals approximately $1.17 billion. Approximately $1.15 billion of the $1.17 billion total has been budgeted to provide support for a projected 236,850 full-time equivalent (FTE*) students. Thus, excluding costs which relate to capital outlay and the Energy and Resources Fund (e.g., building amortization), the average cost per FTE student is $4,873 per year. Of this amount, the average student pays $492. Included in this average student payment calculation is the amount paid by nonresident students. The remaining $4,381 in costs is funded by state and federal taxes.

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

Total 1981/82 CSU Budget

(Projected Enrollment: 236,850 FTE)

Funding Source	*Amount*	*Average Cost Per Student (FTE)**	*Percentage*
State Appropriation (Support)	$981,299,661	$4,143	85.0
Student Charges	116,630,975	492**	10.1
Federal (Financial Aids)	56,270,430	238	4.9
State Funding (Capital Outlay and Energy and Resources Fund)	16,725,460	***	***
Total	$1,170,926,526	$4,873	100.0

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

** The average costs paid by a student include the student services fee, health facilities fee, college union fee, student body fee, and the nonresident tuition. This amount is derived by taking the total of all student fees and dividing by the total full-time equivalent student enrollment. Individual students may pay more or less than $492 depending on whether they are part-time, full-time, resident or nonresident students.

*** Not included in the Average Cost Per Student (FTE), and Percentage columns. The estimated replacement cost of all the system's permanent facilities and equipment on the 19 campuses is currently valued at $3.6 billion, excluding the cost of land.

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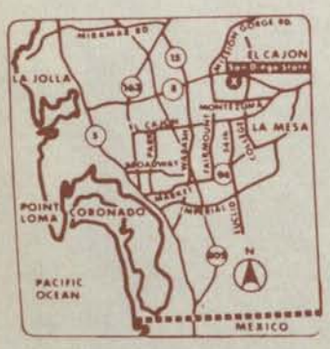
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