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1975- 1976
San Diego State University
Bulletin of the Graduate Division

Campbell '76

BULLETIN

**ARCHIVES
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**ANNOUNCEMENT
OF THE
GRADUATE DIVISION**

1975 — 1976

**SAN DIEGO STATE UNIVERSITY
SAN DIEGO, CALIFORNIA 92182**

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ACADEMIC CALENDAR
1975-1976

1975 Summer Sessions

June 2-20	Term I summer session (3 weeks).
June 12	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
June 23-August 1	Term II summer session (6 weeks).
June 28	Graduate School Foreign Language Test, by appointment four weeks in advance, Test Office.
July 12	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
July 21	Last day to apply for summer graduation with an advanced degree, Graduate Division Office.
August 2	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
August 4	Final day for submitting theses to the Thesis Review Service, Love Library.
August 4-22	Term III summer session (3 weeks).
August 22	Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation. Also last day for reporting results on comprehensive examinations to the Graduate Division Office by department, school, or college.

Fall Semester

August 1-31	Applications for admission or readmission to San Diego State University for the spring semester 1976. Accepted after this date only until enrollment quotas are met.
August 18-29	Testing, advising and registration.
August 25	Opening date of the academic year.
September 1	Holiday—Labor Day.
September 2	First day of classes. Also the earliest date to apply for graduation this semester.
September 15	Last day to apply for refunds.
September 27	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
September 29	Last day to withdraw from class or change program.
October 10	Holiday—Columbus Day.
October 11	Graduate School Foreign Language Test, by appointment four weeks in advance, Test Office.
October 18	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
November 1-30	Application for admission or readmission to San Diego State University for the fall semester 1976. Accepted after this date only until enrollment quotas are met.
November 4	Graduate Record Examination Aptitude Test for master's degree applicants, 6:15-10:00 p.m., by appointment four weeks in advance, Test Office.
November 7	Last day to apply for mid-year graduation with an advanced degree, Graduate Division Office.
November 11	Holiday—Veterans Day.
November 27-30	Thanksgiving Recess.

6 / Academic Calendar

December 1	Final day for submitting theses to the Thesis Review Service, Love Library.
December 12	Last day of classes before final examinations.
December 13	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
December 19	Final day for depositing completed approved theses at Aztec Shops for processing for mid-year graduation.
December 22	Winter recess begins.
December 31	Last day of fall semester. Last day for reporting results on comprehensive examinations to the Graduate Division Office by department, school, or college.

Spring Semester

January 12-23	Testing, advising and registration.
January 12	First day of spring semester.
January 17	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
January 26	First day of classes. Also the earliest date to apply for graduation this semester.
February 3	Graduate Record Examination Aptitude Test for master's degree applicants, 6:15-10:00 p.m., by appointment four weeks in advance, Test Office.
February 7	Graduate School Foreign Language Test, by appointment four weeks in advance, Test Office.
February 9	Last day to apply for refunds.
February 12	Holiday—Lincoln's Birthday.
February 13	Holiday—Washington's Birthday.
February 24	Last day to withdraw from class or change program.
February 28	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
March 6	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
March 12	Last day to apply for May graduation with an advanced degree, Graduate Division Office.
April 5	Final day for removing incompletes and for submitting theses to the Thesis Review Service, Love Library, for processing for May commencement.
April 10	Last day of classes before spring recess.
April 12-18	Graduate School Foreign Language Test, by appointment four weeks in advance, Test Office.
April 19	Spring Recess.
April 23	Classes resume.
	Final day for depositing completed approved theses at Aztec Shops for processing for May commencement. Also last day for reporting results on comprehensive examinations to the Graduate Division Office by department, school, or college.
April 24	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
May 8	Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.
May 10	Final day for submitting theses to the Thesis Review Service, Love Library, for processing for June graduation.
May 12	Last day of classes before final examinations.
May 15-22	Final examinations.

May 23
May 28

May 31
June 1

June 1-18
June 1
June 12

June 21-July 30
June 26

July 5
July 9

July 10

July 30

August 2-20
August 7

August 20

Commencement.

Final day for depositing completed approved theses at Aztec Shops for processing for June graduation.

Holiday—Memorial Day.

Last day of spring semester.

1976 Summer Session

Term I summer session (3 weeks).

Earliest date to apply for graduation in the summer session.

Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.

Term II summer session (6 weeks).

Graduate School Foreign Language Test, by appointment four weeks in advance, Test Office.

Holiday—Independence Day.

Last day to apply for summer graduation with an advanced degree, Graduate Division Office.

Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.

Final day for submitting theses to the Thesis Review Service, Love Library.

Term III summer session (3 weeks).

Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment four weeks in advance, Test Office.

Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation. Also last day for reporting results on comprehensive examinations to the Graduate Division Office by department, school, or college.



SCHEDULE OF FEES

Fees are subject to change by the Trustees
of The California State University and Colleges

FEES MUST BE PAID AT TIME OF REGISTRATION. CHECKS ACCEPTED FOR EXACT AMOUNT OF FEES. (IF YOUR CHECK IS RETURNED BY THE BANK FOR ANY REASON, YOUR REGISTRATION WILL BE CANCELED AND YOU WILL BE BILLED \$15.00.)

Fees for Student Services—All Students: on basis of units carried. (Auditors pay same fees as students carrying courses for credit.)

0 units—3.9 units	\$73.00
4 units—7.9 units	79.00
8 units—11.9 units	85.00
12 or more units	94.00

The above fees also include a student activity fee of \$10.00, a student union fee of \$9.00 and a nonrefundable facilities fee of \$3.00.

Tuition for Nonresident Student (Foreign and Domestic)

(In addition to student services and activity fees.)

Nonresident student enrolled for 15 units or more

\$650.00

Nonresident student enrolled for less than 15 units or fraction

thereof—per unit

\$43.00

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

Health insurance (mandatory for foreign students) approximately \$33.00

Parking Fees

Nonreserved parking space, per semester

\$15.00

Car pool—see cashier at registration.

Less than four-wheeled, self-propelled vehicle

\$3.75

Miscellaneous Fees (Fees payable when service is rendered.)

Application for admission or readmission (nonrefundable)

\$20.00

Late registration (Refer to class schedule for dates when

this fee will be assessed.)

5.00

Failure to meet administratively required appointment or time limit

2.00

Photo-identification card (One-time cost to new students

at time of registration)

2.00

Lost identification cards/ stickers

Card only

2.00

Registration sticker only

2.00

Card and sticker

4.00

Transcript of record

1.00

R.O.T.C. deposit (unexpended portion is refundable)

10.00

Check returned for any cause

5.00

Loss or damage of equipment and library books

cost

Graduation fee

5.00

Credential fee

20.00

BankAmericards

Students may use California BankAmericards (the first four digits must be 4019 or 4014) to pay registration fees up to and including \$100. Amounts over \$100 must be cleared with the University Cashiers Office in CL-108.

REGULAR SESSION FEE REFUNDS

Student Services Fees

To be eligible for a refund of student services fees, a student must completely withdraw from the university. **THERE WILL BE NO REFUND FOR A REDUCTION OF UNIT LOAD.** To be eligible for a refund of a 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 Cashier's Office, CL-108, not later than 14 days following the day the academic term begins. All but \$15.00 will be refunded. For additional information contact the Cashier's Office or telephone 286-5253.

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 Cashier's 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

Parking fee

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

Period	Amount of Refund
Nonreserved space per semester:	
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 Cashier's Office, CL-108.

The late registration fee is not refundable. The Cashier's Office should be consulted for further details.

SUMMER SESSION FEES

Tuition, each session	(per unit) \$30.00
Activity Fee:	
Term I	1.00
Term II	2.00
Term III	1.00
Student Union Fee:	
Term I	2.00
Term II	3.50
Term III	2.00
Parking Fees (nonreserved spaces):	
Entire summer period	10.00
Six-week session	6.00
Three-week session	4.00

EXTENSION COURSE FEES

Lecture or discussion course	(per unit) \$28.00
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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.

No fees of any kind shall be required of or collected from those individuals who qualify for such exemption under the provisions of the Alan Pattee Scholarship Act.

STUDENT SERVICES FEE

The Student Services fee for 1975-76 was recently established by the Trustees of The California State University and Colleges in lieu of the Materials and Service fee; however, the fee level was maintained at \$144 (for 12 or more units for the academic year). It is intended that this new fee will provide 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 counselor's 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 Aids Administration:** includes the cost of the counseling and business services provided in connection with the financial aid programs.

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

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

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

Prior to 1975-76 the Student Services fee was known as the Materials and Service fee, and not only covered the above expenditures but covered the cost of instructional and audiovisual supplies and contractual services. A task force recommended that responsibility for financing these expenditures be transferred to the State and that the basis for this fee be more adequately communicated to students and campus staff. It should be noted that the 1975-76 Student Services fee is subject to change by future Board of Trustees action made necessary by budget actions of the executive and legislative branches of government.

DEBTS OWED TO THE INSTITUTION

From time to time the student may become indebted to the institution. This could occur, for example, when the student fails to repay money borrowed from the institution. Similarly, debts occur when the student fails to pay institution, dormitory, or library fees, or when the student fails to pay for other services provided by the institution at the request of the student. Should this occur, Sections 42380 and 42381 of Title 5 of the California Administrative Code authorize the institution to 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. For example, under these provisions the institution may withhold permission to register, and may withhold other services, such as grades and transcripts. If a student believes that he or she does not owe all or part of a particular fee or charge, the student should contact the Controller, AD-320, in the campus business office. The business office, or another office on campus to which the student may be referred by the Controller 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.

NOTICE

The Board of Trustees of The California State University and Colleges, in Section 43800 of Title 5 of the California Administrative Code, has reserved the right to add, amend, or repeal any of its regulations, rules, resolutions, standing orders, and rules of procedures, in whole or in part, at such time as it may choose. None shall be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers, or privileges of the Trustees. The Chancellor reserves the right to add, amend, or repeal any of his Executive Orders, at such time as he may choose, and the President of San Diego State University reserves the right to add, amend, or repeal provisions of this catalog and rules of the University, including handbooks, at such time as he may choose. No Executive Order shall be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers, or privileges of the Chancellor nor shall any catalog provision or rule of the University be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers, or privileges of the President.

PART ONE

SAN DIEGO STATE UNIVERSITY

PRINCIPAL OFFICERS OF ADMINISTRATION

President	Brage Golding
Vice President for Academic Affairs	Trevor Colbourn
Vice President for Planning and External Affairs	Ernest B. O'Byrne
Dean of Student Affairs	Daniel B. Nowak
Director of Business Affairs	William L. Erickson

ACADEMIC ADMINISTRATION

GRADUATE DIVISION

Dean of the Graduate Division and Research	James W. Cobble
Associate Dean	Irving Alan Sparks
Assistant Dean	Marion J. Kahn
Assistant Dean	Dennis J. Selder

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 appointed by the President. For the academic year 1974-75, the membership of the Council was as follows:

James W. Cobble	Dean of the Graduate Division and Research
Trevor Colbourn	(ex officio) Vice President for Academic Affairs
Irving Alan Sparks	Associate Dean of the Graduate Division
Marion J. Kahn	Assistant Dean of the Graduate Division
Dennis J. Selder	Assistant Dean of the Graduate Division
William F. Barber	School of Business Administration
Larry Bennett	College of Sciences
Marybelle Bigelow	College of Professional Studies
Clarence Fishburn	School of Education
Barbara Gunning	College of Professional Studies
William A. Hunrichs	College of Sciences
G. Krishnamoorthy	School of Engineering
Glenn Sandstrom	College of Arts and Letters
Arthur W. Schatz	College of Arts and Letters
E. Percil Stanford	School of Social Work

(Membership for 1975-76 will be determined prior to the beginning of the academic year.)

COLLEGES, SCHOOLS AND DEPARTMENTS

	Chairmen
COLLEGE OF ARTS AND LETTERS	Frank Marini, Dean
Associate Dean	Joyce Appleby
Assistant Dean for Student Affairs	Alvord G. Branan
Afro-American Studies	Robert Johns
Anthropology	Larry L. Leach
Classical and Oriental Languages and Literatures	Steven C. Schaber
Economics	Fred Sebold
French and Italian Languages and Literatures	Elizabeth Jackson
Geography	Elmer Keen

German and Slavic Languages and Literatures	Ludek Kozlik
History	Douglas Strong
Linguistics	Glendon Drake
Literature	Fred Moramarco
Native American Studies	John Rouillard
Philosophy	Stanley Weissman
Political Science	Louis M. Terrell
Religious Studies	G. Ray Jordan
Sociology	Thomas L. Gillette
Spanish and Portuguese Languages and Literatures	Gerald L. Head
Women's Studies Program	Marilyn Boxer
COLLEGE OF PROFESSIONAL STUDIES	Maxwell L. Howell, Dean
Associate Dean	Norman Rost
Associate Dean	Millard Biggs
Assistant Dean for Student Affairs	George Hutchinson
Aerospace Studies	Lt. Col. James Pralle
Art	Paul A. Lingren
Athletics	O. Kenneth Karr, Jr.
Drama	Clarence E. Stephenson
Family Studies and Consumer Sciences	David Fulcomer
Health Science and Safety	William C. Burgess
Industrial Studies	Harold L. Marsters
Journalism	Frank S. Holowach
Mexican-American Studies	Robert Serros
Music	J. Dayton Smith
Nursing	
Physical Education	Richard W. Wells
Public Administration and Urban Studies	James D. Kitchen
Recreation	Donald Peterson
Speech Communication	Fred Sanders
Speech Pathology and Audiology	Harriet G. Kopp
Telecommunications and Film	K. Charles Jameson
COLLEGE OF SCIENCES	Albert W. Johnson, Dean
Associate Dean	John D. Schopp
Associate Dean	Saul L. Drobnies
Assistant Dean for Student Affairs	Celia Marshak
Astronomy	Burt Nelson
Biology	William E. Hazen
Botany	David L. Rayle
Chemistry	Earl P. Wadsworth, Jr.
Geological Sciences	Gary L. Peterson
Mathematics	Peter W. Shaw
Microbiology	Henry A. Walch, Jr.
Physical Science	Charles M. Schull, Jr.
Physics	Jacques D. Templin
Psychology	Robert Penn
Zoology	Roger E. Carpenter
SCHOOL OF BUSINESS ADMINISTRATION	Robert P. Hungate, Dean
Associate Dean	Maurice L. Crawford
Assistant Dean for Graduate Studies	William F. Barber
Assistant Dean for Student Affairs	Penny L. Wright
Accounting	Robert A. Meier
Finance	Pieter A. Vandenberg
Information Systems	William Spaulding
Management	William R. Sherrard
Marketing	Richard D. Darley
SCHOOL OF EDUCATION	Tomas A. Arciniega, Dean
Associate Dean	Robert R. Nardelli
Assistant Dean	Sam S. Blanc
Assistant Dean for Student Affairs	Guy Trujillo
Coordinator, Clinical Training Center	Ramon Ross
Coordinator, Counselor Education	John D. Chamley

Coordinator, Educational Administration	Howard B. Holt
Coordinator, Educational Technology	
and Librarianship	Patrick J. Harrison
Coordinator, Elementary Education	James M. Kaatz
Coordinator, Graduate Programs	Clarence E. Fishburn
Coordinator, Higher Education Programs	Robert D. Smith, Jr.
Coordinator, Secondary Education	Doris A. Meek
Coordinator, Special Education	Francis A. Ballantine
SCHOOL OF ENGINEERING	Martin P. Capp, Dean
Associate Dean	Frederick T. Quiett
Assistant Dean for Student Affairs	Andrew J. Crooker
Aerospace Engineering	Robert D. McGhie
Civil Engineering	Frank E. Stratton
Electrical Engineering	Shu-Yun Chan
Mechanical Engineering	Richard A. Fitz
SCHOOL OF SOCIAL WORK	Joseph B. Kelley, Acting Dean
OFFICE OF THE DEAN OF THE	
UNIVERSITY COLLEGE	D. Richard Little, Dean
Associate Dean	Robert S. Ackerly, Jr.
Director of Testing	Herman Roemmich
Test Officer	Michael A. Irwin
IMPERIAL VALLEY CAMPUS	Joseph A. Rodney, Dean
Associate Dean	Elmer D. Baldwin
Assistant to the Dean	Alma Tabor
Coordinator, Extended Services	Alan C. Smith



PART TWO

GENERAL INFORMATION

SAN DIEGO STATE UNIVERSITY

San Diego State University is a publicly supported institution of higher learning which, since its founding in 1897, has been dedicated to the service of men and women in the pursuit of their educational goals. The southernmost link of the California State University and Colleges system, the University offers postbaccalaureate study and research in a wide variety of professional and graduate programs, leading to credentials, master's, and doctoral degrees.

The campus is situated near the eastern boundary of San Diego on a mesa overlooking Mission Valley, the site of the first mission founded in California by Father Junipero Serra. Greater San Diego is a large metropolitan area located in an ideal climate well suited to academic and cultural pursuits. Three other institutions of higher learning, as well as the famous San Diego Zoo, the Old Globe Theatre, the Fine Arts Gallery, the Timken Gallery, and the Museum of Natural History are within easy driving distance of the campus. The San Diego Stadium, Sports Arena, a number of fine beaches and the nearby Laguna Mountains and desert provide ample opportunity for recreational activities.

The faculty of the University is made up of over 1,400 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 so necessary in maintaining a stimulating and exciting academic climate which is such an essential part of graduate training.

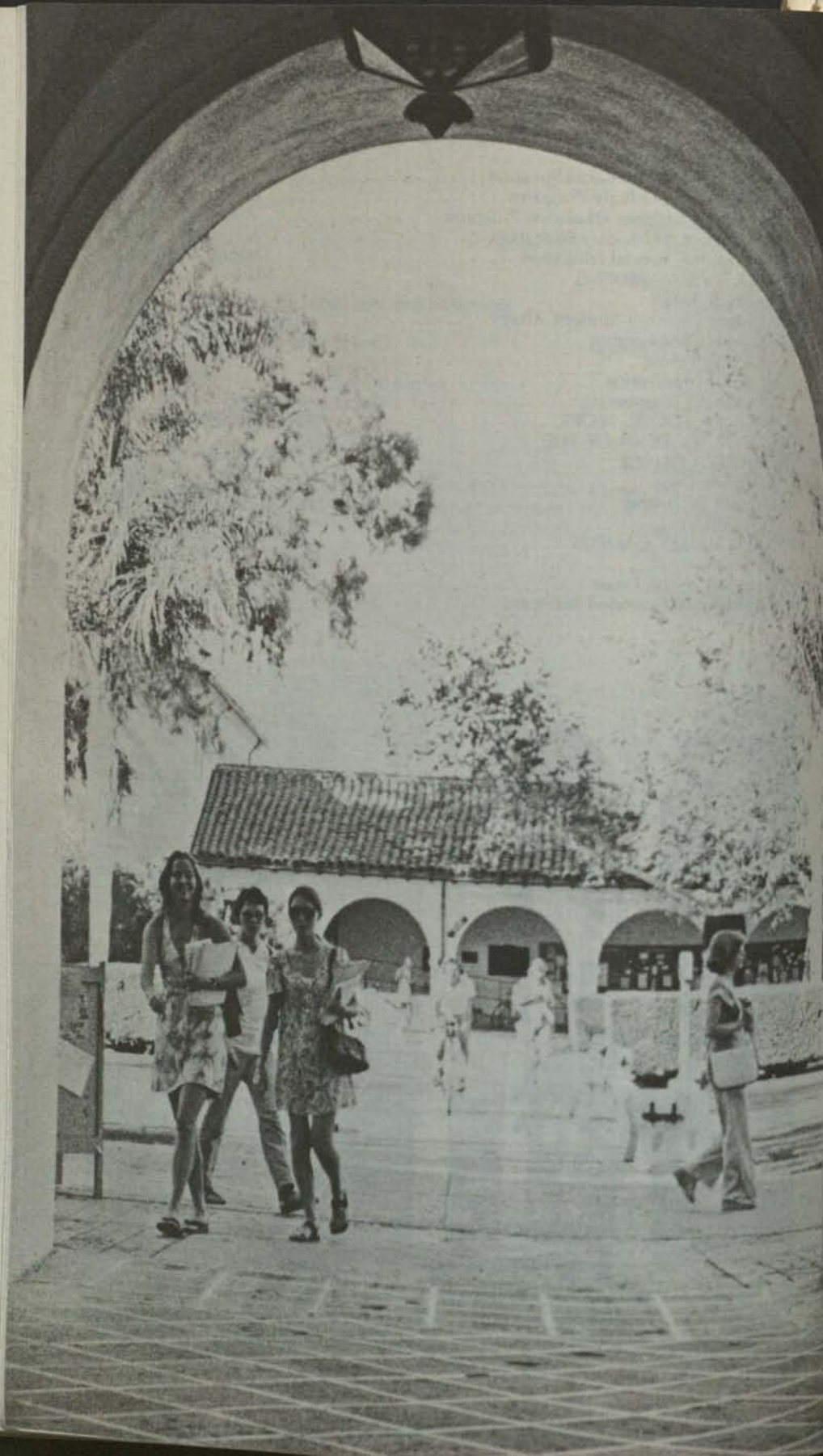
The degree of intellectual leadership which the University plays in higher education has been recognized by a number of learned societies which are located on campus, including the Phi Beta Kappa and Phi Kappa Phi honor societies. The University is fully accredited by the Western Association of Schools 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, thereby enabling qualified students to receive the Certificate 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 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 Graduate Schools and the Council of Graduate Schools in the United States.

THE MALCOLM A. LOVE LIBRARY

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

Presently the collection comprises some 870,000 volumes including books, bound periodicals, and government documents. Additional resources include some 963,000 microfiche and microopaque cards, 38,000 reels of microfilm, 12,000 college catalogs, 61,000 items of curriculum materials, 25,000 scientific reports, 290,000 archival papers, and 1600 phonograph records. The library receives some 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 are business, medieval history, American history, Civil War history, Latin American history, colonial French African history, English literature (sixteenth and eighteenth centuries), music of the Middle Ages and the nineteenth century, medieval philosophy, American philosophy, and public administration. Strong research and special collections in the sciences are the history of science, paleontology, biology, orchidology, astronomy, the history of astronomy, mathematics, chemistry, geology, the geologic history of Pacific Ocean invertebrate fauna, and the geology of San Diego County and Baja California.

The library provides a general and a specialized reference service in the social sciences and humanities, as well as separate reference services for sciences and engineering, government publications, and educational resources. Reference librarians assist students and faculty in their research and study, and librarians with advanced degrees in particular subject areas are available for reference consultation.

Among the conveniences provided the users of the library are locational information desks in the main lobby, the periodicals reading room, and the microforms and listening center; numerous inexpensive photocopying machines including one for microfiche and microfilm; and inexpensive multiple-copy duplicating machine; several typing rooms with coin-operated electric and manual typewriters; coin-operated electronic calculators; listening equipment for cassettes, open-reel tape, and phonographic records; and most of the required textbooks at the limited-loan (reserve) room of the library.

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 may be utilized by students are those provided in organized bureaus, centers, and institutes located on the campus.

ASIAN STUDIES

Alvin D. Coox, Director

The Center for Asian Studies is an interdisciplinary organization in the College of Arts and Letters. Drawing upon faculty members from many areas, it performs such services as (1) securing and administering grants and other support for research and development in Asian studies; (2) coordinating and publicizing the activities of faculty engaged in Asian-centered studies; (3) developing and administering the Asian studies program and relevant curricula at the undergraduate and graduate levels; (4) responding to campus and community requests for information and services; (5) fostering campus and community interest in Asian studies. The center's reading room and study facility, located in LE-469, contains Asian periodicals, books, pamphlets, dictionaries and maps.

BUSINESS AND ECONOMIC RESEARCH

John B. McFall, Director

The Bureau of Business and Economic Research is a center for organized research activity serving the needs of the School of Business Administration. Operationally, it is a part of the School of Business Administration, with a director and staff, but serves in addition as a coordinating agency for studies which concern the university as a whole. Fiscal matters are coordinated through the San Diego State University Foundation.

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) analyze and interpret local and regional data; (5) publish the results of its investigations and aid faculty in publication of their research.

Graduate students and faculty are encouraged to make use of bureau facilities. The bureau is a member of the Association for University Business and Economic Research.

COUNSELOR EDUCATION

Raymond Howard, Director

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

ECONOMICS RESEARCH CENTER

Robert Barckley, 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 currently utilized by the Economics Department for faculty seminars and economics conferences, by the Center for Research in Economic Development, by the Institute of Labor Economics, and by the local chapter of Omicron Delta Epsilon.

BUREAU OF EDUCATIONAL RESEARCH AND EVALUATION

Lester A. Becklund, Director

The Bureau of Educational Research and Evaluation operates within the School of Education. The objective of the bureau is to improve the quality of education through research by (1) assisting departments within the School of Education in their evaluation of courses and student performance, (2) serving faculty graduate advisers 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 School of Education and other educational communities, and (5) keeping faculty informed about current and potential bureau research activities and services.

EUROPEAN STUDIES CENTER

Ernest M. Wolf, Director

The European Studies Center coordinates and supports teaching and research related to the European area. It supervises the major in European studies for the A.B. degree. It sponsors the annual San Diego State University Summer Seminar and Travel Study Tour to Europe. It administers the European Studies Center Laboratory in LE-470 which contains 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.

INSTITUTE OF LABOR ECONOMICS

Clinton Jencks, 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.

LATIN AMERICAN STUDIES**Philip F. Flemion, 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 and the Mexican Summer School programs. The center sponsors a Latin American lecture series which provides the campus with public lectures given by guest speakers and members of the San Diego State University faculty who discuss a variety of Latin American topics. 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, LE-543.

CENTER FOR MARINE STUDIES**Richard F. Ford, Director**

The Center for Marine Studies was established to coordinate and represent the multidisciplinary marine studies programs 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, 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 Sciences, the College of Arts and Letters, the College of Professional Studies, the School of Business Administration, and the School of Engineering.

PALEOBIOLOGY COUNCIL**Jason A. Lillegraven, Chairman**

An interdisciplinary research and teaching agency to explore the fossil record. Composed of faculty members from the departments of Geology, Physical Science and Zoology at San Diego State University in addition to professional paleontologists in other research and educational institutions in the greater San Diego area.

PUBLIC AND URBAN AFFAIRS**W. Richard Bigger, Director**

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

PUBLIC ECONOMICS**George 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 OL-307.

REGIONAL ENVIRONMENTAL STUDIES**Charles F. Cooper, Director**

The Center for Regional Environmental Studies coordinates and encourages interdisciplinary research, educational and public service programs related to environmental quality and improved use of environmental resources. Physical, biological, social and institutional aspects of environmental problems are emphasized. The center endeavors to serve as a point of contact between the University and governmental and private institutions concerned with environmental quality. Although the San Diego region receives primary attention, the center's activities include statewide, national and international environmental programs.

RESEARCH IN ECONOMIC DEVELOPMENT**Murugappa Madhavan, Director**

The Center for Research in Economic Development is part of the Economics Department's effort to encourage research by students as part of their education and by the faculty. The center, temporarily located in the Economics Research Center in SS-340, provides material and aid for research in problems related to less developed countries.

SOCIAL RESEARCH**Douglas Kirby, Director**

The Social Research Center is a facility of the Department of Sociology. It provides physical equipment and space for the planning and processing of sociological research in such areas of investigation as urban growth and development, demographic factors, and social surveys. Current plans include expansion of the center to include laboratories for experimental studies of social organization. The center is administered for the Department of Sociology by a director whose duties include consulting assistance in the designing and execution of studies and in the preparation of proposals to funding agencies.

SOCIAL SCIENCE RESEARCH LABORATORY**Warner Bloomberg, Jr., Interim Director**

The Social Science Research Laboratory houses the Economic Research Center, the Social Research Center, the Political Science Laboratory and the Map Library of the Geography Department, in addition to computer facilities for research and instruction in the social sciences.

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.

COMPUTER CENTER

The Computer Center was established to encourage and support the use of computers in all instructional, research and administrative activities of the University. The present equipment includes a medium-size electronic digital computer—an IBM 360 Model 40 with 262,144 bytes of core storage, discs, tapes, a printer, card reader and punch. The supervisor is the Disc Operating System which supports the Assembler, COBOL, FORTRAN, PL/I and RPG languages. Remote job entry terminals are located in two buildings on campus. These terminals, consisting of a card reader and printer, are connected to the main computer in the Computer Center via telephone lines. A smaller digital computer, an IBM 1130, supports the APL and FORTRAN languages and has a plotting capability. Additional facilities include all necessary peripheral equipment to permit computer operation in the fields of scientific computation and commercial data processing. Timesharing terminals are strategically located throughout the campus and are tied by telephone lines to a CDC 3170 computer located at CSU, Northridge. Programming and data processing courses, and courses related to some specialized applications of computers are offered by several departments within the University.

RESIDENCE HALLS

Accommodations for 1669 single students are available in six residence halls on campus. Each of the buildings is fireproof and air-conditioned throughout. Five red-brick halls accommodate 211 students each, with sleeping and study facilities on a two-students-per-room basis. The sixth residence, which is a high-rise building, accommodates 614 students. Study hours are agreed on by residents and staff. Participation in campus activities is encouraged. Student governments and hall staff in each of the halls recommend standards for basic behavior in the residence halls. Each of the residence halls is staffed by personnel reporting to the Director of Housing.

Currently, the cost for room, including linens, is approximately \$300 to \$400 per semester. Three food service plans (19, 14 or 10 meals per week) are offered in The Commons at additional charges presently ranging from approximately \$230 to \$310 per semester, on an optional basis.

IT IS THE RESPONSIBILITY OF EACH STUDENT TO CONTACT THE HOUSING 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 University Housing Service. When the application is completed, it should be accompanied with a \$20 deposit, mailed to the Cashier's Office in the Campus Laboratory School. Your request for a space is confirmed when you receive a contract and your first payment is received thirty days before the halls open. A student may apply as early as a year in advance. Applications are taken in order of date received. Though consideration will be given to a student's request for an individual hall and roommate, a specific assignment cannot be guaranteed.

No application can be honored if the student is not accepted for admission into San Diego State University by August 18 (January 15, spring semester). Clearing residency is not the same as being fully admitted to the University. Nor does receipt of a housing contract mean that the University is committed to admitting the student. The deposit will be refunded if a student, after having submitted his housing application, is denied admission to the University.

During the Summer Sessions, rooms are available on a receipt-of-check date priority. A \$20 refundable security deposit should accompany a request for reservation.

Off-Campus Housing

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

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

UNIVERSITY COUNSELING CENTER

The facilities of the University Counseling Center are available to graduate students who may desire assistance in the solution of problems of an educational, occupational, or personal nature. Counseling appointments may be made at the center or by telephone. Psychological testing is available upon arrangement with a counselor.

HEALTH SERVICES

As a part of the program of student personnel services the University provides health services for the protection and maintenance of student health. These services are administered under the supervision of a medical director-administrator. A full-time physician staff is available to the students when school is in regular session for consultation, treatment of minor physical conditions, emergencies and counsel as to follow-up procedures. Full-time nurses and technologists are also on duty when school is in regular session. Special clinics are conducted in Family Planning, Ear, Nose and Throat, Dermatology, Gynecology and Orthopedics.

As a part of the admissions procedure a health history is required of all students. On the reverse side of the health history is a physical examination form to be completed by the private physician. Careful attention is given to students undergoing private remedial treatment, and those for whom a modified study load or a limited participation in physical education activities seems advisable. The physical examination should be completed as a condition to matriculation in accordance with Title 5, *California Administrative Code*, Paragraph 41200.

A student health insurance program sponsored by the Associated Students is currently in effect. This insurance, which covers hospitalization and specified medical and surgical services, may be purchased by the semester or the year through Aztec Shops, with enrollment open the first thirty days of each semester.

CAREER PLANNING AND PLACEMENT CENTER

San Diego State University provides a centralized placement service in cooperation with the various departments of the institution. Students are aided in securing part-time, full-time and summer employment and cooperative education programs through this office.

Information concerning occupational trends is also provided. Counselors maintain constant liaison with schools, businesses and industries. These counselors, as well as special counselors to minority students, are available at the Career Planning and Placement Center.

Students should seek out the counselor appropriate to their academic and vocational goals early in their college careers.

Credit courses relating to career planning are offered by the Center.

Going to college is regarded as a full-time job. Students are normally expected to spend in class and study a total of three hours a week for each unit of college work. A normal 15-unit load, therefore, represents a 45-hour week. Students should consider this before accepting part-time jobs.

When ready to seek a full-time career position, the student registers with the Career Planning and Placement Center so that he is able to fully take advantage of all the services that are offered.

At the beginning of the student's last semester, one should come to the Career Planning and Placement Center to obtain the information necessary to start a career folder.

CATALOGS AND BULLETINS

The *General Catalog*, published annually in May, may be obtained from the Aztec Shops Bookstore on the campus. The current price is \$1.20 plus tax if purchased at the Bookstore, and \$2.00 if ordered by mail. 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, is available without cost upon request to the Graduate Division Office.

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.

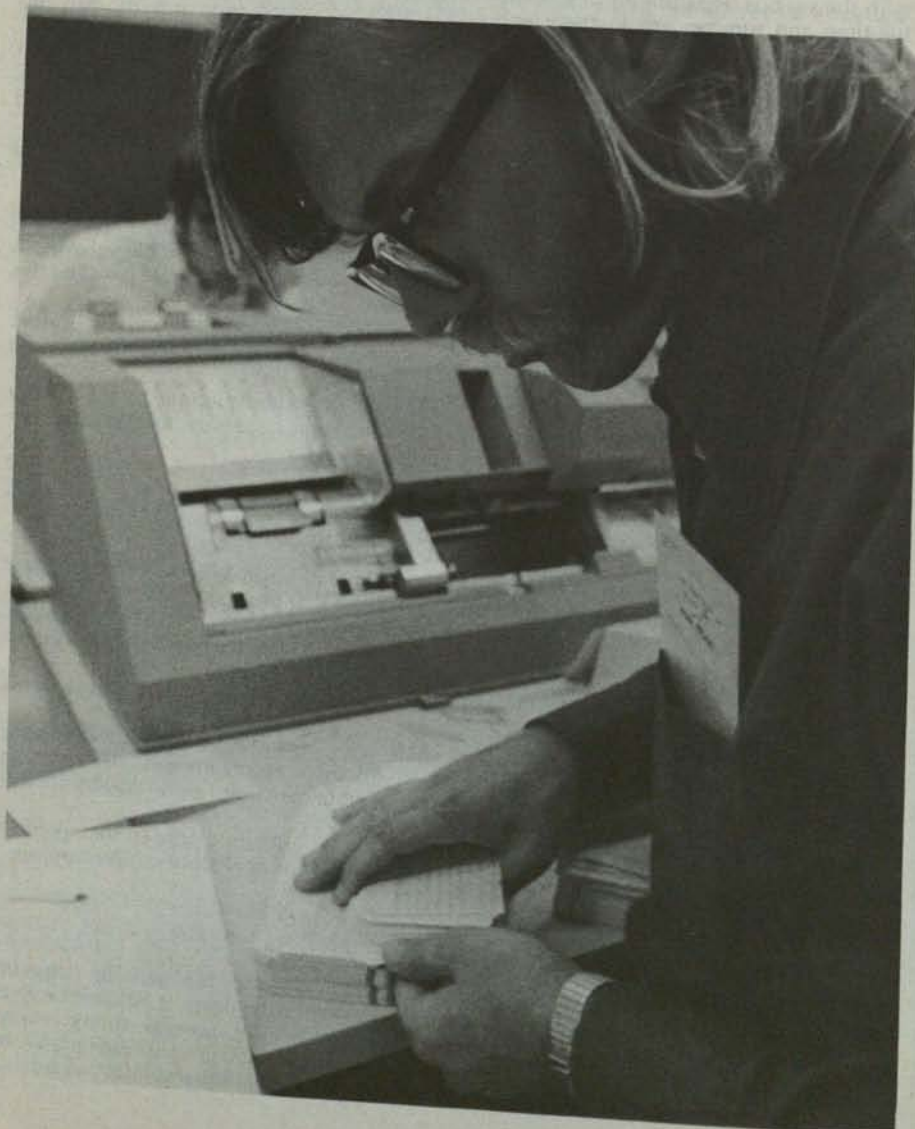
COST OF LIVING

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

Estimated Expenses for the Academic Year

	Living on Campus	Commuting
Materials, service, student activity, student union fee, facilities fee	\$187	\$187
Books and supplies	180	180
Personal	450	400
Room, board, health	1350	---
Board, incidentals	---	500
Transportation, parking	---	450
Total	\$2167	\$1717

In addition, foreign students and out-of-state students pay an annual tuition of \$1300. Typical expenses for married students without children average \$4250 for a nine-month period.



PART THREE

THE 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.

Graduate study is highly individualistic and requires in-depth study and scholarship and not merely the completion of a prescribed set of courses. Further, thesis and dissertation research require 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 Genetics

MASTER OF ARTS

American Studies	Linguistics
Anthropology	Mathematics
Art	Music
Asian Studies	Philosophy
Biology	Physical Education
Chemistry	Physical Sciences
Drama	Physics
Economics	Political Science
Education	Psychology
English	Radio and Television
French	Russian
Geography	Social Science
German	Sociology
Health Science	Spanish
History	Speech Communication
Industrial Arts	Speech Pathology and
Latin American Studies	Audiology

MASTER OF SCIENCE

Aerospace Engineering	Home Economics
Astronomy	Mass Communications
Biology	Mathematics
Business Administration	Mechanical Engineering
Chemistry	Microbiology
Civil Engineering	Physics
Computer Science	Psychology
Counseling	Radiological Physics
Criminal Justice Administration	Rehabilitation Counseling
Electrical Engineering	Social Work
Geology	Statistics

MASTER OF BUSINESS ADMINISTRATION

MASTER OF CITY PLANNING

MASTER OF PUBLIC ADMINISTRATION

MASTER OF SOCIAL WORK

GRADUATE TEACHING ASSISTANTSHIPS

Graduate teaching assistantships may be obtained by qualified graduate students in the areas of anthropology, art, astronomy, biology, business administration, chemistry, drama, economics, engineering, English, French, geography, geology, German, health science and safety, family studies and consumer sciences, industrial arts, mathematics, microbiology, physical education, physical science, physics, political science, psychology, public administration, Russian, 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 in not less than six units of 500-, 600- or 700-numbered courses each semester in the area in which the degree is sought.

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, 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.

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.

GRADUATE ASSISTANTSHIPS

Graduate assistantships not involving teaching duties and requiring 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 of 500-, 600- or 700-numbered courses in the area of their degree interest each semester in which they hold the appointment.

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 the following scholarships and awards may obtain application forms and further information from the Scholarship Office, unless otherwise indicated.

CALIFORNIA CONGRESS OF PARENTS AND TEACHERS, INC.

Six Education Scholarships of \$500 to be granted only to upper division or graduate students planning to teach in the public schools of California. A scholarship recipient must assume an obligation to teach in the public schools of California for one year immediately following graduation, or the award must be repaid in full. Applications available in Scholarship Office.

DOROTHY CRANSTON STOTT

A \$100 per year scholarship to a graduate of San Diego State University with a major in English. Selection is made by the faculty of Literature in May of each year.

K. W. STOTT

A \$100 per year scholarship to a graduate of San Diego State University with a major in history. Selection is made by the Department of History in May of each year.

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 Danforth, 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 members of the University faculty who have themselves in the past received these fellowships. These Faculty Fellows may nominate students to the San Diego State University Graduate Fellowships and Scholarship Committee. 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

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 State Scholarship and Loan 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; from \$500 to full tuition and/or fees at independent colleges; and are in the amount of fees charged at state universities and colleges, usually approximately \$160. State Fellowships are granted for one academic year (September through June). They are awarded after consideration of both academic and financial characteristics and critical manpower needs. 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 academic 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 are available from the Scholarship Office between October 1 and December 15. State Fellowships are renewable for up to three additional years. Renewal applications are automatically mailed to each State Graduate Fellowship recipient in mid-April.

SCHOLARSHIPS AND FELLOWSHIPS ADMINISTERED BY DEPARTMENTS

During the 1974-75 academic year, about 150 graduate students received scholarships, fellowships, grants, or stipends totaling approximately \$250,000 through the various departments. Students should check with the department of their major to determine what scholarship, fellowship, grant or stipend might be available to them.

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 School.

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. Completion of at least one semester of full-time attendance at the University is required before the student is eligible. The student borrower must also be currently in full-time attendance. The amount that may be borrowed, based on college-related need, is normally \$100 or less but may not exceed \$200. Repayment is generally made during the semester. Most loans under this program are free of interest. Applications are available throughout 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, may not exceed \$2,000 per year for a graduate student. The interest rate is three percent simple interest per year starting nine 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. The loan may be cancelled at the rate of 12½ percent per year up to a maximum of 50 percent for certain specified military service performed after July 1, 1970.

UNITED STUDENT AID FUND PROGRAM

United Student Aid Fund Loans in conjunction with the student's participating home town bank are available to graduate students meeting specific requirements. The amount that may be borrowed, based on college-related need, may not exceed \$1,500 per year for graduate students. Repayment begins nine months from the time the borrower ceases to carry at least one-half the normal full-time academic work load, and may extend between three and ten years depending on the amount borrowed. Interest at the rate of seven percent per year begins when the loan is granted. In most cases this interest cost may be fully subsidized by the federal government while the student is in college and for nine months thereafter.

FEDERALLY INSURED 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 \$2,500 per academic year. Interest at the rate of seven percent per year begins when the loan is made. This interest, however, may be subsidized by the federal government during the period of full-time attendance and for nine months thereafter, if the student meets prescribed criteria. 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.

UNIVERSITY 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, based upon individual skills, is from \$1.90 to \$3.01 per hour. Job opportunities are available both on campus and with selected community and government agencies in the San Diego area.

MINIMUM REQUIREMENTS FOR ALL APPLICANTS

San Diego State University participates in the College Scholarship Service (CSS) of the College Entrance Examination Board. As a participant the institution subscribes to the principle that the amount of financial aid granted a student should be based upon financial need. The CSS assists the university in determining the student's need for financial assistance. All students who have resided with their parents for over two weeks during the past year, or who have received over \$600 of financial assistance from their parents, are required to submit a copy of the Parent's Confidential Statement form to CSS, designating San Diego State University as one of the recipients. Other necessary forms and an information brochure may be obtained at the Financial Aid Office. Students who are independent of their parents must file a Student Financial Statement with the CSS.

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

Students may request assistance for all programs explained above on financial aid forms contained in the Application for Admission booklet.

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. If a student plans to offer work taken in a summer session to satisfy the requirements for an advanced degree, he must make early application 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 has been approved by the Veterans Administration and the California State Department of Education to offer graduate study for veterans leading to the master's degree, graduate teaching credentials, and other programs that require graduate training. 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.

TEACHING CREDENTIALS

Anyone wishing to teach or provide other types of professional service in the public schools of California must hold a valid teaching/service credential. Assembly Bill 122 has markedly changed the requirements for credentials in the state. Some of these new credential programs have been defined (see below). Others are in a state of development. Students are advised to consult with the department in which they are interested to obtain advising that is current.

List of Credentials

1. Multiple subjects credential ... Teach in any self-contained classroom kindergarten through twelfth grade.
2. Single subject credential Teach single subject area in grades K through 12.

School Service Authorized

Fisher Credentials*

List of Credentials

- (1) A standard teaching credential with specialization in:
 - (a) Elementary Teaching Teach kindergarten and grades one through nine
 - (b) Secondary Teaching Teach major and minor in grades seven through twelve

The following applies to both (a) and (b).
By completing specialized preparation, additional authorization may be earned in: (1) *Specialization in Teaching of Exceptional Children*, authorizing teaching in the area of mentally retarded in kindergarten and grades one through fourteen; and (2) *Specialization in Librarianship*, authorizing service as librarian and teaching of librarianship in kindergarten and grades one through fourteen. (3) *Specialization in Area of Deaf and Severely Hard of Hearing*, authorizing teaching in the area of deaf and severely hard of hearing in kindergarten and grades one through fourteen.
- (2) The 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
- (3) A standard designated subjects credential Teach trade or technical courses at grade levels specified on the credential
- (4) A standard designated services credential Perform pupil personnel services or health services as specified on the credential
- (5) A standard supervision credential Serve as supervisor, consultant, or other intermediate administrative position including school principal
- (6) A standard administration credential Serve as a district superintendent or in intermediate level administrative positions, including those services authorized by the standard supervision credential
- (7) A restricted credential Serve as a speech and hearing specialist at all grade levels.

NEW CREDENTIALS

Assembly Bill 122 (Ryan Bill) has changed the credential structure in the State of California. Students who did not complete credential requirements by September 14, 1974, should consult with departmental advisers in order to determine their status and needed requirements. Information on these new credentials is available in the offices of the several departments of the School of Education. The multiple subjects credential (elementary), and the single subject credential (secondary), together with the specialist credentials listed below, have been approved by the Commission for Teacher Preparation and Licensing.

Specialist Credentials*

Early Childhood
Bilingual/Cross-Cultural
Special Education
Reading Specialist

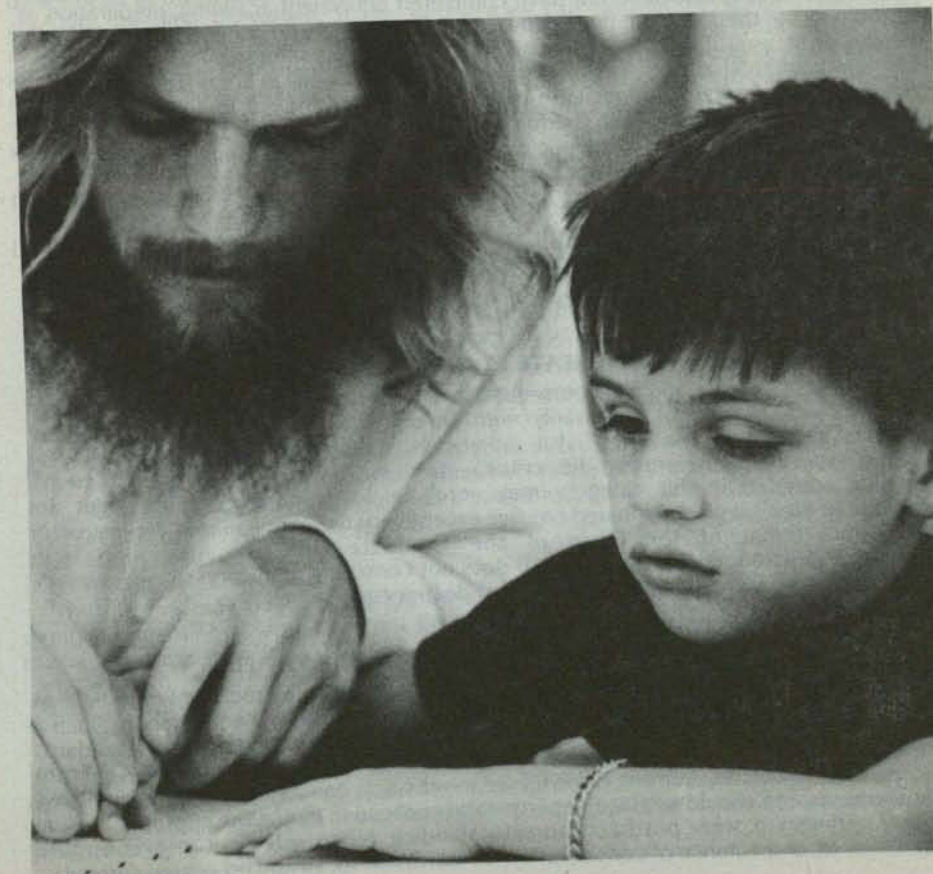
Services Credentials*

Administrative Services

The following credentials are in a stage of development:

Library Services
Pupil Personnel Services

*These credentials may be obtained only after completion of the single subject or multiple subjects credential.



ADMISSION TO POSTBACCALAUREATE AND GRADUATE STUDY

APPLICATION PROCEDURES

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

GENERAL ADMISSION REQUIREMENTS

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

ADMISSION CATEGORIES

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

POSTBACCALAUREATE STANDING (UNCLASSIFIED)

A student wishing to enroll in courses at the University with a personal or professional growth objective, but not necessarily with an objective of an advanced degree or credential, may be considered for admission with postbaccalaureate standing (unclassified) when he meets the criteria specified under General Requirements. Students admitted in this category may enroll in 500-numbered courses, but are ineligible to enroll in 600-numbered courses except with the permission of the instructor and concurrence of the Dean of the Graduate Division. 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 Requirements. Such a student must also meet the professional, personal, scholastic and other standards prescribed by the appropriate department in the School of Education. 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 Requirements, and, in addition, must:

- 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 School of Business Administration will take the Graduate Management Admissions Test.)
- Have completed an undergraduate major appropriate to the field in which he desires to earn an advanced degree.
- Satisfy the special departmental or school requirements as stated in Part Four of the Graduate Bulletin under "Fields of Study and Courses of Instruction."
- Meet the professional, personal, and scholastic standards for graduate study established by the Graduate Council.

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

Members of the faculty of San Diego State University holding appointments at or above the level of Instructor may not be admitted to the University with graduate standing (classified).

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 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. Students admitted with conditional graduate standing (classified) are admitted to authorized advanced degree curricula and may enroll in 600-numbered courses. Once the conditions established by the department or school have been met, the student will be accorded full graduate standing (classified).

A student who is already enrolled in the University with postbaccalaureate standing may request acceptance into an advanced degree curriculum with graduate standing (classified). Applications for such continuing students are available at the Graduate Division Office.

REQUIRED OFFICIAL FORMS

The following official forms must be submitted to the Admissions Office:

- Application for admission or readmission, accompanied by a \$20 nonrefundable application fee. Make check or money order payable to San Diego State University.
(Fee may be waived for readmission application if student was regularly enrolled as a graduate student in either of the two semesters immediately preceding the semester for which the application is submitted, unless such student was enrolled at another institution in a regular session subsequent to such previous semester.)
- Health history record
- Residency statement

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

FILING OF RECORDS

The applicant must file promptly with the Admissions Office 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.

RESIDENCY DETERMINATION

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

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 and Colleges is found in *Education Code* Sections 22800-22865, 23763.1, 23754-23754.4, 23758.2 and 23752, and in Title 5 of the *California Administrative Code*, Article 4 (commencing with Section 41901) 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 while, at the same time, intending to make California his permanent home. Steps must be taken at least one year prior to residence determination date to evidence the intent to make California the permanent home with concurrent relinquishment of the prior legal residence. Some of the relevant indicia of an intention to establish and maintain California residence are registering to vote and voting in elections in California; satisfying California state income tax obligations on total income; ownership of residential property or continuous occupancy or letting 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 his stay in California. In general, the unmarried minor (a person under 18 years of age) derives legal residence from his parents, or, in the case of permanent separation of the parents, from the parent with whom the minor maintains his place of abode. The residence of a minor cannot be changed by act of the minor or that of 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.

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 1975-1976 academic year are September 20, 1975 and January 25, 1976. If you have any questions regarding the applicable date, the campus Admissions Office can give you the residence determination date for the term for which you are registering.

There are several exceptions for nonresident tuition. Some of the exceptions provide for:

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 transfer of the military person directly to a post outside the 50 states and District of Columbia.

5. Military personnel in active service stationed in California on the residence determination date for purposes other than education at state-supported institutions of higher education. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.

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

7. Certain credentialed, full-time employees of school districts.

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

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.

11. A person in continuous full-time attendance at an institution who had resident classification on May 1, 1973, shall not lose such classification as a result of adoption of the uniform student residency law on which this statement is based, until the attainment of the degree for which he is currently enrolled.

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

The California State University and Colleges
5670 Wilshire Boulevard
Suite 1260
Los Angeles, California 90036

within 120 calendar days of notification of the final decision on campus of his classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to the institution with instructions for a further review on campus. Students classified 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 Dean of Admissions, 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 \$33 per year or \$20 per semester. Applicants for admission as either graduates or undergraduates whose education has been in a foreign country should file an application for admission, official certificates and detailed transcripts of record from each secondary school and collegiate institution attended several months in advance of the opening of the semester in which the applicant expects to attend. International students from outside the United States will be considered for admission only for the fall semester. Only those foreign students already in the United States will be considered for the spring semester. Students applying to transfer from a college or university in the United States must have completed a full year at that institution. If certificates and transcripts are not in English, they should be accompanied by certified English translations. Credentials will be evaluated in accordance with the general regulations governing admission to San Diego State University.

An applicant whose education has been in a language other than English must take the Test of English as a Foreign Language (TOEFL). This test is administered in most foreign countries and test scores must be received by the university before admission to the university can be granted. Information as to the time and place at which this test is given may be obtained by writing to: Educational Testing Service (TOEFL), Princeton, New Jersey, 08540, U.S.A. Upon arrival at San Diego State University, a further test of English will be given 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. All students, undergraduate and graduate, are required to take one or more of the following courses, depending upon performance on the placement test: Study Skills 131, 132, 133, or English 100. These courses must be taken in consecutive semesters, with first required course being taken during the student's first semester at San Diego State University. Foreign students transferring from another U.S. college may be required to take an English placement test.

Arrangements for housing should be completed before the student's arrival on the campus. Detailed information regarding housing may be obtained from the Director of Housing, 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 the Coordinator of Foreign Student Admissions.

LIMITATION OF ENROLLMENT

Admission to a state university or college must be restricted in relation to the number of students for whom an adequate college education can be provided by the staff and facilities available. The Trustees have authority on this matter.

REGISTRATION

After a student has been admitted to the University, his first basic step is to register for classes. Registration at San Diego State University is held prior to the beginning of each semester and each summer session. The dates for registration are announced in the Class Schedule, which is issued each semester. Schedules are obtainable at the University bookstore, just before registration. They contain general information on registration, a

listing of the times students are permitted to register, the courses offered for the term, and a listing of the fees required for registration. Fees are payable at the time of registration and depend on the number of units selected. Students who cannot be present at registration may have another person register for them at their scheduled time. The person designated must have his alternate's ID card and must pay his fees. He will also be required to provide necessary data on the student information card. Late registration at San Diego State University is possible only in cases of genuine emergency. This involves petition action and additional fees and in no case is permitted beyond the first week of class.

UNCLASSIFIED POSTBACCALAUREATE STUDENT ENROLLMENT

An unclassified postbaccalaureate student is not eligible to enroll in 600- and 700-numbered courses, except with permission of the instructor and concurrence of the Dean of the Graduate Division. **All credit earned by an unclassified postbaccalaureate student is subject to evaluation as to its acceptance for graduate credit in a master's degree curriculum.**

CHANGES IN CLASS SCHEDULE

A student is responsible for any change in his 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 Registrar's Office.

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 calendar for deadline dates for change of schedule.

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. He may be required to file application for readmission to the Graduate Division if he wishes to resume his graduate study. A student who withdraws from a graduate curriculum will be required to comply with regulations and requirements in effect at the time he gains readmission to the Graduate Division.

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

CONCURRENT MASTER'S DEGREE CREDIT

A senior who is within 12 units of completing requirements for the bachelor's degree and whose overall grade point average 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 fourth week of the 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 master's degree 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. No more than three units in 600- and 700-numbered courses will be accepted toward the minimum unit requirements for the master's degree.

SECOND MASTER'S DEGREE

A graduate 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 master's 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 this bulletin. All questions concerning graduate study at San Diego State University should be referred to the Graduate Division Office.

All graduate students admitted to San Diego State University after August, 1975 will be required to follow the procedures and regulations stated in the 1975-1976 editions of the General Catalog and this 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.

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 primarily for undergraduates; those numbered 500 to 599 are upper division courses also acceptable for advanced degrees in the major area; those numbered 600 to 799 are graduate 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.

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), 4 points; B (commendable), 3 points; C (satisfactory), 2 points; D (passing), 1 point; F (failure), 0 points; I (incomplete), counted as units attempted, 0 points; SP (satisfactory progress), not counted in the grade point average; W (withdrawal), not counted in the grade point average; Cr (credit), signifying units earned, but not counted in the grade point average; NC (no credit), no credit earned and not counted in the grade point average.

The symbol "Cr" is used to report the satisfactory completion of Courses 796, 797, 798, 799A, and, in the School of Education, certain 600- and 700-numbered courses. Failure to satisfactorily complete such courses will result in the assignment of "NC."

No course in which a final grade below "C" was earned may be used to satisfy the requirements for an advanced degree.

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. For details see the section of this bulletin under Basic Requirements for the Master's Degree.

INCOMPLETE GRADE

An Incomplete signifies 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. A final grade is assigned when the work agreed upon has been completed and evaluated.

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") for grade point average and progress point computation.

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.

SATISFACTORY PROGRESS GRADE

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

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 Chairman, receive an SP (satisfactory progress) grade. This grade symbol will remain on the student's record until the thesis is completed or up to two calendar years from the end of the semester or term of registration in the course, whichever occurs first. If, at the end of two years, the thesis is not completed the grade NC (no credit) will be recorded on the student's record, unless extension of time for completion, due to extenuating circumstances, has been recommended in advance by the Thesis Committee Chairman and the Department Chairman, and is approved by the Dean of the Graduate Division. 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 (within the two-year period, as outlined above) 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

OFFICIAL WITHDRAWAL

Students who wish to withdraw from the University must initiate action formally through the Registrar's Office. Failure to file will result in a failing grade in all courses. Under certain circumstances, complete withdrawal is possible up to three weeks preceding the last day of the semester; however, 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, is permitted without restriction or penalty before the end of the third week of classes. Such courses will not appear on the permanent record.

Withdrawal from a course, or courses, after the third week of classes and prior to the last three weeks of instruction is permissible only for serious and compelling reasons. Permission to withdraw during this time period is to be granted only with the approval of the instructor and the Department Chairman, and approvals are made in writing on the prescribed forms.

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 are to be handled as indicated above, except that such requests also must be endorsed 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, will be cancelled.

UNOFFICIAL WITHDRAWAL

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

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

EDUCATIONAL LEAVE OF ABSENCE

Students are permitted to take a total of two semesters of approved leave of absence during their matriculation at San Diego State University if it can be clearly established that the leave will contribute to a student's educational objective. No fees are involved.

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

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

READMISSION

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

REPEATED COURSES

A graduate student may not repeat courses which have been taken as part of his official master's degree program, except in the case of courses required as prerequisites for that program.

PROBATION AND DISQUALIFICATION**SCHOLASTIC PROBATION**

A student who is enrolled in a graduate degree program in conditionally classified or classified standing shall be placed on academic probation if he fails to maintain a cumulative grade point average of at least 3.0 in all units attempted subsequent to admission to the program.

A student who is enrolled in any postbaccalaureate status other than in conditionally classified or classified standing shall be placed on academic probation if he 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 or postbaccalaureate student shall be subject to disqualification if, while on probation, he fails to earn sufficient grade points to remove himself from probationary status. Disqualification may be either from further registration in a particular program or from further enrollment at the University, as determined by the Dean of the Graduate Division.

SCHOLASTIC DISQUALIFICATION

Any postbaccalaureate student who has been admitted to a graduate degree curriculum in the Graduate Division 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 in the Graduate Division and his official status will be changed from classified graduate standing to unclassified postbaccalaureate standing.

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 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 the same or similar reason for which he 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 Board of Admissions. Application for readmission must be made on forms available at the Office of Admissions.

STUDENT DISCIPLINE AND ATTENDANCE

Any student 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 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 the 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.

No fees or tuition paid by or for the student for the semester or summer session in which he is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester or summer session in which he is suspended, no additional tuition or fees shall be required of the student on account of his suspension. In the event that a student who has not reached his twenty-first birthday is suspended or expelled, the President shall immediately notify his parent or guardian of the action by registered mail to the last known address, return receipt requested. (Reference: California Administrative Code, Chapter 5, Sections 41301 and 41302.)

STUDENT GRIEVANCES

If a student believes that a professor's treatment of him is grossly unfair or that a professor's behavior is clearly unprofessional, he may bring his 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 Dean of Student Affairs (AD-231).

TRANSCRIPTS OF RECORD

A student may obtain an official transcript of his record by filing an application at the Registrar's Office. A fee of \$1 is charged for all transcripts and must be paid in advance. One week should be allowed for the processing and mailing of the transcript. Transcripts from other schools or colleges become the property of this university and will not be released nor will copies be made.

AUDITORS

A student who does not wish to take a course for credit may, with the consent of the instructor, enroll as an auditor during the regular change of program period. Students may not enroll in courses for audit at registration. An auditor must meet all admissions requirements and pay the same fees required of students taking the course for credit. No change from regular registration to audit, or from audit to regular registration, will be permitted during the semester. An auditor is not held for examinations and does not receive credit or a final grade in the course.

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

The amount of transfer and extension course credit acceptable on master's degree programs is limited to a total of six units for the Master of Arts, the Master of Science, the Master of Business Administration, and the Master of Public Administration degrees; 26 units (including a maximum of six units of extension credit) for the Master of City Planning degree; and 32 units (including a maximum of six units of extension credit) for the Master of Social Work degree. To be accepted as a part of the requirements for these degrees, all credit earned in other colleges or in extension courses must be approved by the appropriate graduate adviser and the Dean of the Graduate Division. **It is the responsibility of the student to determine prior to his enrollment in an extension course whether that course has been approved by the Graduate Council for inclusion on a master's degree program.** Credit earned by correspondence or by examination is not accepted as satisfying degree requirements.

STUDY LIST LIMITS IN THE GRADUATE DIVISION

Section 40601 (j) of the Administrative Code defines the term "full-time student" to mean any student whose program while in attendance at a college averaged twelve or more semester units per semester, or the equivalent.

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 programs for any 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 coursework unless a request for excess load is approved by the Dean of the Graduate Division. 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.

OFFICIAL PROGRAMS OF STUDY

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

When courses listed on an official master's degree program deviate from the prescribed requirements as stated in the Graduate Bulletin, a statement indicating a justification for approval of the proposed deviation must be submitted to the Dean of the Graduate Division by the department concerned.

It is the student's responsibility to complete the specific courses listed on his official program of study. No changes will be permitted unless approved by the graduate adviser and the Dean of the Graduate Division. No course can be deleted from an official program after the course has been completed.



GENERAL REQUIREMENTS FOR DOCTORAL DEGREES

The degree Doctor of Philosophy (Ph.D.) is offered by three disciplines at San Diego State University in cooperation with their counterparts at University of California campuses—in chemistry with the University of California, San Diego; in ecology with the University of California, Riverside; 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, and Genetics.

Students who wish to become candidates for the degree Doctor of Philosophy in Chemistry, Ecology 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 University of California campus appropriate to his degree program 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 University of California campuses.

ADMISSION TO THE PROGRAMS

After a student has been formally admitted to the two Universities with appropriate graduate standing, he must declare his 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 his background and research interests and for planning of his 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 of California campus. 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 have demonstrated 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. The foreign language requirement in Chemistry has recently been discontinued.

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 University of California campus with which he is associated for advancement to candidacy. After approval by both Graduate Deans, the student will be notified of his advancement to candidacy by the Graduate Dean, University of California (San Diego, Riverside, or Berkeley).
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 his 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 or Genetics will be awarded jointly by the Regents of the University of California and the Trustees of the California State University and Colleges in the names of the University of California (San Diego, Riverside or Berkeley, respectively) and San Diego State University.

PROCEDURES

The time required for a student to complete the requirements for the degree is not expressed in terms of units of credit or number of semesters 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 DEGREE

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, Fields of Study and Courses of Instruction for the Master's Degree:

A. EXAMINATIONS:

As part of the admission procedure for classified graduate standing, 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 Four, Fields of Study and Courses of Instruction 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.)

B. FOREIGN LANGUAGE REQUIREMENT:

When a student is required to satisfy this requirement in French, German or Spanish, he should make arrangements with the Test Office to take the appropriate Graduate School Foreign Language Test developed by the Educational Testing Service, 1947 Center Street, Berkeley, California 94704. Passing scores on these examinations are established by the Graduate Council.

C. 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 he has filed an official program of study approved by the appropriate 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 he has earned at least 12 units listed on his official program 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 on his official program 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 on his official graduate program in the School of Social Work 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 in Paragraph (G) of 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 Graduate Division Office.

A minimum of nine units of courses listed on the official program of study must be enrolled in and completed *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, and the Master of Social Work degrees must be enrolled in and completed *after* advancement to candidacy.

D. UNIT REQUIREMENTS:

Credit earned by correspondence or by examination is not acceptable on advanced degree requirements.

Master of Arts, Master of Science, and Master of Public Administration degrees:

Thirty units (36 units for the Master of Science in Counseling degree 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 24 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 six units in approved extension and transfer courses may be used to satisfy the minimum 30 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 School of Business Administration at least 24 of which must be completed in residence. Not more than six units of approved transfer credit are acceptable for this degree. Credit earned by correspondence is unacceptable. *Not more than a total of six units in Course 797, Research, and Course 798, Special Study, will be accepted for credit toward the degree.*

Master of City Planning degree:

Fifty-six 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 56 units for the degree. Credit earned by correspondence is unacceptable. *Not more than a total of nine units in courses 797 and 798 will be acceptable for credit toward the degree.*

Master of Social Work degree:

Fifty-six units of 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. Credit earned by correspondence is unacceptable. *Not more than a total of nine units in courses 797A, 797B, and 798 will be accepted for credit toward the degree.*

E. COURSE REQUIREMENTS:

In all master's 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 the foregoing unit requirements except that the Graduate Council, on the recommendation of the department or school concerned, may extend the time for students who pass a comprehensive examination in the relevant course. *A maximum of six units may be validated for recency by examination.* With the approval of the appropriate graduate adviser and the Dean of the Graduate Division, a more recently completed course may be substituted for an outdated one, or substitute coursework of equal unit value, not yet completed, may be assigned.

In the event that more than six units of coursework become invalidated in the semester following the seven-year deadline, the departmental graduate adviser shall determine which units may be validated by comprehensive examination. Substitute coursework shall be assigned for the remaining outdated courses.

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.

Specific courses required in the basic 30, 36, 30-60, or 56 units and the requirements concerning foreign languages are listed in the appropriate sections of Part Four, Fields of Study and Courses of Instruction under Specific Requirements for the Master's Degree.

F. THESIS:

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. Theses or projects must be completed well in advance of the date of the convocation at which the degree is conferred. Refer to the calendar in Part One of this bulletin for deadline dates.

The thesis must be completed within two calendar years following the date of the end of the semester or term in which the student has registered in Course 799A, Thesis. (Refer also to the section on Uncompleted Thesis in this bulletin.)

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. All theses or projects must be typed on special water-marked thesis paper available at the Aztec Shops. Students are advised to purchase a current copy 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, with the approval of the department or school concerned, 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 on 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.

G. GRADE POINT AVERAGES:

Grade point averages of at least 3.0 (B) must be maintained on:

1. All programed courses required for the removal of undergraduate deficiencies.
2. All programed courses including courses accepted for transfer credit and courses taken concurrently with or subsequently to courses accepted for transfer.
3. All courses taken at San Diego State University concurrently with or subsequently 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.

H. GRADE RESTRICTIONS FOR MASTER'S DEGREE PROGRAMS:

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% 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.

I. FINAL APPROVAL:

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

J. APPLICATION FOR GRADUATION:

Graduation is not automatic on the completion of degree requirements. The student must file an application in the Graduate Division Office (after having paid the graduation fee at the Cashier's Office) during the semester or term in which he expects to graduate. Refer to the calendar preceding Part One of this bulletin for deadline dates.

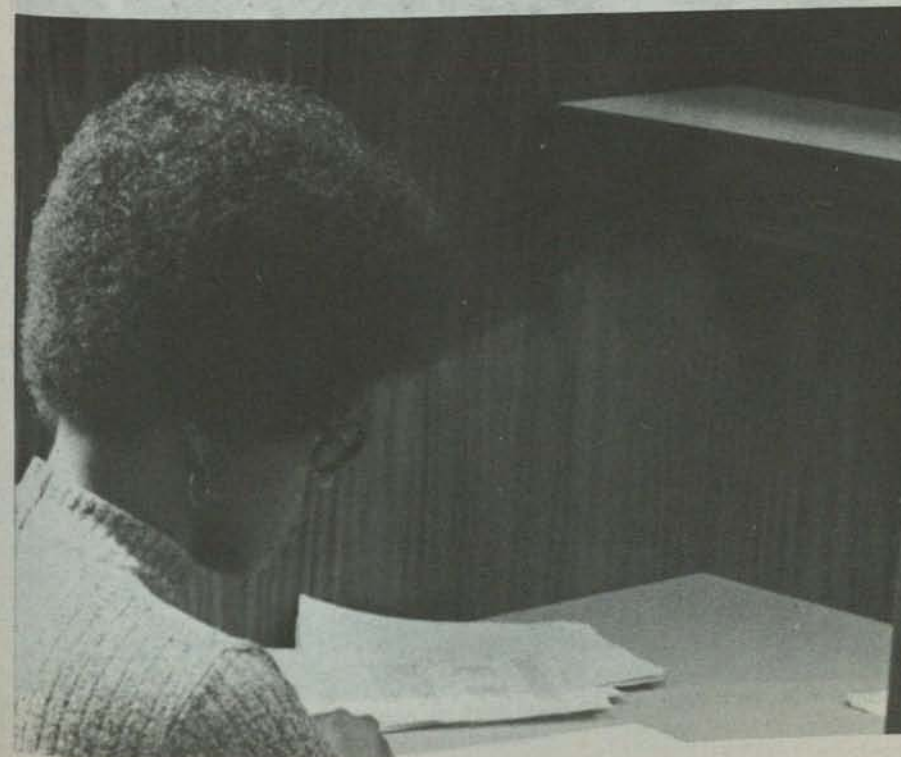
In the event that the student does not graduate in the semester or term in which he applies, he must reapply (and pay the graduation fee) in the subsequent semester or term in which he expects to graduate.

K. AWARD OF DEGREES:

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

L. DIPLOMA:

The appropriate diploma is awarded at commencement or is forwarded to the student by the Office of Admissions and Records.



PART FOUR

FIELDS OF STUDY AND COURSES OF INSTRUCTION

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 and Colleges. 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. Graduate level (600- and 700-numbered) courses carry course descriptions. Full descriptions for other courses may be found in the General Catalog. 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 any given 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. Unclassified postbaccalaureate students must obtain the permission of the instructor and the concurrence of the Dean of the Graduate Division before they may enroll in a graduate level course. 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.

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

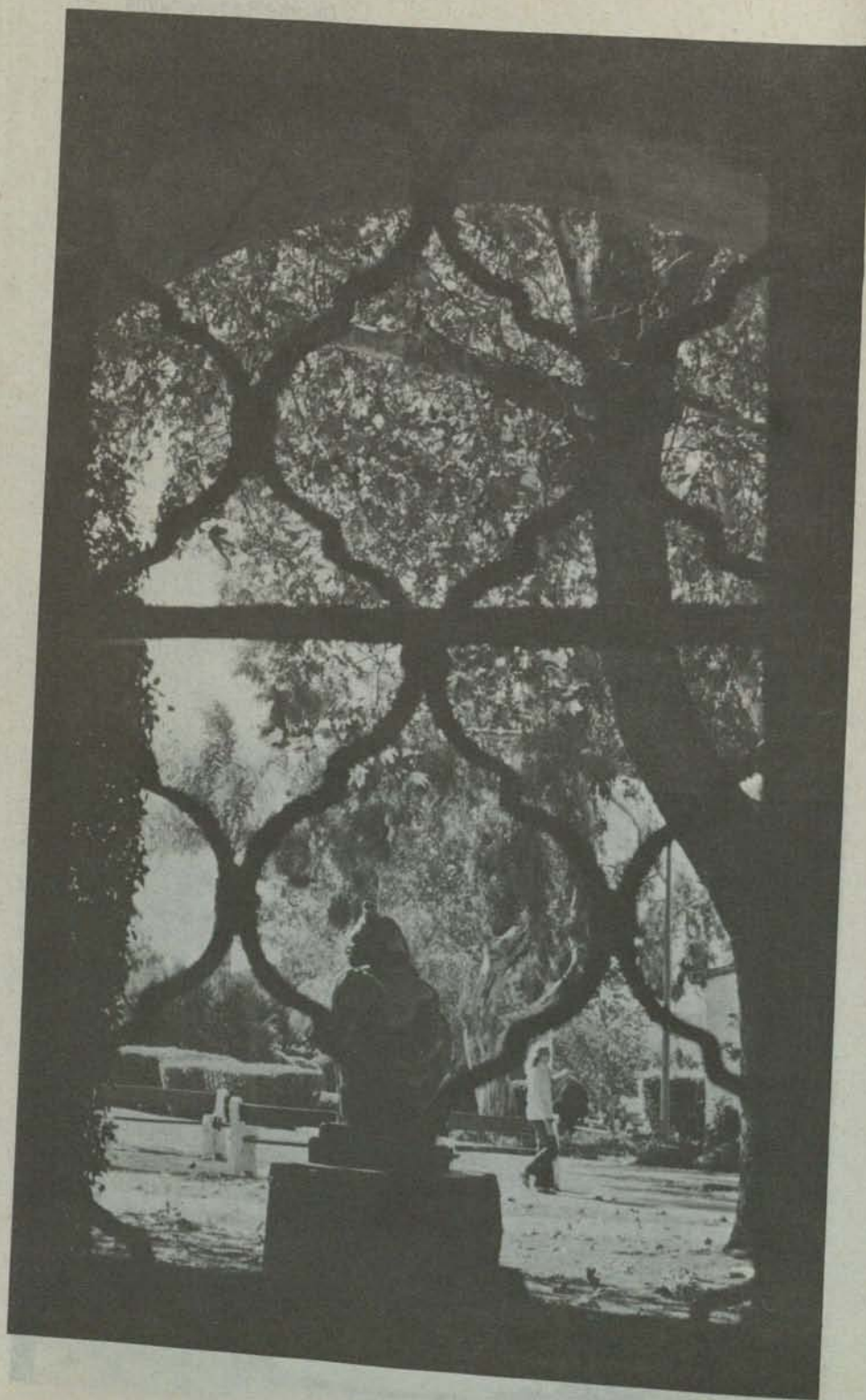
Only those students who have been advanced to candidacy and who have an officially appointed thesis committee are permitted to register for Course 799A, Thesis. Clearance for registration in this course must be obtained by the student from the Graduate Division Office.

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. A student is required to register in TE799B (0 units, Cr/NC) in any semester or term following assignment of SP in Course 799A in which he 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.

UNIT OR CREDIT HOUR

In the listing of courses that follows, figures in parentheses indicate the 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 18 weeks.



AMERICAN STUDIES

GENERAL INFORMATION

The American Studies program at San Diego State University is one of thirty-three in the nation and one of two 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.

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 listed below as acceptable on master's degree programs, of which 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 in one of the following fields:

- American Literature and Philosophy
- American History
- Social Sciences and Education
- 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 in a 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 chosen from courses such as Political Science 515, Geography 554 and 585, Journalism 507, or others chosen by the adviser. 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. Students will be required to take an oral examination before the completion of 21 units. Details concerning this oral examination are available from the adviser.

The thesis requirement for Plan A may be met in one of several ways. The American Studies thesis may consist of a single extended work dealing with a problem interdisciplinary in nature or from an interdisciplinary perspective; or it may consist of three papers (one of which may be a project), bearing upon a cultural problem from a convergent or divergent focus. Exploration of these options should be taken up with the adviser.

All programs will be approved by the American Studies Committee.

COMMITTEE ON AMERICAN STUDIES

Pershing Vartanian, *Chairman*

G. F. Drake
L. Ford
F. S. Foster

K. Jahnke
H. J. Lewin
J. Miller

R. W. Redding
R. M. Somerville
C. Wall

FACULTY

Coordinator of Graduate Programs in American Studies: Pershing Vartanian

Graduate Advisers: Members of the American Studies Committee, as assigned by the Coordinator.

Faculty members in the departments participating in the degree program are listed in the appropriate sections of this bulletin.

APPLICABLE GRADUATE COURSES

(A) LITERATURE AND PHILOSOPHY:

English

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

- 625. (233.) American Literature (3)
- 700. (291.) Seminar: A Major Author (3)
- 710. (292.) Seminar: A Cultural Period (3)
- 720. (293.) Seminar: A Literary Problem (3)

(B) AMERICAN HISTORY:

History

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

(C) SOCIAL SCIENCE AND EDUCATION:

Geography

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

- 620. (220.) Seminar in Regional Geography (3)
- 650. (250.) Seminar in Systematic Geography (3)

Political Science

- 620. (215.) Seminar in American National Government (3)
- 625. (221.) Seminar in Political Participation (3)

Education

- 682. (202.) Social Foundations (3)

(D) FINE ARTS:

Art

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

- 760. (292E.) Seminar in Modern Art (3)
- 767. (292F.) Seminar in Primitive Art (3)

Music

652E. (252E.) Seminar in Music History: American Music (3)

Speech Communication

780. (280.) Seminar in American Public Address, 1600-1850 (3)

781. (281.) Seminar in American Public Address, 1850 to Present (3)

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

Refer to graduate course descriptions in the sections of this bulletin under the appropriate departments.

ANTHROPOLOGY**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. 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 303, Principles of Cultural Anthropology; 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); (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 in statistics.

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. Six units of 500-numbered courses in anthropology or related fields, as approved by the graduate adviser;
3. Six additional units of elective 600- and 700-numbered courses in anthropology or related fields, as approved by the graduate adviser;
4. Anthropology 797, Research (3) (to be taken after advancement to candidacy);
5. 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.

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 chairman of the department.

FACULTY

Chairman, Department of Anthropology: L. L. Leach

Coordinator of Graduate Programs in Anthropology: M. E. Shutler

Graduate Advisers:

Archaeology: M. E. Shutler

Physical Anthropology: L. K. Lippold, A. Sonek, Jr.

Ethnology: V. Goldkind, D. D. Whitney

Ethnohistory: P. H. Ezell

Social Anthropology: P. J. Dubbs, W. C. Pendleton

Ethnolinguistics: P. J. Greenfeld, R. S. Himes

Professors: Ezell, Goldkind, Leach, Shutler, Watson, Whitney

Associate Professors: Greenfeld, Himes, Lippold, Pendleton, Staniford

Assistant Professors: Dubbs, Moore, Pillsbury, Rohrl, Sonek, Wagner

COURSES ACCEPTABLE ON MASTER'S DEGREE
PROGRAMS IN ANTHROPOLOGY

UPPER DIVISION COURSES

- 500. (115.) Primatology (3)
- 501. (116.) Human Paleontology (3)
- 510. (122.) Language in Culture (3)
- 511. (126.) Field Methods in Linguistics (3)
- 520. (150.) Ethnological Field Methods (3)
- 521. (151-S.) Ethnographic Field Research Project (6)
- 523. (149.) Kinship and Social Organization (3)
- 524. (153.) Primitive Religion (3)
- 525. (155.) Peasant Society and Culture (3)
- 526. (156.) Cultural Change and Processes (3)
- 527. (158.) Economic Anthropology (3)
- 528. (159.) Cultural Ecology (3)
- 529. (164.) Urban Anthropology (3)
- 530. (187.) Political Anthropology (3)
- 531. (179.) Applied Anthropology (3)
- 532. (165.) Culture and Personality (3)
- 533. (168.) Evaluative Procedures in Culture and Personality (3)
- 540. (148.) Cultures of Europe (3)
- 541. (161.) The California Indian (3)
- 542. (162.) Cultures of South America (3)
- 543. (163.) Contemporary Latin American Cultures (3)
- 545. (171.) Ethnology of North America (3)
- 546. (172B.) Southwestern Ethnology (3)
- 547. (175.) Cultures of Southeast Asia (3)
- 548. (178.) Cultures of Oceania (3)
- 549. (185.) Cultures of Sub-Saharan Africa (3)
- 550. (186.) Cultures of India (3)
- 551. (191.) Chinese Society (3)
- 552. (192.) Japanese Society (3)
- 560. (173.) Advanced Archaeological Field Methods (3)
- 561A-561B. (188A-188B.) Archaeological Laboratory Methods (3-3)
- 570. (147.) Prehistory of South America (3)
- 571. (170.) Archaeology of North America (3)
- 572. (172A.) Southwestern Prehistory (3)
- 573. (174.) Prehistoric Archaeology of Europe (3)
- 574. (176.) Early Near and Middle Eastern Civilizations (3)
- 575. (180.) Preclassic Cultures of Mesoamerica (3)

- 576. (181.) Classic Pre-Columbian Civilizations of Middle America (3)
- 577. (182.) Post-Conquest Cultures of Middle America (3)
- 578. (183.) Archaic Hellenic, Aegean, and Italian Cultures (3)
- 579. (184.) Archaeology of Sub-Saharan Africa (3)
- 580. (189.) Topics in Arctic Anthropology (3)
- 581. (190.) Archaeology of East Asia (3)

GRADUATE COURSES

600. (200.) 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. (201.) Seminar in Physical Anthropology (3)

Prerequisites: Anthropology 100 or 400A and 12 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. (202.) Seminar in Archaeology (3)

Prerequisites: Anthropology 100 or 400A and 12 upper division units in anthropology.

History and theory in archaeological data collection, analysis, and interpretation.

603. (203.) Seminar in Ethnology (3)

Prerequisites: Anthropology 101 or 400B and 12 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. (204.) Seminar in Linguistics (3)

Prerequisites: Anthropology 304 or 510 and 12 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. (220.) 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.

621. (221.) 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.

630. (222.) Historical Linguistics (3)

Prerequisite: Anthropology 304 or 511.

Principles and techniques of historical linguistics, with concentration on the dynamics of linguistic change, comparative linguistics, and historical reconstruction as applied to non-Indo-European languages.

631. (233.) Social Structure (3)

Prerequisite: Twelve upper division units in anthropology.

A structural and functional approach to the social organization of a wide range of cultures. An examination of theories and generalizations regarding the stability and integration of a wide variety of human societies.

632. (255.) Culture and Society in the Nahua Area (3)

Prerequisites: Anthropology 100 or 101 and 12 upper division units in anthropology.

A course designed to permit concentrated studies of the area and those related to it based on archaeology, aboriginal records, colonial accounts, and modern studies; and to permit various approaches to such studies.

634. (257.) Classical Nahuatl (3)

Prerequisites: Anthropology 100 or 101 and 12 upper division units in anthropology including Anthropology 361 or 575 or 576; reading knowledge of Spanish recommended.

Nahuatl language study and analysis for translation of 16th-17th century texts, use of ancient and modern grammatical works and vocabularies; reading of manuscripts; relationship of the language to appropriate aspects of Nahua culture.

635. (258.) 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. (297.) Research (3) Cr/NC

Prerequisite: Advancement to candidacy.

Independent investigation in the general field of the thesis.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study directed toward the preparation of a paper on a specific problem. Maximum credit six units.

799A. (299.) 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. (300.) 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**GENERAL INFORMATION**

The Department of Art, in the College of Professional Studies, 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, sculpture, crafts, printmaking, graphic communication, and the history of art. In addition to the excellent equipment of the Art Building at San Diego State University, the Fine Arts Gallery, 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

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, the student must have completed an undergraduate major in art with a minimum of 24 upper division units, including a course in the principles of art appreciation and two semesters' work in the general history of art, before he will be permitted to begin work on his graduate program. The student must also be able to show that he is adequately advanced both in drawing and design to carry out projects which measure up to graduate standards. This requirement will be measured by a formal presentation to the graduate committee of a portfolio of examples of the candidate's undergraduate work in drawing and in several design fields such as painting, crafts and sculpture. 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 may be permitted to begin such work even though he has not completed an appropriate undergraduate major in art. Those students whose work is sufficiently advanced for classified graduate standing may enroll for courses, under guidance of the department, in order to meet the standard requirements.

ADVANCEMENT TO CANDIDACY

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 working for a Master of Arts degree in Art in the field of art history must complete the following courses or their equivalents before advancement to candidacy:

Anthropology 101

Art 258, 259, 264, 265, 557, 560, 561, 562, 567, 571, 572, 573, and 574

Students with an emphasis in art history must also pass a written and oral comprehensive examination in the field of art history and demonstrate a reading knowledge of French or German before advancement to candidacy.

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

SPECIFIC REQUIREMENTS FOR THE MASTER OF ARTS DEGREE

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this bulletin, the student 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. Those

electing programs in studio arts must complete a minimum of 18 units in the area of specialization. One course in the Art 700 series, one course in the Art 760 series, and Art 799A are required. Art 790 is required of those students planning to submit a thesis under Art 799A, but is not required of those electing a creative project as fulfillment of Art 799A.

In connection with the thesis or project, each candidate for the degree must present an exhibition on the campus of representative graduate work, including the project (if applicable), and a portfolio of additional graduate work. An oral examination over the field of the thesis or project and related material is required.

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; projects remain in the custody of the Department 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 chairman of the department.

FACULTY

Chairman, Department of Art: P. A. Lingren

Graduate Advisers: J. D. Swiggett (Coordinator), W. F. Bowne, J. H. Dirks, W. H. Higgins

Credential Adviser: J. L. Tanzer

Professors: Baker, Baxter, Berg, Bigelow, Covington, Dirks, Fisch, Higgins, Hopkins, Lingren, Longenecker, Rogers, Swiggett, Tanzer, Wallace

Associate Professors: Bowne, Groover, Hodge, Hunter, Miller, Orth, Papworth, Peterson

Assistant Professors: Austin, Childress, Frick, Moaney, Perczel, Ray

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN ART

UPPER DIVISION COURSES

- 500. (100A-100B.) Advanced Drawing (3)
- 502. (120A-120B.) Inter-Media (3)
- 503. (115C-115D.) Life Drawing and Painting (3)
- 504. (116C-116D.) Advanced Painting (3)
- 505. 118B.) Advanced Aqueous Media (3)
- 506. (112B.) Design and Composition (3)
- 509. (106A-106B.) Relief Printmaking (3)
- 510. (126D-126E.) Intaglio Printmaking in Color (3)
- 511. (136C-136D.) Lithography Printmaking in Color (3)
- 512. (146A-146B.) Serigraphy (3)
- 516. (117C.) Advanced Sculpture (3)
- 517. (127.) Advanced Figurative Sculpture (3)
- 521. (111B.) Industrial Design (3)
- 522. Design Crafts (3)
- 523. (113C-113D.) Advanced Furniture Design (3)
- 525. (119C-119D.) Ceramics (3)
- 526. (121.) Clay and Glaze Technology in Ceramic Design (3)
- 529. (161B-161C-161D.) Design in Enamels (3)
- 531. (170C-170D.) Jewelry and Metalwork (3)
- 532. Metalsmithing (3)
- 534. (180C-180D.) Advanced Weaving (3)
- 535. Advanced Nonwoven Textile Construction (3)

- 541. (114C., 114D.) Problems in Graphic Communication (3)
- 543. (193B.) Drawing and Illustration for Graphic Communication (3)
- 544. (196B.) Visual Communication Media (3)
- 547. (188.) Environmental Theory (3)
- 550. (187.) Environmental Prototypes (3)
- 552. 195C.) Professional Methods of Interior Design (3)
- 553. (195D.) Contract Interior Design (3)
- 557. (156A.) History of Modern Art (3)
- 558. (156B.) Contemporary Art (3)
- 560. (157.) The History of American Art (3)
- 561. (151A.) Pre-Columbian Art of Middle and South America (3)
- 562. (151B.) Colonial Art of Latin America (3)
- 565. (152A.) The Art of India and Southeast Asia (3)
- 566. (152B.) The Art of Persia and the Islamic World (3)
- 567. (153.) Art of the Ancient Near East (3)
- 568. Art of Crete, Mycenae, Greece, and Rome (3)
- 569. Art of Sub-Saharan Africa (3)
- 570. Art of Oceania (3)
- 571. (154A.) Medieval Art (3)
- 572. (154B.) Coptic and Byzantine Art (3)
- 573. (155A.) Renaissance Art in Italy (3)
- 574. (155B.) Northern Renaissance Art (3)
- 575. (155C.) Baroque and Rococo Art (3)
- 577. (160.) History of Architecture (3)
- 578. (126C.) History of Printmaking (3)
- 579. (129B.) History of Ceramics (3)
- 580. (164.) History of Costume (3)
- 581. (135C.) History and Theory of Environmental Design (3)
- 584. (105.) Aesthetics of Visual Environment for Young People (3)
- 585. (175.) Concepts and Observations in Art (3)
- 586. (176.) Practicum in Art (2)
- 587. (110.) Exploration in Crafts for Young People (3)
- 590. (190.) Principles and Elements of Visual Aesthetic Organization (3)
- 591. (191A.) Gallery Exhibition Design (3)
- 592. (191B.) Gallery Exhibition Design (3)

GRADUATE COURSES

600. Drawing (3) I, II

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. (216A-216B.) 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. (206A-206B.) 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. (217A-217B.) Sculpture (3) I, II

Six hours.

Prerequisites: Art 516 and classified graduate standing.

Aesthetic organization of selected subject matter in the media of sculpture. Maximum credit six units applicable on a master's degree.

- 625. (219A-219B.) 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. (221.) 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.
- 628. 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.
- 631. (270.) 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. (280.) Seminar in Textile Design (3)**
Prerequisite: Art 334A.
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. (214.) Graphic Communication (1-3)**
Two hours for each unit of credit.
Prerequisite: Art 541B.
Advanced individual study in graphic design. Maximum credit six units applicable on a master's degree.
- 650. (295.) Creative Environmental Design (103)**
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. (294A-294B.) 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. (291.) Seminar in the Practice of Art (3)**
Prerequisite: M.A. standing.
Independent research in specified areas including the presentation of a paper with its oral defense.
Each course may be taken to a maximum of six units. No more than six units of 700 are applicable on a master's degree.
A. Seminar in Painting
B. Seminar in Sculpture
C. Seminar in Printmaking
D. Seminar in Ceramics
E. Seminar in Crafts
F. Seminar in Graphic Communication
G. Seminar in Environmental Design
- 760. (292E.) 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.
- 767. (292F.) Seminar in Primitive Art (3)**
Prerequisite: Art 559.
Studies in problems of the development of art styles or important artists within broad limits of primitive art.
- 769. (292A.) Seminar in Ancient Art (3)**
Prerequisites: Art 258 and 259.
Studies in problems of the development of art styles or important artists within broad limits of ancient art.
- 771. (292B.) 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. (292C.) 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. (292D.) 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.
- 785. (222.) Art Education Colloquium (3)**
Prerequisite: Fifteen upper division units in art.
Historic and current art education philosophies.
- 790. (290.) Bibliography and Research Methods (2)**
Introduction to research methods and materials, compiling of a specialized bibliography, preparatory to writing a master's thesis.
- 798. (298.) Special Study (1-3) Cr/NC**
Individual study. Maximum credit six units.
Prerequisite: Consent of the staff; to be arranged with department chairman and the instructor.
- 799A. (299.) Thesis or Project (3) Cr/NC**
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

GENERAL INFORMATION

The Master of Arts degree in Asian Studies with an emphasis on East Asia 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, 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 culture, societies, people, and social forces at work in the Asian/Pacific world.

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 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 listed below as 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. A minimum of 18 of the above 24 units shall be in courses of East Asian emphasis.

	600- and 700-numbered Courses	500-, 600- and 700-numbered Courses
Asian Studies	3 units	3 units
Department A	6 units	3 units
Department B	3 units	3 units
	<hr/> 12 units	<hr/> 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 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.

MEMBERS OF THE CENTER FOR ASIAN STUDIES

A. D. Coox, *Director*

A. W. Anderson
L. L. Chan
S. Chandrasekhar
P. Chu
A. W. Cottrell
T. R. Cox
A. Dil
D. D. DuFault
F. A. Frick
A. U. Ghazi
R. C. Gripp
H. Hayakawa
E. Henry
R. S. Himes

G. Ho
A. Hsi
G. R. Jordan
T. J. Kahng
E. A. Keen
G. Klee
M. Longenecker
M. C. Madhavan
D. D. McLeod
J. G. McLevie
J. E. Merrill
H. Neyndorff
R. A. Oades
K. Ogawa

B. Pillsbury
R. H. K. Schulze
A. Selvadurai
L. J. Shaw
R. T. Smith, Jr.
W. S. Snyder
A. L. Srbich
P. S. Staniford
Y. Tanaka
R. D. Wallace
D. D. Whitney
C. Woo
C. C. Yahr

GRADUATE COMMITTEE

Graduate Coordinator: A. D. Coox, Director, Center for Asian Studies
Graduate Advisers:

Paochin Chu, History (East Asia)
T. J. Kahng, Political Science (East Asia)
E. A. Keen, Geography (East Asia)
D. D. Whitney, Anthropology (East Asia)

Faculty members in the departments participating in the degree program are listed in the appropriate sections of this bulletin.

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN ASIAN STUDIES

UPPER DIVISION COURSES

Anthropology

547. (175.) Cultures of Southeast Asia (3)
550. (186.) Cultures of India (3)
551. (191.) Chinese Society (3)*
552. (192.) Japanese Society (3)*
581. (190.) Archeology of East Asia (3)*

Art

565. (152A.) The Art of India and Southeast Asia (3)

Comparative Literature

530. (170.) Asian Literature (3)

History

561. (191A-191B.) The Far East (3-3)*
562. (196A-196B.) India—Hindu, Muslim and Modern (3-3)
564. (190A-190B.) Southeast Asia (3-3)
566. (192.) Chinese Civilization (3)*
567A-567B. (193.) Modern and Contemporary Chinese History (3-3)
569. (194.) Japanese Civilization (3)
570. (195.) Rise of Japan as a Modern State (3)*
571. (197A-197B.) Intellectual History of Modern Asia (3-3)*

Philosophy

575. (175.) A Major Philosopher (3)**
 596. (196.) Topics in Asian Thought (3)**

Political Science

562. (187.) Governments and Politics of the Far East (3)*
 561. (191.) Governments and Politics of the Developing Areas (3)**

Religious Studies

501. (121A-121B.) Religions of India (3)
 503. Religions of the Far East (3)*
 580. (180.) A Major Figure (3)*
 581. (181.) A Metaphysical Doctrine (3)*

*Course always applicable toward the minimum of 18 units of East Asian emphasis required for the master's degree program
 **Acceptable when of relevant content.

APPLICABLE GRADUATE COURSES**Anthropology**

600. (200.) Seminar (3)**
 620. (220.) Seminar in Regional Anthropology (3)**
 630. (222.) Historical Linguistics (3)**
 631. (233.) Social Structure (3)**

Art

609. (206A-206B.) Printmaking (1-3)**

Business Administration

654. (228.) Seminar in International Finance (3)**
 765. (252.) Marketing Institutions (3)**
 769. (255.) Seminar in International Marketing (3)**

Economics

635. (210.) Seminar in Economic History (3)**
 660. (292.) Seminar in International Economics (3)**
 665. (295.) Seminar in the Economics of Underdeveloped Countries (3)**
 728. (208.) Development Planning (3)**

Education

683. (204.) Comparative Education (3)**

Geography

610. (210.) History of Geography (3)**
 620. (220.) Seminar in Regional Geography (3)**
 650. (250.) Seminar in Systematic Geography (3)**

History

601. (207.) Seminar in Historical Method (3)**
 650. (243.) Directed Reading in Asian History (3)**
 655. (253.) Seminar in Asian History (3)**
 795. (296.) Area Studies in History (3)**

Linguistics

795. (295.) Seminar in Linguistics (3)**

Philosophy

635. (235.) Seminar in Philosophy of Religion (3)**
 636. (236.) Seminar in Philosophy of Art (3)**
 795. (295.) Seminar in Selected Topics (3)**

Political Science

655. (280.) Seminar in General Comparative Political Systems (3)**
 658. (284.) Seminar in Communist Political Systems (3)**
 661. (282.) Seminar in the Political Systems of the Developing Nations (3)**
 675. (270.) Seminar in International Relations (3)
 685. (275.) Seminar in Theories of International Relations (3)**

Sociology

770. (270.) Seminar in Population and Demography (3)**
 775. (275.) Directed Readings 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.
 Refer to graduate course descriptions in the sections of this bulletin under the appropriate departments.

*Courses always applicable toward the minimum of 18 units of East Asian emphasis required for the master's degree program.
 **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

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 by a fifth year 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 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. Students 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 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 departmental committee.
3. If a student elects Plan A, he must enroll in Astronomy 799A, Thesis. If a student, with the approval of the department, elects Plan B, he 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.

ASSISTANTSHIPS

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

FACULTY

Chairman, Department of Astronomy: B. Nelson
Graduate Adviser: J.D. Schopp
Professors: Daub, Nelson, Schopp, Young
Associate Professor: Angione
Assistant Professor: Talbert

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN ASTRONOMY

UPPER DIVISION COURSES

520. Solar System Astronomy (3)
580. (180.) Celestial Mechanics (3)
596. (196.) Advanced Topics in Astronomy (2 or 3)

GRADUATE COURSES

600. (200.) Seminar (2 or 3)

Prerequisite: Consent of instructor.

An intensive study in advanced astronomy, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

610. (210.) Binary Stars (3)

Prerequisite: Astronomy 312B.

An intensive study of visual, spectroscopic, and eclipsing binaries, including the determination of orbits.

620. (220.) 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. (230.) 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. (240.) 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. (250.) 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. (225.) 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. (170.) Astrophysical Spectroscopy (3)

Prerequisites: Mathematics 152 and credit or concurrent registration in Astronomy 312A.

Theory of atomic spectra and atomic structure leading to interpretation of astronomical spectra. Optics of spectrograph design; line identification, spectral classification, radial velocity measurement, and line profile analysis.

797. (297.) Research (1-3) Cr/NC

Prerequisite: Classified graduate standing.

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

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

BIOLOGICAL SCIENCES**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 College of Biological and Agricultural Sciences at the University of California, Riverside, and the genetics group offers a joint doctoral program with the University of California, Berkeley.

A new Life Science building provides increased 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, and the Alvarado Filtration Plant of the City of San Diego. San Diego State University is establishing a biological research center on a 3,000-acre area in Temecula, Riverside County, has acquired acreage in the Camp Elliot area, and has the use of a small agricultural area in the El Cajon Valley, leased by the San Diego State University Foundation.

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 six program areas: Botany, Ecology, Genetics and Developmental Biology, Invertebrate Zoology, 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.
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 their research interests and career goals. Individual program areas will admit students solely on the basis of merit in relation to space and faculty availability.

Students who do not meet all of the above requirements for admission with classified graduate standing may be admitted with conditionally classified graduate standing at the discretion 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, 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 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 in the biological sciences, including course 799A, Thesis. 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 in the biological sciences, including course 799A, Thesis. A maximum of six units of the required 30 units may be selected from acceptable courses offered in the School 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 area include plant morphology and physiology, mycology and plant pathology, phycology, and plant evolution.

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.

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.

ASSISTANTSHIPS

Graduate teaching assistantships and graduate nonteaching assistantships in biology 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.

FACULTY

Chairman, Department of Biology: A. S. Baer

Chairman, Department of Botany: D. L. Rayle

Chairman, Department of Zoology: M. D. Atkins

Coordinator, Master's Degree Programs: K. D. Johnson

Graduate Departmental Advisers for General Counseling:

Botany: H. W. Wedberg

Ecology: P. H. Zedler

Genetics: W. P. Diehl

Invertebrate Zoology: N. McLean, Jr.

Physiology: S. Krisans

Vertebrate Zoology: C. O. Krekorian

Credential Adviser: G. P. Sanders

Professors: Atkins, Baer, Baxter, Bohnsack, Brandt, Carpenter, Clark, Cohn, Collier, B. D. Cooper, C. F., Cox, Dexter, Estes, Etheridge, Farris, Ford, Gallup, Hazen, Huffman, Hunsaker, Johnson, A. W., Kelly, Kummerow, Lillegraven, McBlair, McLean, Miller, Monroe, Moore, Neel, Norland, Olson, Parsons, Ratty, Rinehart, Shepard, Sloan, Taylor, Walch, Wedberg, Wilson

Associate Professors: Alexander, Awbrey, Catlett, Chen, Collier, G., Cooper, R. W., Daugherty, Diehl, Ebert, Futch, Hurlbert, Krisans, Krekorian, Paolini, Phelps, Plymale, Preston, Rayle, Schapiro, Steenbergen, Thwaites, Zedler, P. H.

Assistant Professors: Anderes, Avila, Barnett, Carmichael, Davis, Dukepoo, Hayes, Johnson, K. D., Jokela, Mauriello, Zedler, J. B.

SECTION II: JOINT DOCTORAL PROGRAMS

ECOLOGY

The ecologists in the cooperating faculties for the doctoral program in ecology represent a broad spectrum of ecological specializations.

In general, research within the ecology program area at San Diego State University is concentrated in the following major areas:

1. Analysis and modeling of the dynamics of aquatic and terrestrial ecosystems.
2. Physiological ecology of plants, particularly of the Mediterranean zone, desert and Arctic tundra.
3. Population dynamics of aquatic and terrestrial animals.
4. Relations between ecological processes and the technological, social, and economic factors affecting environmental quality.

At the University of California, Riverside, ecologists are working on:

1. Physiological ecology of desert animals and of desert plants.
2. Population ecology and population genetics.
3. Evolutionary aspects of ecology relating to distribution and speciation.

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 of study should include: genetics, physiology or biochemistry, ecology, a minimum of one year of inorganic chemistry, one semester of organic chemistry, and one year of physics. Mathematics through two courses in calculus and two years of a modern foreign language (German, Russian or French) are advised. Other majors in related fields may be considered for admission to the doctoral degree program in ecology.

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 normally spend his first year in the program completing his year of residency at the University of California, Riverside. It is desirable for the student to complete his foreign language requirements and his qualifying examination during this year and to be advanced to candidacy.

STAFF

Faculty members of the staff in ecology of the cooperating institutions who will act as principals in the doctoral program in ecology and be available for direction of research and as members of doctoral committees are as follows:

University of California, Riverside:

Graduate Adviser: W. W. Thomson

Principals: Carpelan, Gillett, Johnson, Luck, Mayhew, Pengelley, Ruibal, Shoemaker, Ting, Vasek

San Diego State University:

Graduate Adviser: J. B. Zedler

Principals: Atkins, Carpenter, Clark, Cohn, B. D. Collier, C. F. Cooper, Cox, Dexter, Ebert, Etheridge, Farris, Flittner, Ford, Hays, Hazen, Hurlbert, A. W. Johnson, Lillegraven, Miller, Sloan, J. B. Zedler, P. H. Zedler

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, radiation genetics, physiological and developmental genetics, and behavior genetics. 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.

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 Advisers: J. Fristrom, A. D. Keith

Principals: Brown, Cameron, Fogel, Fristrom, Keith, Lerner, Libby, Jr., Palmour, St. Lawrence, Spieth

San Diego State University:

Graduate Adviser: W. P. Diehl

Principals: Awbrey, Baer, Barnett, Daugherty, Jr., Davis, Diehl, Futch, A. W. Johnson, Kelly, Ratty, Rinehart, Taylor, Thwaites, Wedberg

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS**UPPER DIVISION COURSES****Biology**

- 505. (161.) History of Biology (3)
- 506. (162.) Source Material in the History of Biology (3)
- 519. (175.) Statistical Methods in Biology (3)
- 520. (110.) Ecology (4)
- 521. (114.) Advanced Ecology (3)
- 525. Agricultural Ecology (3)

- 528. Ecology of Renewable Resources (3)
- 530. (111.) Limnology (4)
- 531. (113.) Biological Oceanography (4)
- 532. (112.) Fisheries Biology (3)
- 535. (121.) Systems Ecology (5)
- 536. (122.) Environmental Measurement (3)
- 537. (123.) Simulation of Ecological Systems (4)
- 540. (155.) Genetics (4)
- 541. (156.) Developmental Biology (4)
- 544. (158.) Human Genetics (4)
- 545. (157.) Cytogenetics (4)
- 546. (171.) Mutagenesis (3)
- 547. (163.) Microbial Genetics (3)
- 548. (172.) Behavioral Genetics (3)
- 549. (160.) Evolution and Population Genetics (3)
- 550. (169.) Ecological Genetics (3)
- 559. (173.) Advanced Genetics (3)
- 560. (101.) Cellular Physiology (4)
- 561. (181.) Advanced Cellular Physiology (3)
- 562A-562B. (142A-142B.) Comparative Animal Physiology (4-4)
- 564. (144.) Comparative Endocrinology (3)
- 564L. (144L.) Comparative Endocrinology Laboratory (2)
- 566. (148.) Photophysiology (3)
- 566L. (148L.) Photophysiology Laboratory (1)
- 568. (182.) Immunochemistry (3)
- 568L. (182L.) Immunochemistry Laboratory (1)
- 570. (150.) Radiation Biology (3)
- 570L. (150L.) Radiation Biology Laboratory (2)
- 571. (151.) Radioisotope Techniques in Biology (3)
- 580. (109.) Regional Field Studies in Biology (1-3)

Botany

- 500. (100.) General Botany (4)
- 501. (101.) Phycology (4)
- 502. (102.) Mycology (4)
- 503. (103.) Vascular Plants (4)
- 511. (111.) Advanced Phycology (3)
- 514. (114.) Plant Taxonomy (4)
- 526. (126.) Plant Pathology (4)
- 530. (130.) Plant Physiology (4)
- 532. (132.) Plant Metabolism (3)
- 533. (133.) Experimental Plant Metabolism (2)
- 540. (140.) Plant Anatomy (4)
- 562. (162.) Agricultural Botany (2)
- 572. (172.) Palynology (3)
- 596. (196.) Selected Topics in Botany (2-3)

Microbiology

- 510. (115.) Advanced General Microbiology (4)
- 515. (114.) Bacterial and Viral Genetics (2)
- 515L. (114L.) Bacterial and Viral Genetics Laboratory (2)
- 520. (102.) Pathogenic Bacteriology (4)
- 525. (104.) Medical Mycology (4)
- 530. (109.) Hematology (4)
- 535. (107.) General Virology (2)
- 535L. (107L.) General Virology Laboratory (2)
- 560. (116.) Marine Microbiology (2)
- 560L. Marine Microbiology Laboratory (2)
- 570. (130.) Experimental Immunology (4)
- 580. (120.) Animal Viruses (4)
- 590. (180.) Electron Microscopy (4)

Zoology

502. (102.) Invertebrate Embryology (3)
 503. (103.) Embryology (4)
 506. (106.) Comparative Anatomy of the Vertebrates (4)
 508. (108.) Histology (4)
 510. (112.) Marine Invertebrate Zoology (4)
 515. (115.) Ichthyology (4)
 516. (116.) Herpetology (4)
 517. (117.) Ornithology (4)
 518. (118.) Mammalogy (4)
 521. (121.) General Entomology (4)
 522. (122.) Special Topics in Entomology (3)
 523. (123.) Immature Insects (3)
 524. (124.) Insect Ecology (4)
 525. (125.) Economic Entomology (4)
 526. (126.) Medical Entomology (3)
 527. (127.) Insect Control (2)
 528. (131.) Insect Physiology (4)
 529. (129.) Principles of Pest Management (3)
 530. (130.) Advanced Invertebrate Zoology (3)
 535. (128.) Parasitology (4)
 540. (140.) Physiological Zoology (4)
 545A-545B. (145A-145B.) Experimental Animal Surgery (2-2)
 555. (155.) Principles of Taxonomy, Systematics and Phylogeny (4)
 560. (160.) Lower Vertebrate Paleontology (4)
 561. (161.) Mammalian Paleontology (4)
 570. (170.) Animal Behavior (4)
 571. Hormonal Aspects of Behavior (3)

GRADUATE COURSES**Biology**

600. (200.) **Seminar (2-3)**
 Prerequisite: Consent of instructor.
 An intensive study in advanced biology, topic to be announced in the class schedule.
 Maximum credit six units applicable on a master's degree.
610. (231.) **Seminar in Ethology and Comparative Psychology (3)**
 (Same course as Psychology 761.)
 Prerequisite: Biology 520, or Psychology 414 or 417, or Zoology 570, and consent of the graduate adviser.
 Current problems in ethology and comparative animal behavior. Maximum credit six units applicable on a master's degree.
615. (250.) **Biogeography (3)**
 Prerequisite: Biology 520 or 549.
 Concepts and principles of the distributional history of plant and animal groups, and the origins and dispersal of modern faunas and floras.
620. (242.) **Population and Community Ecology (3)**
 Two lectures and three hours of laboratory.
 Prerequisite: Biology 520.
 Formulation, analysis, and experimental testing of the theories of the structure and dynamics of ecological systems at the population and community level.
621. (243.) **Physiological Ecology (3)**
 Two lectures and three hours of laboratory.
 Prerequisites: Biology 520 and consent of instructor.
 The comparative physiological characteristics of natural plant and animal populations in relation to their habitats and environments.
622. (246.) **Behavioral Ecology (3)**
 Two lectures and three hours of laboratory.
 Prerequisites: Biology 520 and consent of instructor. Recommended: Zoology 570 or Psychology 461.
 Behavioral mechanisms relating animals to their physical and biotic environment.

625. (244.) Physical Aspects of Ecology (3)

Two lectures and three hours of laboratory.
 Prerequisite: Biology 520.

Analysis and measurement of physical factors of the environment and of the processes by which energy and matter are exchanged between organisms and the environment; the significance of the physical environment in ecological processes.

626. (245.) Aquatic Ecology (3)

Two lectures and three hours of laboratory.

Prerequisites: Biology 520 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.

630. (240.) Seminar in Terrestrial Ecology (2)

Prerequisite: Biology 520.

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. (241.) Seminar in Aquatic Ecology (2)

Prerequisite: Biology 520.

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.

640. (270.) Seminar in Genetics (2)

Prerequisite: Biology 540.

Maximum credit four units applicable on a master's degree.

641. (220.) Seminar in Developmental Biology (2)

Prerequisite: Biology 541.

May be repeated with new content. Maximum credit four units applicable on a master's degree.

642. (221.) Developmental Genetics (3)

Prerequisites: Biology 541 and 560.

Regulation of genetic information in developing systems.

643. (222.) Morphogenesis (3)

Prerequisites: Biology 541 and 560.

Regulation of pattern formation in developing systems; cell migration, cell division, cell death, dependent differentiation.

649. (230.) Speciation (3)

Prerequisites: Biology 520 and 540, or 549.

Concepts and principles of the origin of species.

651. (276.) Physiological Genetics (3)

Prerequisites: Biology 540 or 544; Chemistry 231. Recommended: Chemistry 361A-361B.

Biochemical aspects of genetics of microbial and human systems.

660. (210.) Seminar in Cellular Physiology (2)

Prerequisites: Biology 560 and consent of instructor.

Maximum credit four units applicable on a master's degree.

661. (260.) Seminar in General Physiology (2)

Prerequisite: Biology 560.

May be repeated with new content. Maximum credit four units applicable on a master's degree.

662. (263.) Seminar in Comparative Physiology (2)

Prerequisites: Biology 562A or 562B and consent of instructor.

Comparative aspects of function at the molecular through organismal levels. Maximum credit four units applicable on a master's degree.

663. (261.) 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.

- 670. (262.) Cytoplasmic Inheritance (3)**
Prerequisites: Biology 540, 560 and consent of instructor.
Literature and techniques related to research in non-Mendelian genetics.
- 671. (264.) Methods in Physiology (2)**
Six hours of laboratory.
Prerequisite: Biology 560.
Current methods employed in physiological measurements. Maximum credit four units applicable on a master's degree.
- 672. (265.) Molecular Biophysics (3)**
Prerequisites: Biology 560 and Mathematics 122.
The description and analysis of biological processes and systems in terms of the properties of molecules and of basic principles.
- 697. (297.) Investigation and Report (3)**
Analysis and research techniques in biology.
- 790. (290.) 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. (297.) Research (1-3) Cr/NC**
Research in one of the fields of biology. Maximum credit six units applicable on a master's degree.
- 798. (298.) Special Study (1-3) Cr/NC**
Prerequisite: Consent of staff; to be arranged with department chairman and instructor.
Individual study. Maximum credit six units.
- 799A. (299.) Thesis or Project (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 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**
Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.
- 899. Doctoral Dissertation (3-6) Cr/NC**
Prerequisite: An officially constituted dissertation committee and advancement to candidacy.
Preparation of the dissertation for the doctoral degree.

Botany

- 600. (200.) Seminar (2-3)**
Prerequisite: Consent of instructor.
An intensive study in advanced botany, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 601. (201.) Seminar in Phycology (2)**
Prerequisite: Botany 501.
Recent developments in phycology. Maximum credit four units applicable on a master's degree.
- 602. (202.) Seminar in Mycology (2)**
Prerequisite: Botany 502.
Current problems in the taxonomy, morphology or physiology of the fungi. Maximum credit four units applicable on a master's degree.

- 603. (203.) Seminar in Vascular Plants (2)**
Prerequisite: Botany 503.
Problems in the evolution of the vascular plants. Maximum credit four units applicable on a master's degree.
- 626. (226.) Seminar in Plant Pathology (2)**
Prerequisite: Botany 526.
Advanced topics in the biology of plant pathogens. Maximum credit four units applicable on a master's degree.
- 630. (230.) Seminar in Plant Physiology (2)**
Prerequisite: Botany 530.
Current investigations in one of the areas in plant physiology. Maximum credit four units applicable on a master's degree.
- 797. (297.) Research (1-3) Cr/NC**
Research in one of the fields of botany.
Maximum credit six units applicable on a master's degree.
- 798. (298.) Special Study (1-3) Cr/NC**
Prerequisite: Consent of staff; to be arranged with department chairman and instructor.
Individual study. Maximum credit six units.
- 799A. (299.) Thesis or Project (3) Cr/NC**
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.

Microbiology

- 600. (200.) Seminar (2-3)**
Prerequisite: Consent of instructor.
An intensive study in advanced microbiology; topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 610. (240.) Seminar in General Microbiology (2)**
Prerequisite: Microbiology 320.
May be repeated with new content. Maximum credit four units applicable on a master's degree.
- 620. (205.) 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. (260.) 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. (215.) 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. (210.) 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. (230.) 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. (250.) Seminar in Virology (2)

Prerequisite: Microbiology 535.

May be repeated with new content. Maximum credit four units applicable on a master's degree.

680. (245.) 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. (272.) 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. (270.) Biology of Animal Pathogenic Fungi (3)

Prerequisite: Microbiology 525.

Distribution and pathogenesis of fungi-causing disease in man and other animals.

790. (290.) Bibliography (1)

Use of basic reference books, journals, pertinent bibliographies preparatory to the writing of a master's thesis.

791. (291.) Research Techniques (3)

Prerequisites: Major in a biological science and two upper division courses in the area of microbiology or consent of instructor.

Analysis of research procedures in microbiology.

797. (297.) Research (1-3) Cr/NC

Research in one of the fields of microbiology.

Maximum credit six units applicable on a master's degree.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) Thesis or Project (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 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.

Zoology**600. (200.) Seminar (2-3)**

An intensive study in advanced zoology, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

610. (201.) Seminar in Marine Zoology (2)

Prerequisite: Biology 520.

Recent developments in marine zoology. Maximum credit four units applicable on a master's degree.

620. (206.) Seminar in Vertebrate Morphology (2)

Current problems in the descriptive, functional and evolutionary anatomy of vertebrates. Maximum credit four units applicable on a master's degree.

630. (209.) Seminar in the Biology of Cold-blooded Vertebrates (2)

Prerequisite: Zoology 160 or 506.

Biology of ectothermic animals. Maximum credit four units applicable on a master's degree.

640. (210.) Seminar in the Biology of Warm-blooded Vertebrates (2)

Prerequisite: Zoology 160 or 506.

Biology of endothermic animals. Maximum credit four units applicable on a master's degree.

650. (211.) Animal Energetics (3)

Prerequisite: An upper division course in physiology. Recommended: A course in calculus and one in biochemistry.

Energy transformation in animals to include the physiology of starvation, animal energetic efficiency, nutrition, and temperature regulation.

660. (212.) Advanced Marine Invertebrate Zoology (3)

One lecture and six hours of laboratory.

Prerequisite: Zoology 510.

Selected topics in advanced marine invertebrate zoology. Maximum credit six units applicable on a master's degree.

670. (215.) Advanced Lower Vertebrate Zoology (2-4)

See class schedule for lecture-laboratory format.

Prerequisites: Either Zoology 515 or 516, depending on specific topic announced in class schedule.

Advanced treatment of ichthyology or herpetology. May be taken twice with new content for maximum credit of eight units. Maximum credit eight units applicable on a master's degree.

675. Advanced High Vertebrate Zoology (2-4)

Prerequisites: 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.

680. (222.) Advanced Entomology (3)

Two lectures and three hours of laboratory.

Prerequisite: Zoology 521, Biology 520, Botany 500 or 503.

Advanced treatment of some phase of entomology such as physiology, morphology, toxicology or systematics. Topic to be announced in the class schedule. May be repeated with new content. Maximum credit six units applicable on a master's degree.

690. (290.) Bibliography (1)

The use of basic reference books, journals, pertinent bibliographies preparatory to the writing of a master's thesis.

791. (291.) Research Techniques (3)

Prerequisite: Consent of graduate adviser.

Analysis of research techniques in zoology.

797. (297.) Research (1-3) Cr/NC

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

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) Thesis or Project (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 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

GENERAL INFORMATION

The School of Business Administration offers graduate study leading to the Master of Business Administration degree and to the Master of Science degree in Business Administration. 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 School 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 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 the two master's degree curriculums are the same. Either 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 School 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 School of Business Administration and the Department of Economics. Operationally, it is a part of the School 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 SCHOOL OF BUSINESS ADMINISTRATION

A student seeking admission to either of the master's degree curricula offered in the School of Business Administration should make application in the manner set forth in Part Three of this bulletin.

All students must be eligible for classified graduate standing prior to enrolling in any graduate (600- or 700-numbered) course. Students are granted classified graduate standing if they (1) have maintained a 2.50 grade point average over the last 60 semester units of work attempted and (2) have a combination of the Graduate Management Admissions Test (GMAT) score and an overall undergraduate grade point average on the following scale:

Undergraduate GPA	GMAT Score
3.0 or above	450
2.75	475
2.50	500
2.25	525
2.00	550

Points in between are rated on a comparable scale.

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. Details concerning the GMAT may be obtained from the Test Office, San Diego State University, or by writing to the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey 08540.

MASTER OF BUSINESS ADMINISTRATION DEGREE

ADMISSION TO THE DEGREE CURRICULUM

Regulations governing admission to the University and to the School 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 six 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 24 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:
 - B.A. 600 Financial Accounting (3)
 - B.A. 601 Organization Theory (3)
 - B.A. 602 Quantitative Methods I (3)
 - B.A. 604 Law for Business Executives (3)
 - B.A. 605 Marketing (3)
 - B.A. 609 Computer Programming and Systems Analysis (3)
 - B.A. 610 Managerial Accounting (3)
 - B.A. 611 Behavior in Organizations (3)
 - B.A. 612 Quantitative Methods II (3)
 - B.A. 615 Financial Principles and Policies (3)
 - B.A. 616 Managerial Economics (3)
 - Econ. 603 Economic Analysis (3)

Satisfactory completion means that the student's grade in each equivalent course must be "C" 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)
 - B.A. 726 Policy Formulation (3)

3. Complete 18 units in the following two categories of concentration and electives:
 - a. Concentration: No more than 15 units in one of the concentrations 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).

Concentrations available:

Accounting
Finance
Human Resources Administration
Information Systems
Insurance
International Business
Management
Management Science
Marketing
Production and Operations Management
Real Estate

b. Electives: At least three units in course work outside the concentration.

The distribution of the 18 units between concentration 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. 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 School 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:

B.A. 210A-210B, Principles of Accounting (4)
B.A. 140, Business Law (3)
B.A. 180, Information Processing and Computer Programming (3)
Econ. 120-121, Principles of Economics (6)
Econ. 142, Statistical Methods, or
Math. 119, Elementary Statistics (3)
B.A. 301, Quantitative Analysis for Business, or
B.A. 302, Quantitative Methods (3)
B.A. 323, Fundamentals of Finance (3)
B.A. 350, Fundamentals of Management (3)
B.A. 370, Marketing Principles (3)

Satisfactory completion means that the student's grade in each course must be "C" 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 concentration.

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 School 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 in Business Administration

799A, Thesis, is required. Business Administration 616, Managerial Economics, is required unless the student has completed sufficient advanced economics courses as a part of his undergraduate preparation. 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. Accounting	7. Management
2. Finance	8. Management Science
3. Human Resources Administration	9. Marketing
4. Information Systems	10. Production and Operations Management
5. Insurance	11. Real Estate
6. International Business	

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.

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 School of Business Administration.

FACULTY

Dean, School of Business Administration: R. P. Hungate
Associate Dean, School of Business Administration: M. L. Crawford
Associate Dean for Graduate Study in Business Administration: W. F. Barber
Chairman, Department of Accounting: R. A. Meier
Chairman, Department of Finance: P. A. Vandenberg
Chairman, Department of Information Systems: W. E. Spaulding
Chairman, Department of Management: W. R. Sherrard
Chairman, Department of Marketing: R. D. Darley
Graduate Advisers:

Accounting: V. E. Odmark
Human Resources Administration: D. W. Belcher
Finance: B. M. Neuberger, W. W. Reints, P. A. Vandenberg
Information Systems: M. L. Crawford, W. E. Spaulding
Insurance: C. R. Smith
International Business: G. K. Sharkey
Management: T. J. Atchison, L. H. Peters
Management Science: W. R. Sherrard
Marketing: D. R. Vanier, T. R. Wotruba
Production and Operations Management: A. L. Srbich
Real Estate: E. Cowan, W. H. Hippaka

Professors Archer, Atchison, Barber, Belasco, Belcher, Brodshatzer, Crawford, Darley, Dodds, Ferrell, Galbraith, Ghorpade, Haas, Hale, Hampton, Harned, Hippaka, Hungate, Langenbach, LeBarron, Lightner, Lindgren, McFall, Meier, Mitton, Neuberger, Nye, Odmark, Peters, Pierson, Reints, Reznikoff, Sharkey, Sherrard, Snudden, Srbich, Straub, Trueman, Wijnholds, Williamson, Wotruba

Associate Professors Akers, Bailey, Block, H. Fisher, Hutchins, Meigs, Schmier, Short, Smith, Spaulding, Vandenberg, Vanier

Assistant Professors Beatty, Boschken, Brill, Chrysler, Cowan, Feeney, R. Fisher, Hesse, Mahoney, Potter, Samuelson, Settle, Stenvall, Tilaro, Toole, Trippi, Vidali, Wilbur

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.

- 600. (200.) Financial Accounting (3)**
Basic concepts and principles of financial accounting; accounting as a data processing system; measurement of business income; financial statements.
- 601. (201A.) 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. (202A.) 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.
- 604. (204.) 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.
- 605. (203.) 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 Business Administration 370.
- 609. (209.) Computer Programming and Systems Analysis (3)**
Prerequisite: Business Administration 602.
Fundamentals of computers, problem-oriented computer language, flow-charting logic and techniques, analysis of the synthesis of computer-based systems.
- 610. (208.) Managerial Accounting (3)**
Prerequisite: Business Administration 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.
- 611. (201B.) Behavior in Organizations (3)**
Prerequisite: Business Administration 601.
Nature of the human resource in organizations. Analysis of organizational systems and managerial actions to direct and control human behavior.
- 612. (202B.) Quantitative Methods II (3)**
Prerequisite: Business Administration 602.
The design of statistical experiments and various operations research techniques such as simulation, linear programming, queuing theory, and Markov chain analysis.
- 615. (205.) Financial Principles and Policies (3)**
Prerequisite: Business Administration 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. (206.) 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.
- 620. (207.) Research and Reporting (3)**
Prerequisite: Business Administration 612.
Principles of research design and data accumulation. The analysis and effective presentation of data related to business and industry.
- 625. (270.) Seminar in Business Education (3)**
Study of some phase of business education, such as administration and supervision; distributive and basic business education; trends in and methods of teaching shorthand and typewriting.

- 630. (210.) Theory and Analysis of Financial Statements (3)**
Prerequisite: Business Administration 600.
The theories, principles, and concepts underlying financial statements; measurement and presentation of enterprise resources, equities, and income in accordance with generally accepted accounting principles; consideration of price level problems.
- 632. (211.) Advanced Accounting (3)**
Prerequisite: Business Administration 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. (212.) Income Tax Accounting (3)**
Prerequisite: Business Administration 600.
Provisions of the federal tax law, including preparation of returns for individuals, partnerships, corporations, estates, trusts; procedures for reporting deficiency assessments, refunds, and other administrative practices.
- 634. (213.) Auditing (3)**
Prerequisite: Business Administration 632.
Critical analysis of the application of auditing principles in verification of financial statements; review of AICPA and SEC bulletins and regulations; consideration of professional ethics, audit standards, procedures, sampling techniques, and report writing; trends and developments in auditing profession.
- 637. (214.) Seminar in Accounting Information Systems (3)**
Prerequisites: Business Administration 610 and 612.
Systems design and related controls. Emphasis on mathematics, statistics, and computers in planning and reporting.
- 638. (215.) Seminar in Managerial Accounting (3)**
Prerequisite: Business Administration 610.
Managerial cost accounting concepts and procedures, including budgetary planning, cost control, advisory functions, measurement of divisional profitability, product pricing, and investment decisions.
- 639. (219.) Seminar in Accounting Theory (3)**
Prerequisite: Business Administration 632.
Historical development of accounting principles and theory; problems in valuation, income determination, and statement presentation.
- 650. (223.) Seminar in Business Finance (3)**
Prerequisite: Business Administration 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. (224.) Seminar in Investments (3)**
Prerequisite: Business Administration 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. (226.) Seminar in Security Analysis and Portfolio Management (3)**
Prerequisites: Business Administration 609 and 651.
Security valuation and price forecasting. Portfolio management theory. Risk management and reduction analysis. Establishment of performance objectives.
- 653. (227.) Seminar in Quantitative Analysis for Financial Decisions (3)**
Prerequisites: Business Administration 609, 612 and 615.
Quantitative techniques and the computer as employed to optimize financial decisions.
- 654. (228.) Seminar in International Business Finance (3)**
Prerequisite: Business Administration 615.
International finance applied to the business firm.

- 655. (229.) Seminar in Financial Markets (3)**
Prerequisite: Business Administration 615.
Analysis of money and capital markets. Emphasis on factors of influence and sources and uses of data. Survey of literature in the field.
- 670. (240.) Seminar in Manpower Planning and Staffing (3)**
Prerequisite: Business Administration 611, or one of the following: Economics 680, Psychology 622, Public Administration 630, Sociology 720.
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. (241.) Seminar in Union-Management Relations (3)**
Prerequisite: Business Administration 611, or one of the following: Economics 680, Psychology 622, Public Administration 630, Sociology 720.
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. (242.) Seminar in Compensation (3)**
Prerequisite: Business Administration 611, or one of the following: Economics 680, Psychology 622, Public Administration 630, Sociology 720.
The organizational process of compensating employees. Compensation theory from economics, psychology, and sociology. Compensation systems and their effects on organizations and individuals.
- 673. (243.) Seminar in Organizational Development (3)**
Prerequisite: Business Administration 611, or one of the following: Economics 680, Psychology 622, Public Administration 630, Sociology 720.
The process of developing human resources and organizations. Theories of organizational development; tools and techniques, analysis of manpower and organizational development programs.
- 679. (249.) Seminar in Human Resources Administration (3)**
Prerequisite: Business Administration 611 or six units in Human Resources Administration.
Analysis of issues and application of behavioral science theory in acquiring, developing, rewarding, and utilizing human resources.
- 680. (273.) Computer Hardware and Software Systems (3)**
Prerequisite: Business Administration 609.
Computer architecture, programming languages, programming systems, and operating systems.
- 681. (274.) Information Theory (3)**
Prerequisite: Business Administration 609.
Data structures, data communications, computer-centered information networks, and addressing and indexing schemes.
- 682. (275.) Measurement and Control of Information Systems (3)**
Prerequisites: Business Administration 680 and 681.
Information systems models, information utility, performance measurement, applications and systems evaluations, and computer-based adaptive control concepts and organization.
- 683. (276.) Seminar in Advanced Information Topics (3)**
Prerequisite: Business Administration 681.
Self-reproducing automata, artificial intelligence, self-organizing information systems.
- 688. (278.) Seminar in Management of Information Systems (3)**
Prerequisite: Business Administration 681.
Advanced information systems. Emphasis on current managerial trends and developments and on individual student research.
- 689. (279.) Seminar in Data Systems Design (3)**
Prerequisites: Business Administration 612 and 681.
Research in the analysis and design of data processing systems.

- 700. (227.) 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.
- 701. (225.) Seminar in Insurance (3)**
Prerequisite: Business Administration 700.
Risk management in effective business operation. Programming of personal and business risk problems. Insurance institutions.
- 710. (222.) 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. (281.) Behavioral Sciences for Management (3)**
Prerequisite: Business Administration 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. (282.) Group Processes and Leadership (3)**
Prerequisite: Business Administration 611.
Perceptions and processes in work groups. Experience in interpersonal networks, influence and rewards, stereotypes; managing differences and conflicts.
- 722. (283.) Organizations and the Social Environment (3)**
Prerequisite: Business Administration 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. (286.) Seminar in Comparative Management (3)**
Prerequisite: Business Administration 611.
Concepts, theories, techniques, and practices of management in various countries.
- 724. (288.) The Entrepreneur (3)**
Prerequisite: Business Administration 611.
Examination of the entrepreneurial approach; concepts, theory and techniques of managerial innovation and implementation; analysis of entrepreneurial skills.
- 726. (284.) 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. (285.) Seminar in Business Planning (3)**
Prerequisites: Business Administration 601, 605, 615, 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. (289.) Seminar in Organization and Management (3)**
Prerequisite: Business Administration 611.
Analysis of problems in business and other organizations. Organization and decision theory and contemporary developments in management science are emphasized.
- 740. (236.) Operations Research: Deterministic Systems (3)**
Prerequisites: Business Administration 609 and 612.
Mathematical optimization techniques for deterministic systems. Advanced topics in linear programming; nonlinear, dynamic, and integer programming; selected examples of application.
- 741. (237.) Operations Research: Stochastic Systems (3)**
Prerequisites: Business Administration 609 and 612.
Use of probability and statistical decision theory for decision making under conditions of uncertainty. Markov processes, queuing theory, and the theory of games.

- 742. (238.) Computer Applications in Operations Research (3)**
Prerequisite: Business Administration 740.
Computer simulation techniques for analysis of complex decision problems. Implementation of optimization algorithms through use of the digital computer.
- 743. (239A.) Seminar in Management Science: Theory (3)**
Prerequisite: Business Administration 740.
Examination of recent developments in management science/operations research theory and methodology.
- 744. (239B.) Seminar in Management Science: Application (3)**
Prerequisite: Business Administration 740.
Quantitative techniques for managerial planning and decision making. Applications of operations research and other concepts to industrial situations.
- 745. (287.) Quantitative Forecasting and Planning (3)**
Prerequisite: Business Administration 740 or 741.
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. Applied Multivariate Statistics for Business (3)**
Prerequisite: Business Administration 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: Business Administration 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. (230.) Production and Operations Management (3)**
Prerequisite: Business Administration 612.
Theory, concepts and decision analysis related to effective utilization of major factors of production in manufacturing and service industries. Utilizes the system approach to achieve unification of the production elements in terms of both analysis and synthesis. Not open to students who have credit for a basic course in production management.
- 751. (231.) Methods Engineering and Job Design (3)**
Prerequisite: Business Administration 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. (232.) Quality Control (3)**
Prerequisite: Business Administration 750.
Statistical techniques for controlling quality, reliability and maintainability; types of control and limit charts.
- 753. (233.) Operations Planning and Control Systems (3)**
Prerequisite: Business Administration 750.
Analysis and design of single- and multiple-product integrated production and inventory control systems. Combined detailed and aggregate planning of operations with deterministic or stochastic demand over finite and infinite horizon.
- 754. (234.) Seminar in Production and Operations Management (3)**
Prerequisite: Business Administration 750.
Case studies of selected industries, emphasizing integration of the manufacturing and operations functions with the major goals of the organization.
- 760. (256.) Seminar in Consumer Behavior (3)**
Prerequisite: Business Administration 605.
The study of consumer behavior in relation to marketing strategy and the changing environment of business.

- 761. (251.) Seminar in New Products Marketing (3)**
Prerequisite: Business Administration 605.
The study of new products management in relation to planning and implementation of marketing strategy.
- 762. Seminar in Advertising Management (3)**
Prerequisite: Business Administration 605.
Advertising and sales promotion in relation to the planning and implementation of marketing strategy.
- 763. (254.) Seminar in Sales Management (3)**
Prerequisite: Business Administration 605.
Sales management and personal selling decisions and strategies in business organizations.
- 764. (253.) Seminar in Marketing Price Policy (3)**
Prerequisite: Business Administration 605.
Study of pricing strategy and price determination in business organizations.
- 765. (252.) Marketing Institutions (3)**
Prerequisite: Business Administration 605.
Analysis of development of wholesaling and retailing and of growth, change, and efficiency of these institutions in the American and other economies.
- 766. (259.) Market Analysis and Research (3)**
Prerequisites: Business Administration 605 and 612.
Application of statistical and mathematical methods to market problems, consumer research, and product analysis.
- 767. (257.) Seminar in Industrial Marketing Management (3)**
Prerequisite: Business Administration 605.
The management of marketing decisions and strategies peculiar to the industrial market.
- 768. (258.) Seminar in Industrial and Government Procurement Management (3)**
Prerequisites: Business Administration 601 and 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. (255.) Seminar in International Marketing (3)**
Prerequisite: Business Administration 605.
The impact of cultural, social, political, economic, and other environmental variables on international marketing systems and the decision-making process of multinational marketing operations.
- 770. (250.) Seminar in Marketing and the Economy (3)**
Prerequisite: Business Administration 605.
Advertising, selling, sales promotion, and merchandising as they relate to society, business and the economy.
- 780. (260.) Principles of Real Estate (3)**
Functions and regulation of the real estate market, real estate finance, property management, real estate appraisal theory, specialized properties, urban development, and contemporary real estate problems.
- 781. (261.) Seminar in Real Estate (3)**
Prerequisite: Business Administration 780.
Current problems in real property. Regional land use planning.
- 782. (262.) Seminar in Real Estate Investment (3)**
Prerequisite: Business Administration 780.
Investment characteristics of real property. Analysis of real estate investment by institutions, corporations, individuals, and government. Measuring investment yield potential of industrial, commercial, and residential projects. Real estate investment and social policy.
- 783. (263.) Seminar in Real Estate Finance (3)**
Prerequisite: Business Administration 780.
Theories and factors governing the financial functions of lenders, borrowers, governmental agencies, and collateral in financing real estate.

784. (264.) Seminar in Valuation of Real Property (3)

Prerequisite: Business Administration 780.

Valuation of real property by the cost, income, and market approaches to value. Evaluation of property taken in eminent domain proceedings, air rights, inverse condemnation, lease-hold interests.

790. (290.) 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. (295.) Seminar in Selected Topics (3)

Selected areas of concern in business administration; topic to be announced in the class schedule.

Maximum credit six units applicable on a master's degree.

797. (297.) Research (3) Cr/NC

Prerequisite: Advancement to candidacy.

Research in one of the fields of business administration.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

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 and Colleges 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 program which is being carried on. Major pieces of equipment include a JEOL Model JNM-PS-100 NMR Spectrometer with Fourier Transform capability, a Hitachi RMU-6E Mass Spectrometer, Cary Model 14 and 16 Spectrophotometers, a Gilford Spectrophotometer, a Microwave Spectrometer, a Perkin-Elmer 621 I.R. Spectrophotometer, a Varian E-3 ESR Spectrometer, a Jarrel-Ash Laser Raman Spectrometer, a variety of chromatographic equipment, several high temperature calorimeters, a high voltage electrophoresis apparatus, a pulsed ND:glass laser system and optical multichannel analyzer, ultra and refrigerated centrifuges, a Durrum Stopped-flow Spectrophotometer System interfaced with a Varian 620 i computer and a variety of radiation counters including a liquid scintillation counter. Also available on campus are IBM 360 and 1130 computer facilities.

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, including the foreign language requirement, as stated in Part Three of this bulletin. In addition, the student must pass an orientation examination in chemistry. This examination 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 790, 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, 792, 791 and 799A are required. A student must pass a final oral examination on his thesis and must demonstrate a reading knowledge of scientific German or Russian. The foreign language requirement will be considered to have been met by the student who holds the American Chemical Society Certificate.

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 analytical, inorganic, organic and physical chemistry, and mathematics.

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: J. E. Mayer

Staff: Arnold, Kamen, Kraut, Mayer, Miller, Perrin, Schrauzer, Traylor, Urey, Vold, Zimm

San Diego State University:

Graduate Adviser: R. W. Isensee; Alternate: E. P. Wadsworth

Staff: Abbott, Bennett, Grubbs, Jensen, Jones, O'Neal, Richardson, Ring, Sharts, Stewart

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.

FACULTY

Chairman, Department of Chemistry: E. P. Wadsworth, Jr.

Graduate Adviser: R. W. Isensee

Credential Adviser: J. C. Malik

Professors: Abbott, Bennett, Cobble, Golding, Grubbs, Harrington, Hellberg, Isensee, Jensen, Jones, Landis, Malik, Mathewson, O'Neal, Richardson, Ring, Roeder, Sharts, Spangler, Stewart, Wadsworth, Walba, Woodson

Associate Professors: Coffey, Malley

Assistant Professor: Dahms

COURSES ACCEPTABLE ON ADVANCED DEGREE PROGRAMS IN CHEMISTRY

UPPER DIVISION COURSES

- 500A-500B. (160A-160B.) Principles of Chemical Engineering (3-3)
 501. (180.) Chemical Oceanography (3)
 502. (191.) Chemical Literature (1)
 510. (118.) Advanced Physical Chemistry (3)
 520A. (127A.) Inorganic Chemistry (3)
 520B. (127B.) Inorganic Chemistry (3)
 530. (131.) Theoretical Organic Chemistry (3)
 537. (154.) Organic Qualitative Analysis (3)
 550. (155.) Advanced Instrumental Methods (2)
 560A-560B. (116A-116B.) General Biochemistry (3-3)
 577. (170.) Radiochemical Analysis (4)

GRADUATE COURSES

710. (210.) **Advanced Topics in Physical Chemistry** (1-3)
 Prerequisite: Consent of instructor.
 Selected topics in physical chemistry. Maximum credit six units applicable on a master's degree.
711. (211.) **Chemical Thermodynamics** (3)
 Prerequisite: Chemistry 410B.
 Chemical thermodynamics and an introduction to statistical thermodynamics.
712. (212.) **Chemical Kinetics** (3)
 Prerequisite: Chemistry 410B.
 Theory of rate processes; applications of kinetics to the study of reaction mechanisms.
713. (213.) **Quantum Chemistry** (3)
 Prerequisite: Chemistry 410B.
 Quantum mechanics of atomic and molecular systems; applications to chemical bonding theory.
714. (214.) **Molecular Structure** (3)
 Prerequisite: Chemistry 410B.
 Theory and techniques used in the determination of molecular structure.
720. (220.) **Advanced Topics in Inorganic Chemistry** (1-3)
 Prerequisite: Chemistry 520A.
 Selected topics in inorganic chemistry. Maximum credit six units applicable on a master's degree.
721. (221.) **Mechanisms of Inorganic Reactions** (3)
 Prerequisite: Chemistry 520A.
 Mechanisms in inorganic reactions with an emphasis on coordination chemistry.
722. (222.) **Chemistry of the Nonmetals** (3)
 Prerequisite: Chemistry 520A.
 An advanced systematic study of the nonmetallic elements and their compounds.
730. (230.) **Advanced Topics in Organic Chemistry** (1-3)
 Prerequisite: Chemistry 431.
 Selected topics in organic chemistry. Maximum credit six units applicable on a master's degree.
731. (231.) **Mechanisms of Organic Reaction** (3)
 Prerequisites: Chemistry 410B and 431.
 Reactivity and mechanism in organic reactions.
732. (232.) **Advanced Organic Chemistry** (3)
 Prerequisite: Chemistry 431.
 Applications and limitations of organic reactions from the viewpoint of synthesis.

750. (250.) Advanced Topics in Analytical Chemistry (1-3)

Prerequisite: Chemistry 410B.

Selected topics from the field of analytical chemistry. Maximum credit six units applicable on a master's degree.

760. (260.) Advanced Topics in Biochemistry (1-3)

Prerequisite: Chemistry 560B.

Selected topics in biochemistry. Maximum credit six units applicable on a master's degree.

762. (262.) 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.

767. (267.) Advanced Biochemical Techniques (2)

Prerequisite: Chemistry 560A.

Six hours of laboratory. Theory and practice of current research techniques in biochemical research.

770. (270.) Nuclear Chemistry (2)

Prerequisite: Chemistry 410B.

Theoretical applications of radioactivity to chemistry, radiation chemistry, decay laws and processes, nuclear structure and reactions.

790. (200.) Seminar (1-3)

An intensive study in advanced chemistry, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

791. (291.) Research Seminar (1)

Prerequisite: Consent of department chairman.

Discussions on current research by students, faculty, and visiting scientists. Each student will make a presentation based on the current literature.

792. (290.) 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. (297.) Research (1-3) Cr/NC

Prerequisite: Consent of instructor.

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

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) Thesis (3) Cr/NC

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 (3-6) Cr/NC

Prerequisite: Admission to the doctoral program.

Independent investigation in the general field of the dissertation.

899. Doctoral Dissertation (3-6) Cr/NC

Prerequisites: An officially constituted dissertation committee and advancement to candidacy.

Preparation of the dissertation for the doctoral degree.

DRAMA**GENERAL INFORMATION**

The Department of Drama, in the College of Professional Studies, offers graduate study leading to the Master of Arts degree in Drama. The department offers advanced study in the various areas of drama as they relate to acting, directing, playwriting, scene design, lighting, children's theatre, and costume and makeup. The center for graduate students in drama on the San Diego State University campus is the Dramatic Arts Building, one of the finest educational theatre plants in the United States. The Dramatic Arts Building contains a main stage with an auditorium seating 500 and an experimental theatre seating 200, three classrooms, a scene design drafting room, a fully equipped costume laboratory, a spacious scene shop, and several rehearsal rooms.

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.

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 attained classified graduate standing and to have completed Drama 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 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 647, Seminar in History of Theatre and Drama, and Drama 799A, Thesis, 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 design or direction thesis.

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 chairman.

FACULTY

Chairman, Department of Drama: C. E. Stephenson
 Graduate Adviser: G. S. Howard
 Credential Adviser: M. McKerrow
 Professors: Amble, Howard, Powell, Stephenson
 Associate Professors: Harvey, Lessley, Owen
 Assistant Professors: Annas, Bellinghiere, McKerrow

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN DRAMA**UPPER DIVISION COURSES**

- 511. (111.) Styles in Creative Dramatics (3)
- 520. (120.) Play Analysis (3)
- 521. (121.) Theatre Criticism (3)
- 522. (122.) Playwriting, the One-Act Play (3)
- 523. (123.) Playwriting, the Long Play (3)
- 526. (126.) Theory of Production for the Musical Stage (3)
- 531. (131.) Advanced Acting Theory (3)

532. (132.) Advanced Acting (3)
 537. (137.) High School Play Directing (2)
 540A. (140A.) Scenic Design (3)
 540B. (140B.) Styles in Scenic Design (3)
 545A-545B. (145A-145B.) Stage Lighting (3-3)
 548. (148.) Advanced Dramatic Production (3)
 551. (151.) Costume, Movement, and Manners (3)
 552A-552B. (152A-152B.) Costume History and Design for the Theatre (3-3)
 554. (154.) Costume Construction Techniques (3)
 557. (157.) Stage Direction (3)
 558. (158.) Stage Direction: Scenes (2)
 559. (159.) Stage Direction: One-act Plays (3)
 560A-560B. (160A-160B.) History of the Theatre (3-3)
 578. (178.) Directing the Period Play (3)
 598. (198.) Selected Topics in Drama (3) #

Not more than 3 units of Drama 598 are acceptable on master's degree programs in drama.

GRADUATE COURSES

600. (200.) **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.
635. (235.) **Seminar in Children's Theatre** (3)
 Prerequisites: Drama 310 and 315.
 Modern developments and trends in children's theatre in educational, civic, and professional programs in the United States and England.
643. (243.) **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. (244.) **Seminar in Stage Direction** (3)
 Prerequisite: Drama 557.
 Projects in the aesthetic principles and the practices of stage direction with an emphasis on styles and historic periods.
645. (245.) **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. (246.) **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 552A or 552B.
 B. Scenery Design
 Prerequisite: Drama 540B or 548.
647. (247.) **Seminar in History of Theatre and Drama** (3)
 Prerequisites: Drama 520, 560A, and 560B.
 A. British and Continental Theatre
 B. American Theatre
648. (248.) **Seminar in Dramatic Theory** (3)
 Prerequisites: Drama 520, 560A, 560B, and 600.
 Problems in producing works of such playwrights as Ibsen, Strindberg, Chekhov, Shaw. Maximum credit six units applicable on a master's degree.

798. (298.) **Special Study** (1-3) Cr/NC

Individual study. Maximum credit six units applicable on a master's degree.
 Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

799A. (299.) **Thesis or Project** (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 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

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. For graduate study in connection with the Master of Arts degree in Social Science, refer to the section of this bulletin under Social Science. Research activities provided by the Department of Economics include the Economics Research Center, the Institute of Labor Economics, the Center for Public Economics, and the Center for Research in Economic Development.

ADMISSION TO GRADUATE STUDY

All persons applying for graduate study in economics must have graduate record verbal and quantitative test scores sent to the Graduate Division, and have three letters of recommendation sent to the Department of Economics.

General requirements for admission to the University with classified graduate standing are described in Part Three of this bulletin. In addition, students seeking the Master of Arts degree in Economics must have completed at least 18 units of upper division courses in economics including Economics 447 and either 320 and 321 or 324 and 325, or their equivalents, and six units of upper division courses in economics or related fields as approved by the graduate adviser.

A student with a bachelor's degree in a field other than economics who has completed the core courses, Economics 320 and 321 or 324 and 325 and Economics 447, or their equivalents, may, with the consent of the Department of Economics, offer more than six upper division units in fields other than economics as part of this undergraduate preparation for admission to classified graduate standing.

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 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 economics, of which at least 21 units must be in 600- and 700-numbered courses in economics. Economics 620, 621, 541, and either 799A, for Plan A, or 797, for Plan B, are required courses; the remaining unit requirements may be selected from courses in economics listed below or by petition to the Department Graduate Study Committee, from 500-, 600- and 700-numbered courses offered by other departments of the college. Written comprehensive examinations in micro and macro theory and two additional fields are required, but a grade of B or better can be substituted for the comprehensive exams, on a graduate course-by-course basis.

ASSISTANTSHIPS

Graduate assistantships in economics are available to a limited number of qualified students. Application blanks and further information may be obtained from the Chairman of the Department of Economics.

FACULTY

Chairman, Department of Economics: F. D. Sebold

Graduate Advisers: G. K. Anderson, A. Gifford, M. Parti, I. Poroy, F. D. Sebold, D. Stewart, Y. Venieris

Professors: Anderson, Babilot, Barckley, Bridenstine, Flagg, Gifford, Jencks, Leasure, Madhavan, Neuner, Poroy, Turner, Venieris

Associate Professors: Clement, Hambleton, Hardesty, Kartman, Nam, Popp, Sebold

Assistant Professors: Holt, Stewart

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN ECONOMICS

UPPER DIVISION COURSES

- 502. (132.) Public Economics (3)
- 505. (105.) Welfare Economics (3)
- 520. (109.) Advanced Economic Theory (3)
- 524. (194.) Capital and Growth Theory (3)
- 541. (141.) Econometrics (3)
- 559. (139.) Location Theory (3)
- 561. (191.) International Trade Theory (3)
- 592. (192.) International Monetary Theory and Policy (3)

GRADUATE COURSES

- 603. (203.) **Economic Analysis** (3)
Prerequisite: Classified graduate standing.
The theory of the firm in a market economy. Not open to students with credit in Economics 320 and 321; not applicable toward a master's degree in economics.
- 606. (206.) **The Public Economy** (3)
Prerequisite: Economics 401 or Public Administration 550.
Determinants of the supply and demand for public goods; the social decision-making processes in determining public goods; supply; financing public goods; taxes and expenditures; planned program budgeting and cost-benefit analysis. Not applicable toward a master's degree in economics.
- 611. (201A.) **Seminar in the Development of Economic Thought** (3)
Prerequisite: Twelve units in economics.
A critical study of the development of economic thought.
- 620. (200B.) **Seminar in Advanced Economic Theory** (3)
Prerequisites: Economics 320 and 321, or 324 and 325; and 447.
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. (200A.) **Seminar in Advanced Economic Theory** (3)
Prerequisites: Economics 320 and 321, or 324 and 325; and 447.
Theory of consumer and producer behavior. Determination of prices and resource allocation patterns in a market economy; partial and general equilibrium.
- 630. (202.) **Seminar in Comparative Economic Systems** (3)
Prerequisite: Economics 330 or 465 or 468.
Topics in comparative economic systems; the Soviet economy, the economy of communist China, and related subjects.
- 635. (210.) **Seminar in Economic History** (3)
Prerequisite: Economics 335 or 338A or 338B.
Individual study and group discussion on selected topics in economic history.
- 660. (292.) **Seminar in International Economics** (3)
Prerequisite: Economics 360 or 561.
Resource allocation, income distribution, commercial policies, capital movements, balance of payments, and international monetary institutions.
- 665. (295.) **Seminar in the Economics of Underdeveloped Countries** (3)
Prerequisite: Economics 365.
Theories regarding underdevelopment and policies for development of economically underdeveloped countries.
- 680. (250.) **Seminar in Labor Economics** (3)
Prerequisite: Economics 380 or 482.
Individual study and group discussion of selected topics in labor economics.
- 701. (231.) **Seminar in Public Finance** (3)
Prerequisite: Economics 401.
Advanced study of public finance problems and literature; research.

- 728. (208.) Development Planning (3)**
Prerequisite: Economics 365.
Role of government in development. Choice of target and policy variables. Planning techniques and their application to the national development problems.
- 741. (247.) Seminar in Econometrics (3)**
Prerequisite: Economics 541.
The construction of large economic models. Identification, causal ordering and estimation. Simultaneous-equation techniques and other selected topics.
- 758. (238.) Seminar in Urban and Regional Economics (3)**
Prerequisite: Economics 458.
Urban and regional economics; individual research and reports.
- 774. (274.) Seminar in Economic Concentration and Monopoly Power (3)**
Prerequisites: Economics 321 (325) and 370, or 474.
Selected topics in the field of economic concentration and monopoly.
- 777. (272.) Seminar in Utilities and Water Resources (3)**
Prerequisite: Economics 453 or 477.
Advanced study and group discussion of selected topics in utility economics and regulation, and the economics of water resource development.
- 783. (253.) Comparative Labor Seminar (3)**
Prerequisite: Economics 380 or 483.
Research in comparative labor problems, including problems of labor and social legislation, medical economics, poverty problems, labor force structural problems, and international labor movements.
- 790. (235.) 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.
- 796. (290.) Bibliography (1)**
Exercises in the use of basic reference books, journals, and specialized bibliographies, preparatory to the writing of a master's thesis.
- 797. (297.) Research (3) Cr/NC**
Prerequisites: Classified graduate standing and consent of instructor.
Independent research project in an area of economics.
- 798. (298.) Special Study (1-3) Cr/NC**
Prerequisite: Consent of staff; to be arranged with department chairman and instructor.
Individual study. Maximum credit six units.
- 799A. (299.) 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.

EDUCATION

GENERAL INFORMATION

The School of Education offers graduate study leading to the Master of Arts degree in Education with concentrations in the following: educational technology and librarianship, elementary curriculum and instruction, secondary curriculum and instruction, administration, 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 degree, Master of Science in Counseling.

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 he 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 will be recommended by the school for classified graduate standing.

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 complete a minimum of 18 units in one of the concentrations in education. Education 690 and either Education 799A or Education 795A-795B are required courses. All applicants for the Master of Arts degree in Education must pass a comprehensive examination and satisfactorily complete either a thesis (Plan A) or two writing seminars (Plan B). In addition, students majoring in certain concentrations are required to verify successful teaching experience and to satisfy requirements for advanced credentials. See below for further information regarding each of the concentrations.

ADVANCEMENT TO CANDIDACY

A student desiring a Master of Arts degree in Education with a concentration in educational technology and librarianship, elementary curriculum and instruction, or secondary curriculum and instruction may be advanced to candidacy upon completion of the basic requirements as described in Part Three of this bulletin, section on master's degree. A student desiring a concentration in administration, 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 School of Education, Office of Graduate Programs, Room 179.)

The Comprehensive Examination

This examination, designed to evaluate the student's achievement in the specific area of his concentration, is required of all candidates for the master's degree in education. A student is eligible to take the comprehensive examination only if he has been advanced to candidacy.

The examination is offered near the mid-point of each semester. Reservation must be made at least one week in advance of the examination. For information on exact dates, and for reservation, check with the Office of Graduate Programs, School of Education, Room 179.

SELECTION OF PLAN A OR PLAN B

In general, applicants will be programmed for Plan B, the seminar plan. After the student has completed approximately half of his program for the degree, he may request permission to transfer to Plan A, the thesis plan, if he has by this time established a plan for his thesis and has secured a faculty adviser for it. Requests for transfer to Plan A must

be prepared as an official change in program for the master's degree and countersigned by the faculty adviser and then submitted to the Office of Graduate Programs in the School of Education.

In general, Plan A is designed for students who have a particular research problem they wish to investigate in some detail. Plan B provides students the opportunity (1) to have two experiences of a writing and research nature, (2) to participate actively in the research projects of the other members of the seminar, and (3) to subject their own research to critical evaluation by the other seminar members. Both plans require the ability to formulate and define research problems, to assemble data pertinent to the problem, to draw conclusions, and to present the study in adequate 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.

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 school administration and supervision is designed to provide increased knowledge and skill for the prospective administrator or supervisor. The basic program is intended for those teachers who wish to become assistant principals, principals, supervisors, assistant superintendents and superintendents and is coordinated with the requirements for the Administrative Services Credential (Ryan Act). For those who complete the program prior to September 15, 1976, it is also possible to qualify for the Standard Supervision Credential (Fisher Act).

The requirements for an Administrative Services Credential are as follows:

1. Possession of a valid California teaching credential for service in elementary or secondary schools.
2. Development of specified competencies as evidenced by successful completion of course work outlined below.
3. Possession of a master's degree. (Does not need to be in educational administration.)
4. Three years of teaching or counseling experience in elementary or secondary schools.
5. Passage of the National Teacher's Examination, Common Knowledge Section (English; social studies, literature, and fine arts; and science and mathematics) at a satisfactory level or completion of the diversified (liberal studies) major specified for an elementary teaching credential.

Those students with special interests not requiring an administrative credential, such as private school administration, department chairmen, team leaders or school business administration, are invited to seek counsel from the Coordinator of the Department of Educational Administration concerning a program which can vary from that listed below.

1. Prerequisite: Possession of a valid teaching credential for service in elementary or secondary schools and teaching experience.
2. Education 690, Procedures of Investigation and Report (3 units).
3. The Administrative Core Program (12 units):
Educ. Admin. 600, Principles of School Administration
Educ. Admin. 610, Education Leadership
Educ. Admin. 620, Legal and Financial Aspects of School District Policies
Elem. Educ. 610, Curriculum Construction and Evaluation in Elementary Education (elementary candidates)
or
Secondary Educ. 610, Curriculum Problems in Secondary Education (secondary candidates)

4. Advanced Seminars and Field Work (9 units):

Note: Advanced seminars require that the student has been fully admitted to the Department of Educational Administration. For further information about the admission process, the student is referred to the Office of Graduate Programs, School of Education, Room 179.

- a. Elementary Specialization
Educ. Admin. 640A-640B-640C, Seminars in Elementary School Administration and Supervision
Educ. Admin. 660A-660B-660C, Field Experience in Elementary School Administration and Supervision
or
 - b. Secondary Specialization
Educ. Admin. 650A-650B-650C, Seminars in Secondary School Administration and Supervision
Educ. Admin. 670A-670B-670C, Field Experience in Secondary School Administration and Supervision
5. Research (3-6 units): Education 795A-795B, Seminar (6 units); or Education 799A, Thesis (3 units).
 6. Electives (0-3 units) selected with the approval of the adviser.

Advanced seminars require admission to the program of administration and supervision, Department of Administration and Supervision. For further information the student is referred to the Office of Graduate Programs, School of Education, Room 179.

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, 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 librarianship is designed for persons seeking a career in administration of school library media centers, or administration of instructional materials design and production; and for the classroom teacher or training director interested in increasing his effectiveness. For those interested in administration of school library media centers, the degree program is generally taken in conjunction with work towards specialized preparation in school librarianship. Those students who plan to seek employment as school library media specialists must hold a valid teaching credential. 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 795A-795B, Seminar (6 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. Course requirements are as follows:

1. Prerequisite: A basic background in education (minimum of 12 units) to include curriculum and methods, child growth and development, tests and measurements, 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 and goals and his needs as evidenced by results on the qualifying examination. A minimum of nine units of education shall be taken in courses at the 600 and 700 level.
4. Electives (6-9 units) selected with the approval of the adviser.
5. Special Study and Research (3-6 units): Education 795A-795B, Seminar (6 units); or Education 799A, Thesis (3 units).

Multicultural Education

The Master of Arts degree in Education with a concentration in multicultural education is designed to provide specialized and advanced skills in dealing with bilingual/cross-cultural school and community situations. Students select one of four culture areas in which to specialize: Afro-American, Asian-American, Mexican-American, or Native American.

1. Prerequisites:
 - a. A basic background in education (B.A. or teaching credential or certificate).
 - b. Experience in the selected culture. (In the Mexican-American specialization, this means proficiency in Spanish.)
2. Education 690, Procedures of Investigation and Report (3 units).
3. Multicultural education core program (12 units):
 - Education 550, Philosophy of Cultural Pluralism in Education
 - Education 553, Oral Language Assessment Techniques for Multicultural Education
 - Education 650, Bilingual/Cross-Cultural Curriculum Development
 - Education 651, Bilingual/Cross-Cultural Teaching Strategies
4. Education courses (6 units) selected with adviser's approval.
5. Electives (3-6 units) selected from academic disciplines or ethnic studies with approval of adviser.
6. Research (3-6 units): Education 795A-795B, Seminar (6 units); or Education 799A, Thesis (3 units).

Secondary Curriculum and Instruction

The Master of Arts degree in Education with a concentration in secondary curriculum and instruction is designed to assist the applicant in improving performance in his roles as a classroom teacher. Twelve units in basic education courses are prerequisite to the program. Course requirements are as follows:

1. Education 690, Procedures of Investigation and Report (3 units).
2. 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 and his needs as evidenced by results on the qualifying examination. A minimum of nine units in education must be taken in courses at the 600 and 700 level.
3. Electives (6-9 units) selected with the approval of the adviser.
4. Research (3-6 units): Education 795A-795B, Seminar (6 units); or Education 799A, Thesis (3 units).

Special Education

The Master of Arts degree in Education with a concentration in special education is designed to assist the applicant in improving performance in his roles as a classroom teacher. Individually designed programs have as goals increased knowledge and skill in the areas of the gifted, educationally handicapped, and mentally retarded. With adviser's approval, in this 30-unit program, up to 12 units (Plan B) or up to 15 units (Plan A) of electives may be chosen from courses in the elementary, secondary and special education departments, and related academic departments.

1. Prerequisite: A basic background in education (minimum of 12 units) to include such courses as curriculum and methods, educational psychology, growth and development, and history and philosophy of education.
2. Education 690, Procedures of Investigation and Report (3 units).
3. Core program (9 units) to include: Education 660, Advanced Educational Psychology; Special Education 670, Seminar in Education of Exceptional Children; and a 600- or 700-level education course in area of specialty.
4. Electives selected with adviser's approval.
5. Additional required courses (3-6 units): Education 795A-795B, Seminar (6 units); or Education 799A, Thesis (3 units).

MASTER OF SCIENCE IN COUNSELING DEGREE

APPLICATION FOR ADMISSION

In seeking admission to the program leading to the Master of Science in Counseling degree, or work in rehabilitation counseling, the student should write directly to Dr. John D. Chamley, Chairman, Department of Counselor Education, or Dr. Fred R. McFarlane, Director of Rehabilitation Counselor Program, 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 AND APPLICATIONS MUST BE RECEIVED BY THE DEPARTMENT OF COUNSELOR EDUCATION NOT LATER THAN MARCH 31.

PART-TIME STUDENTS MAY APPLY BOTH SPRING AND FALL SEMESTERS. THE DEADLINE FOR APPLICATION IS OCTOBER 30 FOR THE SPRING AND MARCH 31 FOR THE FALL SEMESTER.

The student must file an application for admission to San Diego State University with the Office of Admissions.

ADMISSION TO GRADUATE STUDY

A student seeking admission to the curriculum leading to the Master of Science in Counseling degree, or work in rehabilitation counseling, must meet the requirements for admission to the University with classified graduate standing, as stated in Part Three of this bulletin.

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

(A student who has completed the program leading to the Master of Arts degree in Education with a concentration in counseling will not be eligible for admission to the program leading to the Master of Science in Counseling degree.)

SPECIFIC REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

In addition to meeting the requirements for classified graduate standing, as described in Part Three of this bulletin, and for advancement to candidacy, the requirements must be met for the specific program in which the student is enrolled, as described below.

Full-Time Block Program

The full-time block program leads to a 36-unit master of science degree. It includes those courses listed below as required for the part-time evening program and allows for individualized in-depth work in selected areas of study. There is an emphasis upon field work experience in various settings through the internship part of the program. This degree is designed primarily for those planning to enter public school counseling and other related areas of counseling.

Part-Time Evening Program

1. Education 690; Counselor Education 710A-710B or equivalent.
2. At least nine units of work from each of the following groups of courses:
First Level: Special Education 567, Education 690, Counselor Education 610A, 610B, 620
Second Level: Counselor Education 640, 650, 660, 670 (690-S and 700-S)
Third Level: Counselor Education 710A, 710B, 720, 730, 740, 750, and Psychology 654 and 655.
3. Successful completion of a program consisting of at least 36 units of approved course work.

REHABILITATION COUNSELOR PROGRAM

The Rehabilitation Counselor Program has the primary objective of preparing students to enter the field of vocational rehabilitation. The program consists of 60 graduate units with 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. Further information regarding the program may be obtained by contacting Dr. Fred R. McFarlane, Director of the Rehabilitation Counselor Program, School of Education.

ADVANCEMENT TO CANDIDACY

The student must satisfy the general requirements for advancement to candidacy as described in Part Three of this bulletin. In addition, the student must maintain continued good standing in the counselor education program. (For further information, refer to the Department of Counselor Education, School of Education, Room 179.)

The Comprehensive Examination

A comprehensive examination for Plan B is required. The student must demonstrate satisfactory performance on a comprehensive examination, in lieu of a thesis, prepared by the Department of Counseling and Guidance.

Reservations for the examination must be made in advance in the Office of Graduate Programs, School of Education, Room 179.

PROGRAM FOR REHABILITATION COUNSELORS

Students desiring to complete the program for rehabilitation counselors will complete the requirements for the Master of Science in Counseling and additional special requirements arranged by the Director of Rehabilitation Counselor Education. Further information on this program may be obtained from Dr. Fred R. McFarlane, School of Education.

THE COMMUNITY COLLEGE INSTRUCTOR CREDENTIAL**SPECIFIC REQUIREMENT**

There are two alternatives for obtaining the Community College Instructor Credential: (1) A master's degree in a subject matter area designated in Title 5, Section 5, #52210 (subjects usually taught in a community college). Upon completion of requirements for the master's degree, the candidate should then apply directly to the Office of the Chancellor, California Community Colleges, 1530 Capitol Avenue, Sacramento, California 95814. **OR** (2) Two years of occupational experience (one within the past three years) and a baccalaureate degree with at least a minor in the subject matter related to the occupational experience. See the university *General Catalog* for holders of less than a baccalaureate degree.

MASTER'S DEGREE IN ACADEMIC AREAS**Suggested Professional Education**

For those candidates working toward a master's degree in an **academic** subject matter area as designated in Title 5, no formal courses are required; however, it is strongly suggested 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 with the Higher Education Programs Coordinator, Room 128, Education Building.

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 3 p.m. and in the evening each semester; and Education 666* and 680 are offered in Summer Session.

The following courses are suggested to enhance employment in the community college:

- Education 630, Instructional Methods and Materials: Community College (2 units)
- Education 666, Educational Psychology: Community College (2 units)
- Education 680, The Community College (3 units)
- Education 700, Directed Teaching (4 units)

* Not required for psychology majors.

NOTE: Directed teaching can be accomplished only in a community college day assignment.

MASTER OF ARTS DEGREE IN EDUCATION**Curriculum and Instruction—Occupational Education**

A Master of Arts in Education with a concentration in curriculum and instruction, specializing in occupational education, is offered in all of the community college occupational subject matter listed in Title 5, Section 5, #52210, except agricultural services and processing, animal production, cosmetology and barbering, fire science, forestry, and law. With 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. Course requirements are as follows:

1. Prerequisites: 12 units of education courses, preferably Education 380, 381, 565, and 382 or Educ. Tech. and Librnshp. 541.
 2. Education 690, Procedures of Investigation and Report (3 units).
 3. Core program (12 units): The core program is composed of courses in education and/or related fields selected with the approval of the adviser on the basis of the student's needs, interests and goals.
 4. Research (3-6 units): Education 795A-795B, Seminar (6 units); or Education 799A, Thesis (3 units).
- Electives (6 units) selected with approval of the adviser.

TEACHING CREDENTIALS

San Diego State University offers credential programs requiring at least one year of postbaccalaureate course work at the upper division or graduate level for the following credentials:

- The Standard Teaching Credential with a Specialization in Elementary Teaching
- The Standard Teaching Credential with a Specialization in Secondary Teaching
- The Standard Teaching Credential with a Specialization in Community College Teaching

In addition, graduate programs are offered for the following credentials:

- The Standard Designated Services Credential with a Specialization in Pupil Personnel Services (including the school psychometrist and school psychologist endorsements)
- The Standard Designated Services Credential with a Specialization in Health
- The Standard Supervision Credential
- The Restricted Credential (Speech and Hearing Specialist)

A student who completes the prescribed programs for any of the above credentials will be recommended by the university to the Commission for Teacher Preparation and Licensing for the credential.

For information regarding admission to teacher education and requirements for these credentials, refer to the university *General Catalog* or contact the School of Education.

The above credentials, authorized under the Fisher Bill, are available only to students who were able to complete credential requirements by September 14, 1974, or who meet newly established special requirements. Complete information is available at the School of Education.

NEW CREDENTIALS

Assembly Bill 122 (Ryan Bill) has changed the credential structure in the State of California. Students not eligible for the credentials listed above must meet the requirements of the new credentials offered under Assembly Bill 122. Information on these new credentials is available in the offices of the several departments of the School of Education.

The Multiple Subjects Credential (elementary) and the Single Subject Credential (secondary) have been approved by the Commission for Teacher Preparation and Licensing.

In addition the following specialist and administrative service credentials have been approved by the Commission:

SPECIALIST CREDENTIALS

Early Childhood
Bilingual/Cross-Cultural
Special Education
Reading

SERVICE CREDENTIALS

Administrative Services

The Librarian and Pupil Personnel Services Credential are being considered by the Commission at the present time and should be approved in the academic year 1975-76.

SCHOLARSHIPS

The following scholarships are available to graduate students in education:
SAN DIEGO TEACHERS ASSOCIATION. Awarded to two students preparing for teaching, \$100 each per year.

CALIFORNIA CONGRESS OF PARENTS AND TEACHERS, INC. Awarded to a fifth-year student in training for the General Secondary Credential, \$400 per year.

FACULTY

Dean of the School of Education: T. A. Arciniega
Associate Dean for Academic Affairs: R. R. Nardelli
Assistant Dean, Program Planning, Budgeting and Scheduling: S. S. Blanc
Assistant to the Dean for Student Affairs: G. W. Trujillo
Coordinator of Counselor Education: J. D. Chamley
Coordinator of Educational Administration: H. B. Holt
Coordinator of Educational Technology and Librarianship: P. J. Harrison
Coordinator of Elementary Education: J. M. Kaatz
Coordinator of Secondary Education: D. A. Meek
Coordinator of Special Education: F. A. Ballantine
Coordinator of Higher Education Programs: R. D. Smith, Jr.
Coordinator of Graduate Programs in Education: To be named
Graduate Advisers:
Counseling (Master of Arts): J. D. Chamley
Counseling (Master of Science): J. D. Chamley
Educational Research: L. A. Becklund
Educational Technology and Librarianship: P. J. Harrison
Elementary Administration and Supervision: H. B. Holt
Elementary Curriculum and Instruction: J. E. Inskeep

Secondary Administration and Supervision: H. B. Holt
Secondary Curriculum and Instruction: C. E. Fishburn
Special Education: F. A. Ballantine

Professors: Anderson, Anthony, Arciniega, Baker, Baldwin, Ballantine, Becklund, Blanc, Briggs, Bruce, Brydegaard, Burnside, Carnevale, Chambers, Charles, Crum, Cummins, Erickson, Fishburn, Fisher, Freidrick, Fulkerson, Gast, Gates, Gega, Goodson, Gray, Groff, Halfaker, Hawley, Hill, W. O., Holt, Huls, Inskeep, Kendall, LaPray, Lienert, Malcolm, McClard, McCoy, Meek, Miller, Mitchell, Nardelli, Person, Petteys, Platz, Prouty, Retson, Rixman, Rodney, Ross, Rowland, Servey, Singer, Jr., Smith, H. R., Smith, R. D., Jr., Stautland, Stough, Strand, Steckbauer, Strom, Tossas, Trimmer, Wetherill, Wilding

Associate Professors: Becker, Bee, Berg, Botkin, Chamley, Clark, Cleveland, Doorlag, Duckworth, Elliott, Fearn, Forbing, Ford, Harrison, Holman, Howard, Kaatz, Mazon, McCabe, McLevie, Melton, Merino, Mooers, Moreno, Morris, Murphy, Nagel, Pehrson, Reel, Richman, Sanner, Shaw, Thompson, Treadway, Walsh, Warburton, Yesselman
Assistant Professors: Altamura, Birch, Blosser, Cochran, Curry, France, Getner, Hill, P. J., Jimenez, Kalectaca, Kim, Klann, Koller, McAllister, McFarlane, Morris, Weir

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN EDUCATION

UPPER DIVISION COURSES

Education

- 513-S. (190-S.) Conference on the Teaching of Mathematics (1)
- 550. Philosophy of Cultural Pluralism in Education (3)
- 553. Multicultural Oral Language Assessment Training (3)
- 565. (158.) Occupational Student (3)

Counselor Education

- 506-S. (191-S.) Guidance Conference (1)

Educational Technology and Librarianship

- 540. (140.) Educational Technology (3)
- 541. (141.) Production of Instructional Materials (3)
- 544. (144.) Instructional Materials Design (3)
- 546. (146.) Basic Reference Materials (3)
- 547. (147.) Selection of Instructional Materials (3)
- 548. (148.) Cataloging and Classification (3)
- 550. (150.) Workshop in Educational Technology and Librarianship (1-3)
- 553-S. (143-S.) Workshop in Educational Television (6)
- 592-S. (192-S.) Audiovisual Conference (1)

Elementary Education

- 512. (133.) Children's Literature in Elementary Education (3)
- 514. (138B.) Social Studies Unit Construction in Elementary Education (3)
- 521. (137.) Reading Difficulties (3)
- 561. (117.) Teacher Effectiveness Training (2 or 3)
- 562. (151.) Measurement and Evaluation in Elementary Education (3)
- 571. (114-S.) Interpretation of Early Childhood Behavior (3)
- 596. (135.) Workshop in Elementary Education (1-6)

Secondary Education

- 563. (152.) Measurement and Evaluation in Secondary Education (3)
- 564. (153.) Quantitative Methods in Educational Research (3)
- 568. (128D.) Human Relations and Counseling in Adult Education (2)
- 593. (128E.) Workshop in Adult Education (1-3)
- 596. (126.) Workshop in Secondary Education (1-3 or 6)

Special Education

550. (170.) Workshop in Special Education (2-4)
 561. (161.) Measurement and Evaluation in Special Education (4)
 562. (162.) Emotionally Disturbed Children and Youth (3)
 563. (163.) Curriculum and Methods for Teaching Emotionally Disturbed Children and Youth (3)
 564. (164.) Education of the Neurologically Handicapped (3)
 567. (167.) Exceptional Children (3)
 568. (168.) Curriculum and Methods for Teaching Mentally Retarded Children in the Elementary School (3)
 569. (169.) Curriculum and Methods for Teaching Mentally Retarded Children in the Secondary School (3)
 572. (172.) Counseling Exceptional Children (3)
 573. (173.) Education of the Severely Mentally Retarded (3)

GRADUATE COURSES

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; and courses in Counselor Education.

Education

630. (251.) **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.
650. **Bilingual/Cross-Cultural Curriculum Development** (3)
 Prerequisite: Advancement to candidacy or teaching credential.
 Study of competency-based education techniques; development of skills in devising performance criteria and criterion-referenced tests in bilingual-bidialectal/cross-cultural situations; development of individualized instruction and program planning strategies.
651. **Bilingual/Cross-Cultural Teaching Strategies** (3)
 Prerequisite: Advancement to candidacy or teaching credential.
 Examination of existing bilingual/cross-cultural teaching materials and skills in adapting these materials for instruction; emphasis on methodology for the bilingual/cross-cultural classroom.
660. (220.) **Advanced Educational Psychology** (3)
 Prerequisite: Elementary Education 362 or Secondary Education 411.
 Advanced study of the research in educational psychology and its application to learning and human growth.
661. (221.) **Seminar in Educational Measurement** (3)
 Problems in educational testing. Emphasis on construction, administration and validation of teacher-made tests.
666. (223.) **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.
680. (201.) **The Community College** (3)
 Two lectures and three hours of activity.
 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.
682. (202.) **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. (204.) **Comparative Education** (3)

The contemporary educational ideas and practices of various countries of the world and their impact on our culture and education.

685. (206.) **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. (207.) **Educational Sociology** (3)

Prerequisite: Education 383.

A study of the social, economic, political and moral setting in which present-day American education functions.

687. (208.) **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. Maximum credit six units.

688. (209.) **Workshop in Community College Education** (2-6)

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.

690. (211.) **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. (212.) **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. (316.) **Directed Teaching: Community College** (4)

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.

795A-795B. (295A-295B.) **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.

798. (298.) **Special Study** (1-6) Cr/NC

Individual study. Maximum credit six units.

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

799A. (299.) **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.

Counselor Education

600. (224.) Administration of Pupil Personnel Services (3)

Prerequisite: Secondary Education 667.

The organization and administration of school guidance services, including the use of community resources and a study of laws relating to children and child welfare.

610A-610B. (225A-225B.) 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.

620. (226.) Guidance Services in Public Education (3)

Prerequisite: Counselor Education 561, or Elementary Education 362 and 372.

Historical, philosophical and legal bases of pupil personnel services; staff roles and relationships in a variety of organizational patterns.

630. (229.) Workshop in Counseling (3)

Prerequisite: Consent of instructor.

Application of principles and procedures to specific situations for improvement of counseling services. Individual problems emphasized.

640. (231.) Theory and Process of Appraisal (4)

Three lectures and three hours of laboratory.

Measurement theory and procedures, including interpretation of test results. Not open to students with credit in Counselor Education 690-S. Offered during summer sessions only in combination with Counselor Education 650 as 690-S.

650. (232.) Theory and Process of Vocational Choice (4)

Three lectures and three hours of laboratory and/or field work.

Vocational choice theory, occupational and educational materials used in career planning. Not open to students with credit in Counselor Education 690-S. Offered during summer sessions only in combination with Counselor Education 640 as 690-S.

660. (233.) Theory and Process of Counseling (4)

Prerequisites: Counselor Education 610A and 640.

Counseling process theories, approaches to and techniques for counseling, and research concerning counseling effectiveness. Supervised practice in counseling, analyzing counseling, and writing counseling reports. Not open to students with credit in Counselor Education 700-S or Psychology 452 or 650. Offered during summer sessions only in combination with Counselor Education 670 as 700-S.

670. (234.) Theory and Process of Group Counseling (4)

Three lectures and three hours of laboratory.

Prerequisites: Counselor Education 610B and 660.

Group process and individual growth, theories of group interaction, sensitivity training and group leadership techniques. Not open to students with credit in Counselor Education 700-S. Offered during summer sessions only in combination with Counselor Education 660 as 700-S.

680A. (235A.) Introduction to the Rehabilitation Process (3)

Two lectures and three hours of laboratory.

Prerequisite: Admission to counselor education.

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. (235B.) Medical Aspects of Disability (3)

Two lectures and three hours of laboratory.

Prerequisite: Counselor Education 680A.

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. (235C.) Psychological Aspects of Disability (3)

Two lectures and three hours of laboratory.

Prerequisite: Counselor Education 680B.

Analysis of the psychological component to illness and disease. Focus on functional disorders and vocational implications. Lecture and clinical seminars.

680D. (235D.) Placement of the Disabled (3)

Two lectures and three hours of laboratory.

Prerequisite: Counselor Education 680C.

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.

690-S. (237-S.) Appraisal and Vocational Choice (6) S

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.

700-S. (238-S.) Counseling: Individual and Group (6) S

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.

710A-710B. (239A-239B.) Seminar in Guidance (3-3)

Prerequisites: Education 690-S; six units from Counselor Education 640, 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. (330.) Internship (2-6) Cr/NC

Supervised internship experience in counseling 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. (331.) Field Work in Counseling (2-6) Cr/NC

Application of concepts and procedures of counseling 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.

740. (332.) Practicum in Counseling (3) Cr/NC

Supervised experience in group and individual counseling and career planning. Application to take the course must be made early during the preceding semester. Maximum credit six units applicable on a master's degree.

750. (333.) Advanced Seminar and Practicum in Counseling (3-6) Cr/NC

Supervised experience in group and individual counseling and study of problems, issues, and research. Application to take the course must be made early during the preceding semester.

Educational Administration

600. (260.) Principles of School Administration (3)

Federal, state and local school administrative relationships including the financial and legal structure at these three levels.

610. (261.) 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. (262.) 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. (263.) 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. (264A-264B-264C.) 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-660C.

Analysis of theories and practices in the administration and supervision of the elementary school.

650A-650B-650C. (265A-265B-265C.) Seminar in Secondary School Administration and Supervision (2-2-2)

Prerequisites: Educational Administration 600, 610, 620, 630, and admission to Program of Educational Administration; concurrent registration in 670A-670B-670C.

Analysis of theories and practices in the administration and supervision of the secondary school.

660A-660B-660C. (266A-266B-266C.) Field Experience in Elementary School Administration and Supervision (1-1-1) Cr/NC

Prerequisite: Concurrent registration in Educational Administration 640A-640B-640C.

Field experience in the elementary schools. Approval of local school district required in the semester prior to registration.

670A-670B-670C. (267A-267B-267C.) Field Experience in Secondary School Administration and Supervision (1-1-1) Cr/NC

Prerequisite: Concurrent registration in Educational Administration 650A-650B-650C.

Field experience in the secondary schools. Approval of local school district required in the semester prior to registration.

680. (268.) Seminar in School Administration and Supervision (3)

Prerequisites: Teaching credential, Educational Administration 600, 610, 620, 630, consent of instructor, and admission to Program of Educational Administration.

School administration and supervision in a specialized field, such as the community college, a subject field, or designated services. Field experience required. May be substituted for Educational Administration 640C or 650C.

700. (280.) 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. (281.) 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.

720. (282.) School District Personnel Management (3)

Prerequisites: Teaching credential, and Educational Administration 600, 610, 620, 630.

Personnel relationships to include administrative relationships with the Board of Education and the school staff. Central office personnel procedures including recruitment, employment, placement, evaluation, promotional and training procedures.

730. (283.) 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. (284.) Advanced Seminar in School Administration and Supervision (3)

Prerequisites: Teaching credential, and Educational Administration 700, 710, 720, 730.

An intensive study of a selected area in school administration and supervision. Typical courses in this area are school law, school finance, school supervision, personnel procedures. May be repeated with new content. Maximum credit nine units.

750A-750B. (286A-286B.) Seminar in School Building Construction and Utilization (3-3)

Prerequisite: Possession of Administration or Supervision Credential, or consent of instructor. Credit or concurrent registration in Educational Administration 750A is prerequisite to 750B.

School building construction and utilization: the development of new facilities from the planning stage to complete utilization; remodeling.

760. (360.) Internship in School Administration and Supervision (3-6) Cr/NC

Prerequisites: Teaching credential and consent of instructor.

Internship for prospective school administrators in the public schools. Released time, permission of school district, and preregistration with Coordinator of Program of Educational Administration previous semester required.

Educational Technology and Librarianship

674. (274.) Seminar in Educational Technology (3) I

Prerequisite: 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. (275.) Seminar in the Administration of Instructional Media Centers (3) I, II

Prerequisites: 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. (276.) Seminar in Instructional Design (3) I, II

Prerequisite: Educational Technology and Librarianship 541.

Design and production of self-instructional sequences. Instructional materials design will be investigated. Student entry behavior, objectives, media characteristics and learning will be considered.

677. (277.) Reference Materials in Subject Areas (3)

Prerequisite: Educational Technology and Librarianship 546.

Reference materials in humanities, social sciences, and sciences with emphasis on their use in the school library media center.

678. (278.) Literature for Children (3)

Prerequisite: 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. (279.) Literature for Adolescents (3)

Prerequisite: 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.

775. (375.) Directed Internship for the Instructional Media Specialist (2-6) Cr/NC

Application to take the course must be made during the preceding semester. Supervised internship in an instructional media center.

Elementary Education

610. (240.) 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. (242.) 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. (244.) 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. (241.) 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. (243A.) 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. (248.) 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. (247.) Advanced Diagnosis and Treatment of Learning Difficulties (3)

Prerequisites: A teaching credential and Elementary Education 562 or Secondary Education 563.

Principles and techniques of diagnosis and treatment of difficulties in learning the school subjects. Supervised experience in working with individual pupils and their parents.

621. (246.) Advanced Diagnosis in Reading (3)

Prerequisites: Psychology 654 and Elementary Education 521.

Principles and techniques of individual and group diagnosis of reading difficulties. Experience in administration and interpretation of individual and group instruments in diagnosis.

624. (243B.) Seminar in Elementary Social Studies Curriculum Development (3)

Prerequisite: Elementary Education 414, 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.

Secondary Education

610. (250.) Curricular Problems in Secondary Education (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. (254.) Advanced Problems in Secondary School Instruction (3)

Prerequisites: Teaching experience and consent of instructor.

An analysis of the scientific research and philosophical principles in secondary school instruction.

614. (255.) Advanced Curriculum and Instruction in Mathematics (3)

Factors directing the changing mathematics curriculum; recent trends and current research in the teaching of secondary mathematics.

616. (256.) Recent Trends in Secondary Curriculum (3)

Prerequisites: Twelve units in secondary education and consent of instructor.

Current practices and trends in secondary schools. Extensive individual work on related problems of interest to members of the class.

617. (258.) 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.

618. 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.

667. (230.) Guidance Problems in Secondary Education (3)

The theory and practice of guidance, emphasizing advanced mental hygiene concepts needed by teachers and counselors.

681. (259.) 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.

685. 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.

689. (257.) Workshop in Intercultural Education (4)

A cooperative workshop sponsored by the university and the San Diego City Schools to study trends in intercultural education in American schools, including units, curricular and instructional materials and techniques.

Special Education

622. (222.) The Gifted Child (3)

Prerequisites: Elementary Education 362 and 372, or Secondary Education 411.

The abilities and characteristics of the intellectually gifted or talented; related problems of curriculum, teaching, administration and guidance.

670. (270.) Seminar in Education of Exceptional Children (3)

Prerequisite: Special Education 567.

Principles, trends and research in the education of exceptional children.

671. (271.) Seminar in Emotionally Disturbed Children and Youth (3)

Prerequisites: Special Education 562 or 563, and 670.

Advanced study of the theories, principles and practices in working with the emotionally handicapped.

672. (272.) Seminar in Education of the Gifted (3)

Prerequisites: Special Education 622 and 670.

Review of studies and investigation in learning and adjustment of the gifted, including assessment, classification, curriculum provisions, and social and emotional adjustment.

673. (273.) Seminar in Education of the Mentally Retarded (3)

Prerequisites: Special Education 568 or 569, and 670.

Review of studies and investigation in learning and adjustment of retarded children including etiology, classification, diagnosis and assessment.

771. (371.) Directed Internship: Mentally Retarded (4) Cr/NC

Application to take the course must be made during the preceding semester.

Extensive daily participation or teaching in public schools and preparation for the teaching of exceptional children in the area of the mentally retarded.

774. (374.) Directed Internship: Speech Correction (4) Cr/NC

Application to take the course must be made during the preceding semester.

Extensive daily participation or teaching in public schools and preparation for the teaching of exceptional children in the area of speech correction.

ENGINEERING

GENERAL INFORMATION

The School of Engineering offers graduate study leading to Master of Science degrees in Aerospace, Civil, Electrical, and Mechanical Engineering. These curriculums 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 curriculum in engineering, with options in aerospace, civil, electrical, and mechanical engineering, is 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. In addition, the student must have a bachelor's degree in a field of engineering appropriate to the field in which he desires to earn an advanced degree or in a field closely related thereto from an institution acceptable to the School of Engineering. If a student's undergraduate preparation is deemed insufficient, he 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 as 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 his 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 nine units in one area of concentration (designated as Group A, Group B, and Group C below) and excluding Engineering 790, 798, 799A.
2. At least six additional units of 500-, 600- and 700-numbered courses in the School of Engineering or in the Departments of Mathematics, Physics, or Astronomy, including Engineering 799A (Plan A), if elected.
3. Six elective units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

Areas of Concentration in Aerospace Engineering

Group A: Fluid Dynamics

- AE 600. (AE 200.) Seminar (1-3)
 EM 744. (EM 244.) Advanced Fluid Mechanics II (3)
 AE 612. (AE 243.) Supersonic Flow Theory (3)
 AE 716. (AE 242.) Theory and Aerodynamics of Transonic Flight (3)

Group B: Engineering Mechanics

- EM 600. (EM 200.) Seminar (1-3)
 EM 725. (EM 225.) Theory of Plates (3)
 EM 726. (EM 226.) Theory of Shells (3)
 EM 727. (EM 227.) Elastic Stability (3)

Group C: Flight Dynamics

- AE 600. or EM 600. (AE 200. or EM 200.) Seminar (1-3)
 AE 671. (AE 205.) Flight Dynamics—Theory of Flight Paths (3)
 AE 771. (AE 204.) Flight Dynamics—Stability and Control (3)
 EM 703. (EM 203.) Theory of Vibrations (3)

CIVIL ENGINEERING

Specific Requirements for the Degree: The student's program, prepared in conference with his graduate adviser, must satisfy the following requirements:

1. Eighteen units of 600- and 700-numbered courses in civil engineering, excluding Engineering 790, 798, and 799A.
2. At least six additional units of 500-, 600- or 700-numbered courses in the School of Engineering or in the College of Sciences, including Engineering 799A, (Plan A), if elected.
3. Six elective units of 500-, 600- or 700-numbered courses approved by the graduate adviser.

ELECTRICAL ENGINEERING

Specific Requirements for the Degree: The student's program, prepared in conference with his graduate adviser, must satisfy the following requirements:

1. Eighteen units of 600- and 700-numbered courses in electrical engineering. A maximum of six units of 600- and 700-numbered courses in mathematics of physics may be used in partial fulfillment of this 18-unit requirement.
2. At least six additional units of 500-, 600- or 700-numbered courses in the School of Engineering or in the Departments of Mathematics or Physics.
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 his graduate adviser, must satisfy the following requirements:

1. Fifteen units of 600- and 700-numbered courses in mechanical engineering excluding Engineering 790, 798, 799A, and Mechanical Engineering 797.
2. At least nine additional units of 500-, 600- or 700-numbered courses in the School of Engineering.
3. Six elective units of 500-, 600- or 700-numbered courses approved by the graduate adviser.

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 chairman of the appropriate department.

FACULTY

Dean, School of Engineering:

Associate Dean, School of Engineering: F. T. Quiett

Chairman, Department of Aerospace Engineering and Engineering Mechanics:
R. D. McGhie

Chairman, Department of Civil Engineering: F. E. Stratton

Chairman, Department of Electrical Engineering: Shu-Yun Chan

Chairman, Department of Mechanical Engineering: R. A. Fitz

Graduate Advisers: R. D. McGhie, Aerospace Engineering; F. E. Stratton, Civil Engineering;
Shu-Yun Chan, Electrical Engineering; R. A. Fitz, Mechanical Engineering

Professors: Bauer, Bedore, Chan, Chang, Conly, Dharmarajan, Fitz, Golding, Johnson,
Krishnamoorthy, Learned, Lin, Lodge, McGhie, Morgan, Murphy, Noorany, Ohnysty,
Quiett, Rao, Shutts, Skaar, Stone, Stratton

Associate Professors: Chou, Craig, Crooker, Harris, Hussain, Mann, Mansfield, Narang,
Panos

Assistant Professors: Bakhru, Bilterman, Brown, Drake, Marino, Stuart

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS

UPPER DIVISION COURSES IN ENGINEERING

In order to provide the individual graduate student with a maximum of flexibility in pursuing his advanced studies, a maximum of six units in engineering courses other than those listed below may be elected by the student subject to the approval of his graduate adviser and the department chairman.

Aerospace Engineering Programs

- 501. (187B.) Methods of Analysis (3)
- 502. (188.) Digital Solutions of Engineering Problems (3)
- 503. (196B.) Advanced Engineering Topics (1-3)
- 530. (109.) Nonmetallic Materials (3)
- 532. (146B.) Advanced Machine Design (3)
- 534. (147B.) Vibration, Shock and Noise Measurements (3)
- 535. (189.) Automatic Control Systems (3)
- 537. (142.) Elements of Energy Conversion (3)
- 539. (144.) Thermal Environmental Engineering (3)
- 554. (134.) Communication Principles and Circuits (3)
- 554L. (134L.) Communication Circuits Laboratory (1)
- 568. (168.) Feedback Control Systems (3)
- 569L. (169L.) Feedback Control Systems Laboratory (1)
- 583. (157.) Intermediate Fluid Mechanics (3)
- 584. (152.) Aircraft Propulsion Systems (3)
- 585. (181.) Hydrodynamics (3)
- 587. (155.) Matrix Methods in Aerospace Structures (3)
- 588. (156.) Intermediate Dynamics (3)
- 590. (153B.) Intermediate Aerospace Flight Mechanics (3)
- 591. (158.) Aircraft Design and Performance (3)

Civil Engineering Programs

- 503. (196B.) Advanced Engineering Topics (1-3)
- 510. (120B.) Structural Analysis II (3)
- 514. (125.) Sanitary Engineering (3)
- 518. (128B.) Advanced Surveying and Photogrammetry (3)
- 521. (129.) Highway Materials (2)
- 587. (155.) Matrix Methods in Aerospace Structures (3)
- 588. (156.) Intermediate Dynamics (3)

Electrical Engineering Programs

- 501. (187B.) Methods of Analysis (3)
- 502. (188.) Digital Solutions of Engineering Problems (3)
- 503. (196B.) Advanced Engineering Topics (3)
- 550. (193.) Modern Power Systems I (3)
- 551. (194.) Modern Power Systems II (3)
- 553. (133.) Stochastic Signals (3)
- 554. (134.) Communication Principles and Circuits (3)
- 554L. (134L.) Communication Circuits Laboratory (1)
- 555. (135.) Modulation Theory (3)
- 556. (139.) Microwave Communications (3)
- 556L. (139L.) Microwave Measurements Laboratory (1)
- 557. (191.) Microwave Devices (3)
- 562. (162.) Transistor Circuit Analysis (3)
- 564. (164.) Solid State Devices (3)
- 568. (168.) Feedback Control Systems (3)
- 569. (169.) Advanced Feedback Control Systems (3)
- 569L. (169L.) Feedback Control Systems Laboratory (1)
- 570. (175.) Advanced Pulse and Digital Circuits (3)
- 571. (177.) Advanced Logic Design and Switching Circuits (3)
- 573. (178.) Computer Organization (3)

Mechanical Engineering Programs

- 501. (187B.) Methods of Analysis (3)
- 502. (188.) Digital Solutions of Engineering Problems (3)
- 503. (196B.) Advanced Engineering Topics (3)
- 530. (109.) Nonmetallic Materials (3)
- 532. (146B.) Advanced Machine Design (3)
- 533. (147A.) Introduction to Mechanical Vibrations (3)
- 534. (147B.) Vibration, Shock and Noise Measurements (3)
- 535. (189.) Automatic Control Systems (3)
- 536. (149.) Advanced Thermodynamics (3)
- 537. (142.) Elements of Energy Conversion (3)
- 538. (143.) Gas Dynamics (3)
- 539. (144.) Thermal Environmental Engineering (3)
- 540A-540B. (160A-160B.) Principles of Chemical Engineering (3-3)
- 541. (183.) Simulation of Engineering Systems (3)

Aerospace Engineering

GRADUATE COURSES

600. (200.) Seminar (1-3)

Prerequisite: Consent of the graduate adviser and instructor.

Intensive study of topics in 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.

612. (243.) Supersonic Flow Theory (3)

Prerequisite: Engineering 381.

Theory of flow at supersonic speeds. Linearized theory, three-dimensional wings in steady flight, slender-body theory, methods of characteristics.

671. (205.) Flight Dynamics—Theory of Flight Paths (3)

Prerequisite: Engineering 381.

Analysis of trajectories of aircraft, missiles, satellites, and spacecraft subjected to uniform or central gravitational forces, aerodynamic forces, and thrust.

716. (242.) Theory and Aerodynamics of Transonic Flight (3)

Prerequisite: Aerospace Engineering 612.

Application of engineering principles to the analysis of transonic flight.

- 771. (204.) Flight Dynamics—Stability and Control (3)**
Prerequisite: Credit or concurrent registration in Engineering Mechanics 601.
Dynamic stability and control of aerospace vehicles. Stability derivatives, stability of uncontrolled motion, response to actuation of controls, automatic stability and control.
- 796. (296.) Advanced Topics in Aerospace Engineering (2 or 3)**
Advanced study in the field of aerospace engineering, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 797. (297.) Research (1-3) Cr/NC**
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable on a master's degree.

Civil Engineering

GRADUATE COURSES

- 600. (200.) Seminar (2 or 3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in advanced civil engineering, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 601. (201.) Advanced Theory of Structures (3)**
Prerequisites: Engineering 510 and Mathematics 340A.
Analysis of statically indeterminate structures based on principles of deflected structures. Approximate analysis of structures under lateral loads for rigid and shear wall structures.
- 602. (202.) Design of Thin Shell Structures (3)**
Prerequisite: Engineering 510.
Analysis and design of typical civil engineering thin shell structures.
- 603. (203.) Plastic Design in Steel (3)**
Prerequisite: Engineering 510.
Analysis and design of steel framed structures for ultimate load. Connections, secondary design problems, column stability, and repeated loading.
- 605. (205.) Prestressed Concrete Structures (3)**
Prerequisite: Engineering 310.
Fundamental concepts of prestressed concrete theory. Design applications to various types of structures.
- 606. (206.) Matrix Analysis of Structures (3)**
Prerequisite: Engineering 310.
Development of matrix methods for the analysis of structural systems. Force methods, displacement methods. Application of the digital computer to structural analysis.
- 607. (207.) Dynamics of Structures (3)**
Prerequisite: Engineering 310.
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. (208.) Numerical Methods in Structural Engineering (3)**
Prerequisite: Engineering 510.
Moments and deflections in beam systems; elastic and inelastic stability, columns and beams on elastic supports, vibration of structural systems.
- 609. (209.) Computer Analysis of Structures (3)**
Prerequisites: Engineering 170 and 510.
Fundamentals of matrix notation, equilibrium equations, compatibility relations, constitutive equations, joint releases. General algorithms for writing computer programs for space structures, trusses and frames. Use of existing programs such as ICES/STRUDL, NASTRAN, etc., for solving structural problems.

- 610. (210.) Finite Element Analysis of Structures (3)**
Prerequisites: Engineering 170 and 310.
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. (220.) Traffic Engineering (3)**
Prerequisite: Engineering 421.
Traffic characteristics and studies. Control and regulation of street and highway traffic. Parking facilities, mass transportation, traffic engineering administration.
- 622. (222.) Mass Transit Engineering (3)**
Prerequisite: Engineering 420.
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.
- 630. (230.) Open Channel Hydraulics (3)**
Prerequisite: Engineering 414.
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.
- 631. (231.) Engineering Hydrology (3)**
Prerequisite: Engineering 414.
Measurement and interpretation of precipitation, evapotranspiration, stream flow and groundwater flow; hydrologic methodology and applications.
- 632. (232.) Fluvial Hydraulics (3)**
Prerequisite: Engineering 414.
Characteristics of rivers; mechanics of sediment transport; hydraulics and design of alluvial channels; channel stability; model studies.
- 635. (235.) Water Quality Engineering (3)**
Prerequisite: Engineering 514.
Development of water quality criteria. Survey of current methods of water treatment, wastewater treatment and water renovation. Economic considerations of water quality management.
- 636. (236.) Water Quality Processes (3)**
Two lectures and three hours of laboratory.
Prerequisite: Engineering 514.
Theoretical and laboratory study of the chemical and microbiological processes which govern modern water and wastewater treatment.
- 640. (240.) Advanced Soil Mechanics (3)**
Prerequisite: Engineering 416.
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. (241.) Advanced Foundation Engineering (3)**
Prerequisite: Engineering 417.
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. (242.) Seepage and Earth Dams (3)**
Prerequisite: Engineering 416.
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.
- 643. (243.) Experimental Soil Mechanics (2)**
One lecture and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Civil Engineering 640.
Techniques of laboratory testing for the determination of the engineering properties of soils. Applications in foundation engineering, earth dams, highways, airports and underwater soil engineering.

- 644. (244.) Soil Structure Interaction (3)**
Prerequisite: Credit or concurrent registration in Civil Engineering 640.
Analysis of stresses and deformations of structural elements supported by soil. Analysis of pile foundations subject to lateral, vertical and combined loads by numerical and finite element methods. Solutions of slabs and mat foundations.
- 780. (280.) Seminar in Structural Engineering (2 or 3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in structural engineering. Maximum credit six units applicable on a master's degree.
- 781. (281.) Seminar in Transportation Engineering (2 or 3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in transportation engineering. Maximum credit six units applicable on a master's degree.
- 782. (282.) Seminar in Soil Mechanics and Foundation Engineering (2 or 3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in soil mechanics and foundation engineering. Maximum credit six units applicable on a master's degree.
- 785. (285.) Seminar in Construction Engineering (2 or 3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in construction engineering. Maximum credit six units applicable on a master's degree.
- 796. (296.) Advanced Topics in Civil Engineering (2 or 3)**
Advanced study in the field of civil engineering, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 797. (297.) Research (1-3) Cr/NC**
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable on a master's degree.

Electrical Engineering

GRADUATE COURSES

- 600. (200.) Seminar (1-3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in advanced electrical engineering, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 601. (201.) Seminar in Electromagnetic Systems (1-3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in electromagnetic systems. Maximum credit six units applicable on a master's degree.
- 602. (202.) Seminar in Electronic Design (1-3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in electronic design. Maximum credit six units applicable on a master's degree.
- 603. (203.) Seminar in Digital Systems (1-3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in digital systems. Maximum credit six units applicable on a master's degree.
- 604. (204.) Seminar in Feedback Control Systems (1-3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in feedback control systems. Maximum credit six units applicable on a master's degree.
- 605. (205.) Seminar in Communications Systems (1-3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in communication theory and systems. Maximum credit six units applicable on a master's degree.

- 606. (206.) Seminar in Computer Engineering (1-3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in computer engineering topics. Maximum credit six units applicable on a master's degree.
- 610. (210.) Linear System Analysis (3)**
Prerequisites: Engineering 351 and credit or concurrent registration in Engineering 501 or Mathematics 340B.
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.
- 611. (211.) Synthesis of Active and Passive Networks (3)**
Prerequisite: Electrical Engineering 610.
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.
- 614. (214.) Computer-aided Network Analysis and Design (3)**
Prerequisites: Engineering 361 or equivalent computer-aided circuit design, Electrical Engineering 610, and Fortran programming.
Approximation theory, device modeling, topological analysis of networks, applications of general purpose, computer programs, passive and active filter design, circuit optimization.
- 616. (216.) Noise in Electrical Devices (3)**
Prerequisite: Engineering 562.
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.
- 620. (220.) Feedback Control Systems (3)**
Prerequisite: Engineering 568.
Analysis and synthesis of feedback control systems using feedback compensation. Multiple-loop control systems; a-c feedback control systems; optimization.
- 622. (222.) Sampled-Data Systems (3)**
Prerequisite: Engineering 568.
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. (225.) State Space Analysis of Control Systems (3)**
Prerequisite: Engineering 568.
State space representation of control systems, state transition flow graphs, methods of solution of the state equation, controllability and observability, and introduction to optimal control systems.
- 631. (231.) Integrated Circuits (3)**
Prerequisite: Engineering 470.
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.
- 632. (232.) Linear Semiconductor Circuit Design (3)**
Prerequisite: Engineering 562.
Field effect transistors and circuits; quantitative variable nature of transistor parameters; differential and chopper stabilized dc amplifiers; high efficiency switching mode power amplifiers, converters and inverters; noise, reliability considerations and high speed switching.
- 650. (250.) Quantum Electronics (3)**
Prerequisite: Engineering 564.
Quantum mechanics for engineers concerned with its application to solid-state devices. Basic principles and engineering applications of lasers.

652. (252.) Optical Communications (3)

Prerequisite: Electrical Engineering 650.

Fundamentals of electro-optical technology from ultraviolet through infrared. Characteristics of thermal and laser radiation including generation, transmission, detection, data processing and display.

653. (263.) Coding Theory (3)

Prerequisite: 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.

654. (234.) Semiconductor RF Circuit Design (3)

Prerequisite: Engineering 554.

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.

655. (240.) Antennas and Propagation (3)

Prerequisite: Engineering 556.

Impedance characteristics and radiation patterns of thin linear antenna elements; field intensity calculations. Tropospheric and ionospheric propagation; propagation anomalies.

656. (242.) Microwave Networks (3)

Prerequisite: Engineering 556.

Equivalent circuits for waveguide discontinuities developed on the basis of mode theory, linearity, reciprocity, and symmetry. Application of general network theory to wave guides, cavity resonators and antennas.

657. (246.) Radar Systems (3)

Prerequisite: Engineering 556.

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.

658. (264.) Digital Processing of Signals (3)

Prerequisite: 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.

660. (260.) Modern Communication Theory I (3)

Prerequisite: 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.

661. (261.) Modern Communication Theory II (3)

Prerequisite: Electrical Engineering 660.

Estimation of signal parameters in noise. Estimation of spectral densities and correlation functions. Intersymbol interference. Adaptive and feedback systems.

670. (270.) Microprogramming (3)

Prerequisite: Engineering 573.

Fundamentals of microprogramming and read only storage technology as related to the design of digital computers.

671. (271.) Computer Input/Output Devices and Systems (3)

Prerequisite: Engineering 573.

Control programs, interrupt procedures, I/O programming techniques, interfaces, channels, magnetic recording techniques, I/O devices.

672. (272.) Minicomputer Design and Applications (3)

Prerequisite: Engineering 573.

Current minicomputer architectures. CPU-oriented and universal bus-oriented machines.

676. (276.) Fault Tolerant Computing (3)

Prerequisite: Engineering 370.

Triple modular redundancy, standby sparing, quaded logic, parity and residue checking of computer systems and subsystems. Diagnostic programming and fault testing fundamentals.

677. (277.) Topics in Logic Design (3) II

Prerequisite: Engineering 571.

Review of current technical periodic literature in logic design and digital systems. Stress on specialized synthesis techniques and recent theoretical developments.

678. (278.) Electronic Digital Systems (3)

Prerequisite: 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.

796. (296.) Advanced Topics in Electrical Engineering (2 or 3)

Advanced study in the field of electrical engineering, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

797. (297.) Research (1-3) Cr/NC

Prerequisite: Consent of graduate adviser.

Research in engineering. Maximum credit six units applicable on a master's degree.

Engineering Mechanics

GRADUATE COURSES

600. (200.) Seminar (1-3)

Prerequisite: Consent of the graduate adviser and instructor.

Intensive study of topics in nonlinear vibrations, random vibrations, continuum mechanics, anisotropic elasticity, energy methods, plasticity, and other areas of engineering mechanics.

601. (201.) Advanced Dynamics (3)

Prerequisites: Engineering 250, and 301 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. (221.) Theory of Elasticity (3)

Prerequisites: Engineering 306 and credit or concurrent registration in Engineering 501 or Mathematics 340B.

Analysis of stress and strain: stress-strain relations; the equations of elasticity; uniqueness theorem; compatibility conditions; flexure and torsion. Vector and tensor notation will be used.

643. (243.) Advanced Fluid Mechanics I (3)

Prerequisites: Engineering 302 and credit or concurrent registration in Engineering 501 or Mathematics 340B.

Fluid kinematics and kinetics. Conservation of mass, energy, and momentum, applied to Newtonian fluids. Navier-Stokes equations. Couette and Poiseuille flow. Potential flow. Introduction to turbulence and boundary layer theory. Vector and tensor notation will be used.

703. (203.) Theory of Vibrations (3)

Prerequisites: Engineering Mechanics 601 and credit or concurrent registration in Engineering 501 or Mathematics 340B.

Linear and nonlinear periodic phenomena as applied to discrete systems and continuous media with application to physical problems.

- 725. (225.) 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. (226.) 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. (227.) 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.
- 744. (244.) Advanced Fluid Mechanics II (3)**
Prerequisite: Engineering Mechanics 643.
A continuation of Engineering Mechanics 643. Further work in laminar and turbulent flow, and boundary layer theory. Diffusion. Applications to engineering problems.
- 796. (296.) Advanced Topics in Engineering Mechanics (2 or 3)**
Advanced study in the field of engineering mechanics, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 797. (297.) Research (1-3) Cr/NC**
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable on a master's degree.

Mechanical Engineering

GRADUATE COURSES

- 600. (200.) Seminar (2 or 3)**
Prerequisite: Consent of the graduate adviser and instructor.
An intensive study in advanced mechanical engineering, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 611. (221.) Stress Analysis (3)**
Prerequisites: Engineering 501 and 532.
Topics in applied elasticity, advanced study of the resistance of materials and experimental stress analysis. Failure theories, energy methods, limit design, theory of plates and shells. Photoelasticity, brittle lacquers, strain gages, and analogs in determining static, dynamic and residual stress distributions.
- 613. Engineering Design: Advanced Mechanisms (3)**
Prerequisites: Engineering 331, 501 and 541.
A continuation of Engineering 331. Problems from recent publications.
- 616. (276.) Bearing Design and Lubrication (3)**
Prerequisite: Engineering 501.
Friction and wear of materials. Boundary and thick film lubrication. Design of incompressible and compressible fluid bearings; rolling-element bearings.
- 621A-621B. (220A-220B.) Mechanical Vibrations (3-3)**
Prerequisites: Engineering 501, 534 and 541.
Topics in vibration relating to mechanical design such as nonlinear vibrations, distributed mass systems, random vibrations, mobility analysis, isolator design.
- 631. (224.) Fluid Power and Control Systems (3)**
Prerequisite: Engineering 535.
Analysis of dynamic performance of physical systems such as pneumatic, hydraulic and hot-gas. Transient forces and valve instability. Servo characteristics.
- 632. (246.) Advanced Topics in Automatic Controls (3)**
Prerequisite: Engineering 535.
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.
- 641. (231.) Advanced Science of Materials (3)**
Prerequisite: Engineering 330.
Structure and physical properties of solids. Imperfections in materials and their effect on various properties. Elasticity, plasticity, and fracture of metals related to atomic and crystal structure.
- 643. (232.) Physical Metallurgy for Engineers (3)**
Prerequisites: Engineering 304 and 330.
Fundamentals of crystallography, imperfections, alloying and deformation. Composition, temperature, prior thermal and mechanical treatment on structure of metal; relationship of structure to mechanical properties.
- 645. (233.) Mechanical Metallurgy for Engineers (3)**
Prerequisites: Engineering 304 and 330.
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.
- 647. (234.) High Temperature Materials (3)**
Prerequisite: Engineering 330.
Behavior of metals, cermets, and nonmetallic materials at high temperatures. Effect of environment and service conditions on composition, structure, and physical properties.
- 651. (250.) Analytical Thermodynamics (3)**
Prerequisite: Engineering 301.
Advanced concepts of macroscopic thermodynamics. Application of thermodynamics to special systems.
- 661. (270.) Gas Dynamics (3)**
Prerequisites: Engineering 501 and 538.
Further consideration of the flow of compressible fluids in conduits. Shock fronts, unsteady flow and real gases.
- 663. (274.) Boundary Layers in Internal Flows (3)**
Prerequisites: Engineering 437 and 501.
Conservation laws applied to boundary layers in viscous, heat conducting fluids; analysis of the boundary layer equations; applications to internal flows.
- 671. (260.) Conduction Heat Transfer (3)**
Prerequisites: Engineering 437 and 501.
Conduction heat transfer, multidimensional conduction processes, transient analysis.
- 673. (262.) Convection Heat Transfer (3)**
Prerequisite: Mechanical Engineering 663.
Convection heat transfer. Advanced theories of forced and free convection.
- 675. (264.) Radiation Heat Transfer (3)**
Prerequisites: Engineering 437 and 501.
Radiation heat transfer. Solid body and gaseous radiation.
- 681. (267.) Cryogenic Engineering (3)**
Prerequisite: Engineering 436.
Analysis of low-temperature processes and equipment. Physical properties of structural and other materials used in producing, maintaining, and using low temperatures.
- 682. (280.) Aircraft and Missile Propulsion (3)**
Prerequisites: Engineering 501, 537 and 538.
Analysis of ideal gas turbine cycles. Principles of regeneration, reheat and intercooling. Thermodynamic analysis and performance of turbojet engines, ramjet engines and rocket motors. Rocket jet propellant systems. Dynamics of rocket propulsion free of gravity and air resistance.

683. (281.) Propulsion Systems for Spacecraft (3)

Prerequisites: Engineering 436 and 501.

The physical and chemical laws that govern the performance, selection and design of nonair-breathing propulsion systems for space applications.

684. (284.) Theory of Turbomachines (3)

Prerequisite: Engineering 380 or 538.

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.

685. (285.) Direct Energy Conversion (3)

Prerequisites: Engineering 536 or Mechanical Engineering 651, and Engineering 301.

Application of physical and chemical laws to the analysis, design, and evaluation of various direct energy conversion systems.

696. (296.) Advanced Topics in Mechanical Engineering (2 or 3)

Advanced study in the field of mechanical engineering, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

697. (297.) Research (1-3) Cr/NC

Prerequisite: Consent of graduate adviser.

Research in engineering. Maximum credit six units applicable on a master's degree.

Engineering

GRADUATE COURSES

790. (290.) Problem Analysis (3)

Prerequisite: Consent of graduate adviser.

Review of methods for investigation and reporting of data. Consideration of problems in preparation of project or thesis.

795. (295.) Seminar in Environmental Engineering (3)

Prerequisite: Engineering 402, 403, or 404.

Environmental problems including an intensive investigation of selected topics.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Three units maximum credit.

799A. (299.) Thesis or Project (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 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.

FAMILY STUDIES AND CONSUMER SCIENCES

GENERAL INFORMATION

Family Studies and Consumer Sciences, in the College of Professional Studies, 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 meet 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.

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 which includes at least 24 units from courses listed below as acceptable on master's degree programs in home economics, of which at least 15 units must be in 600- and 700-numbered courses in home economics, including Family Studies and Consumer Sciences 790, Bibliography and Methods of Research, and Family Studies and Consumer Sciences 799A, Thesis.

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.

FACULTY

Director, Family Studies and Consumer Sciences: D. M. Fulcomer

Graduate Adviser: D. M. Fulcomer

Credential Adviser: K. J. Martin

Professors: Cannon, Fulcomer, Somerville, Warner

Associate Professors: Anderson, Gunning, Milne, Price

Assistant Professors: Dickerson, Hambleton, Hewes, Kwallek, Martin, K. J., Martin, M., Ross, Schupp

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS
IN HOME ECONOMICS

UPPER DIVISION COURSES

- 507. Processing Food and Nutrition Data (3)
- 508. (108.) Advanced Food Systems Management (3)
- 510. Nutrition and Community Health (3)
- 518. (118.) Clothing Design: Flat Pattern (3)
- 519. (119.) Textile Analysis and Testing (3)
- 520. (120.) Clothing and Human Behavior (3)
- 521. (121.) Clothing Design: Draping (3)
- 522. (122.) Clothing Design: Historical Influences (3)
- 536. (136.) Family Study (3)
- 539. Family Relationships in Literature (3)
- 545. (145.) Family Housing (3)

546. Environmental Factors of Housing (3)
 553. (153.) Supervised Field Work in Home Management (3)
 570. (170.) Human Development: Infancy (3)
 575. (175.) The Nursery School Program (3)
 575L. (175L.) Laboratory Experiences in Nursery School (1-4)
 577. (177.) Administration and Supervision in Nursery Schools (3)
 579. (179.) Advanced Child Study (3)
 584. Occupational Home Economics Programs (3)
 590. (190.) Advanced Studies in Family Studies and Consumer Sciences (2-6)

GRADUATE COURSES

Foods and Nutrition

- 600. (200.) Seminar: Foods and Nutrition (3)**
 Prerequisites: Family Studies and Consumer Sciences 401 and 402.
 An intensive study of research in technological advances in the fields of foods and nutrition, with emphasis on professional organizations and ethical procedures.
- 603. (203.) Advanced Readings in Food Technology (3)**
 Prerequisite: Family Studies and Consumer Sciences 401.
 Reading and analysis of selected research in food technology.
- 605. (205.) Assay for Nutrients in Foodstuffs and Tissues (3)**
 Two lectures and three hours of laboratory.
 Prerequisites: Family Studies and Consumer Sciences 401 and 402.
 Determination of energy values, organic nutrients, and minerals in foodstuffs and tissues by chemical, biological, and microbiological methods.
- 606. (206.) 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. (207.) Child Nutrition (3)**
 Two lectures and three hours of laboratory.
 Prerequisite: Family Studies and Consumer Sciences 402.
 Nutrition, health, and biochemical growth in children. Conditions leading to malnutrition, the prevention and correction of same.
- 700. (204.) Advanced Readings in Nutrition (3)**
 Prerequisite: Family Studies and Consumer Sciences 402.
 Reading and analysis of selected research in nutrition.

General Home Economics

- 615. (215.) Seminar: Clothing (3)**
 Prerequisite: Nine units in the area of clothing.
 Selected problems in the field of clothing.
- 681. (281.) 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. (282.) 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 and post-high school programs.

Family Studies and Child Development

- 631. (231.) Family Life and Sex Education (3)**
 Prerequisite: Six 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. (234.) 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. (270.) Seminar: Child Development and Guidance (3)**
 Prerequisite: Family Studies and Consumer Sciences 270 and 579.
 Emphasis on personality theories and on research and clinical findings relevant to a systematic study of human development and the guidance of children.
- 671. (271.) Advanced Readings in Human Development (3)**
 Prerequisites: Family Studies and Consumer Sciences 270 and 579.
 Analysis of selected research in human development.
- 790. (290.) Research Methods (3)**
 Prerequisite: Twelve upper division or graduate units in Family Studies and Consumer Sciences.
 Analysis of research in the area of Family Studies and Consumer Sciences; criteria and procedures for conducting research.
- 798. (298.) Special Study (1-3) Cr/NC**
 Prerequisite: Consent of staff; to be arranged with the director and instructor.
 Individual study. Maximum credit six units.
- 799A. (299.) 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.

FRENCH

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 graduate 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; and (4) a short entrance examination, administered early in the semester by the graduate committee, to test a candidate's basic written and oral command of the language.

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 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.

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 chairman of the department.

FACULTY

Chairperson, Department of French and Italian Languages and Literatures: E. R. Jackson
 Credential Adviser: H. Nelson
 Graduate Adviser: H. Nelson
 Professors: Max, Messier, Nelson, Piffard
 Associate Professors: Branan, Glasgow, Jackson
 Assistant Professor: Woodle

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN FRENCH

UPPER DIVISION COURSES

- 501A-501B. (112A-112B.) French Poetry (3-3)
 511. (117.) Renaissance and Baroque Literature (3)
 521A-521B. (111A-111B.) Seventeenth Century French Literature (3-3)
 531A-531B. (107A-107B.) Eighteenth Century French Literature (3-3)
 541A-541B. (110A-110B.) Nineteenth Century French Novel (3-3)
 543. (105.) Nineteenth Century French Theatre (3)
 551. (114.) Twentieth Century French Novel (3)
 552. (115.) Twentieth Century French Theatre (3)

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

- 601. (290.) Introduction to Graduate Study (3)**
 Prerequisite: Eighteen upper division units in French.
 Purposes and methods of research in the fields of the language and literature, the collection and collation of bibliographic material, and the proper presentation of the results of such investigation.
- 611. (201.) History of the French Language (3)**
 Prerequisite: Eighteen upper division units in French.
 The history of the French language from the beginnings through the sixteenth century.
- 621. (230.) 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. (202.) Medieval French Literature (3)**
 Prerequisites: Eighteen upper division units in French and French 611.
 Readings in the principal movements, trends and genres of medieval French literature from the beginnings through Francois Villon.
- 711. (203.) Literature of the French Renaissance (3)**
 Prerequisites: Eighteen upper division units in French and French 611.
 Literature and thought of the 16th century as represented in the works of Rabelais, Montaigne, Ronsard, DuBellay, etc.
- 721. (250.) 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. Maximum credit six units applicable on a master's degree.
- 731. (260.) 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. Maximum credit six units applicable on a master's degree.
- 741. (270.) 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. Maximum credit six units applicable on a master's degree.
- 751. (280.) 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. Maximum credit six units applicable on a master's degree.
- 796. (284.) 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. Maximum credit six units applicable on a master's degree.

798. (298.) Special Study (1-3) Cr/NC

Prerequisites: Eighteen upper division units in French and consent of staff; to be arranged with department chairman and instructor.
Individual study. Maximum credit three units applicable on a master's degree.

799A. (299.) 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.

GEOGRAPHY**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. An emphasis in conservation of environmental quality within the geography degree program is also available. 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 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, and meteorology, and equipment for remote sensing studies, aerial photograph interpretation, and 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 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 Geography Graduate Committee.

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 21 units in 600- and 700-numbered 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 24 units of 600- and 700-numbered courses.
2. Geography 600 (205), Geographic Research and Techniques of Presentation (3).
3. At least 12 units to be taken from the courses listed below:
 - Geography 608 (200A), Seminar in Advanced Physical Climatology (3)
 - Geography 650 (250), Seminar in Systematic Geography (3)
 - (May be taken only if topical offering is approved by the student's adviser.)
 - Geography 654 (255), Seminar in Urban and Settlement Geography (3)
 - Geography 671 (270), Seminar in Theory of Resource Use (3)
 - Geography 670 (272), Seminar in Environmental Quality (3)
 - Geography 675 (275), Seminar in Recreational Geography (3)
 - Geography 687 (288), Seminar in Remote Sensing of the Environment (3)

4. At least nine units to be taken from one of the following sequences:
- (a) Biology 615 (250), Biogeography (3)
 - Biology 620 (242), Population and Community Ecology (3)
 - Biology 621 (243), Physiological Ecology (3)
 - Biology 622 (246), Behavioral Ecology (3)
 - Biology 625 (244), Physical Aspects of Ecology (3)
 - Biology 626 (245), Aquatic Ecology (3)
 - Biology 630 (240), Seminar in Terrestrial Ecology (2)
 - Biology 631 (241), Seminar in Aquatic Ecology (2)
 - Biology 663 (261), Seminar in Environmental Radiation (2)
 - (b) Economics 505 (105), Welfare Economics (3)
 - Economics 701 (231), Seminar in Public Finance (3)
 - Economics 728 (208), Development Planning (3)
 - Economics 758 (238), Seminar in Urban and Regional Economics (3)
 - Economics 777 (272), Seminar in Utilities and Water Resources (3)
 - (c) Public Administration 600 (201), Scope and Method of Public Administration (3)
 - Public Administration 620 (250), Management of Urban Governments (3)
 - Public Administration 621 (255), The Metropolitan Area (3)
 - Public Administration 660 (260), Administration and Public Policy Development (3)
 - Public Administration 662 (243), Science Technology and Public Policy (3)
 - (d) Sociology 557 (157), Urban Sociology (3)
 - Sociology 750 (250), Seminar in the Community (3)
 - Sociology 770 (270), Seminar in Population and Demography (3)
 - Sociology 775 (275), Directed Readings in Population and Demography (3)
5. Three units to be selected from:
- Geography 495 (296), Geographic Internship (3)
 - Geography 798 (298), Special Study (3)
 - Biology 798 (298), Special Study (3)
 - Economics 798 (298), Special Study (3)
 - Public Administration 798 (298), Special Study (3)
 - Sociology 798 (298), Special Study (3)
6. Three units in Geography 799A, Thesis (Plan A), or Geography 797, Research (Plan B)

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 Chairman of the Department.

FACULTY

Chairman, Department of Geography: E. A. Keen

Graduate Adviser: N. H. Greenwood

Professors: Eidemiller, Finch, Greenwood, Keen, Kiewiet de Jonge, O'Brien, Taylor, Wright, Yahr

Associate Professors: Blick, Ford, Heiges, Johnson, Pryde, Quastler, Stutz

Assistant Professors: Colombo, Fredrich, Griffin, McArthur

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN GEOGRAPHY

UPPER DIVISION COURSES

- 501. (101.) Climatic Physiography (3)
- 502. (102.) Structural Physiography (3)
- 503. (103.) Fluvial and Eolian Physiography (3)
- 504. (104.) Coastal and Submarine Physiography (3)
- 505. (105.) Geography of Soils (3) II
- 506. (106.) Geography of Soils Laboratory (1)
- 507. (107.) Geography of Natural Vegetation (3) I, II
- 508. (100A.) Physical Climatology (3) I
- 509. (100B.) Regional Climatology (3) II
- 551. (153.) Location Analysis and Geographic Theory (3)
- 554. (157.) Quantitative Methods of Urban Analysis (3)
- 555. (155.) Urban Location and Settlement Geography (3)
- 556. (156.) Internal Spatial Structure of Cities (3)
- 558. (160.) Advanced Transportation Geography (3)
- 559. (159.) Urban Transportation Geography (3)
- 566. Environmental Perception and Spatial Behavior (3)
- 570. Urbanization and Quality of the Physical Environment (3)
- 573. (173.) Geography as Human Ecology (3)
- 574. (174.) Water Resources (3) II
- 575. (175.) Geography of Recreational Land Use (3)
- 576. (176.) Geography of Marine Resources (3)
- 581. (181B.) Advanced Cartography (3)
- 582. (181C.) Automated Cartography (3)
- 585. (185.) Quantitative Methods in Geographic Research (3) I, II
- 587. (187.) Remote Sensing of the Environment (3)
- 588. (188.) Advanced Remote Sensing of the Environment (3)
- 589. (180.) Field Geography (3)

GRADUATE COURSES

- 600. (205.) 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.
- 601. (251.) Seminar in Physiography (3)**
Prerequisites: One course in physiography and consent of instructor.
Directed study and research on selected topics in physiography.
- 608. (200A.) Seminar in Advanced Physical Climatology (3)**
Prerequisites: Geography 508 and approval of departmental graduate advisory committee.
Characteristics of climatic elements for a selected area of climatic type, and a statistical analysis of the elements studied. Maximum credit six units applicable on a master's degree.
- 609. (200B.) Seminar in Advanced Regional Climatology (3)**
Prerequisites: Geography 509 and approval of departmental graduate advisory committee.
Selected regions. An interpretation of regional variations of world climatic patterns. Maximum credit six units applicable on a master's degree.
- 610. (210.) History of Geography (3)**
Prerequisite: Approval of graduate adviser.
The evolution of concepts concerning the nature, scope, and methodology of geography.
- 620. (220.) 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. Maximum credit six units applicable on a master's degree.

650. (250.) 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. Maximum credit six units applicable on a master's degree.

654. (255.) Seminar in Urban and Settlement Geography (3)

Prerequisites: Geography 555 or 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.

655. (256.) 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.

658. (258.) Seminar in Geography of Transportation (3)

Prerequisite: Geography 358.

Directed study and research on selected topics in transportation geography.

659. (259.) 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.

660. (260.) Seminar in Spatial Structure of Transport Systems (3)

Prerequisites: Geography 358 and approval of departmental graduate advisory committee.

Transportation systems and networks, optimum route patterns, and commodity flows.

670. (272.) Seminar in Environmental Quality (3)

Prerequisites: Geography 170 and three upper division units in geography, or 370, and approval of departmental graduate advisory committee.

Geographic factors affecting environmental quality, such as congestion, crowding, and pollution.

671. (270.) Seminar in Theory of Resource Use (3)

Prerequisites: Geography 170 and three upper division units in geography, or 370, or 371, and approval of departmental graduate advisory committee.

Selected theories in resource use. Emphasis on conflicts between resource systems and conservation philosophy.

675. (275.) 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.

680. (281.) 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. Maximum credit six units applicable on a master's degree.

687. (288.) 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. (280.) 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.

795. (296.) 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. (297.) Research (1-3) Cr/NC

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

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

GEOLOGY

GENERAL INFORMATION

The Department of Geological Sciences, in the College of Sciences, offers graduate study leading to the Master of Science degree in Geology. The curriculum provides a wide variety of advance training enabling the graduate to qualify for employment in most branches of earth science.

The present geology facilities were completed in 1960 and consist of 18,000 square feet of space equipped for classroom and laboratory instruction at both graduate and undergraduate levels and for graduate research within the basic specialties of geology, geochemistry, and geophysics. 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 classified graduate standing as described in Part Three of this bulletin. In addition, the student must have an over-all grade point average of at least 2.75 in the last 60 units of his undergraduate work and must have a preparation in geology, mathematics, chemistry, and physics at least equivalent to the minimum required for the bachelor's degree in geology at San Diego State University.

ADVANCEMENT TO CANDIDACY

In addition to meeting the requirements for advancement to candidacy as described in Part Three of this bulletin, students must pass the Graduate Record Examination in Geology (Advanced Test) and have completed in undergraduate or graduate work at least one course in each of the following: field geology, paleontology, stratigraphy, structural geology, petrography, and either geochemistry or geophysics.

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. Students will normally be assigned to Plan A with the thesis, but in exceptional circumstances, Plan B with the comprehensive examination may be substituted with approval of the department. The student's graduate program must include 24 units of 600- and 700-numbered courses in geology to include 797 (3 units), and 799A, Thesis, and six units of upper division or graduate electives approved by his departmental adviser or, if Plan B is elected, 18 units of 600- and 700-numbered courses and 12 units of upper division or graduate electives. Geology 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.

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 chairman of the department.

FACULTY

Chairman, Department of Geological Sciences: G. L. Peterson

Graduate Adviser: A. D. Ptacek

Professors: Berry, Gastil, Krummenacher, McEuen, Peterson, Roberts, Thomas, Threet

Associate Professors: Abbott, Frederiksen, Kern, Ptacek

Assistant Professors: Bertine, Dorman, Ganus, Walawender

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN GEOLOGICAL SCIENCES

- 502. (102.) Geology of North America (3)
- 505. (105.) Photogeology (3)
- 506. (106.) Paleontology (4)
- 507. (107.) Stratigraphy (3)
- 508. (108B.) Field Geology (4)
- 510. (110.) Petroleum Geophysics (3)
- 512. (112.) Mining Geophysics (3)
- 516. (116.) Micropaleontology (3)
- 520. (120.) Ore Deposits (3)
- 521. (121.) Petroleum Geology (3)
- 524. (124.) Optical Mineralogy (3)
- 525. (125.) Petrography (4)
- 526. (126.) Sedimentology (3)
- 530. (130.) Geochemistry (3)
- 531. (131.) Advanced Geochemistry (3)
- 540. (140.) Marine Geology (3)
- 550. (150.) Engineering Geology (3)
- 551. (151.) Groundwater Geology (3)
- 560. (160.) X-Ray Diffraction (2)
- 573. (173.) Advanced Palynology (3)

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. (200.) Seminar (1-3)**
Prerequisite: Consent of instructor.
An intensive study in advanced geology, topic to be announced in the class schedule.
Maximum credit six units applicable on a master's degree.
- 608. (208.) Graduate Field Geology (3)**
One lecture and nine Saturday field sessions.
Prerequisite: Geology 508.
Experience in one or more specialized aspects of field mapping.
- 609. (209.) Igneous Petrology (3)**
Two lectures and three hours of laboratory.
Prerequisite: Geology 525.
Investigation of problems in igneous petrology, using petrography, geochemistry, and experimental methods.
- 611. (211.) Metamorphic Petrology (3)**
Two lectures and three hours of laboratory.
Prerequisite: Geology 525.
Investigation of problems in metamorphic petrology using petrography, geochemistry, and experimental methods.
- 612. (212.) Petrology of Carbonates (3)**
Two lectures and three hours of laboratory.
Prerequisites: Geology 524 and 526.
Thin-section and hand-specimen description and classification of carbonate rocks and other chemical sediments. Emphasis on recent depositional processes, diagenesis, and geochemistry.
- 620. (220.) Biostratigraphy (3)**
Two lectures and three hours of laboratory.
Prerequisite: Geology 507.
Development of concepts and practices in stratigraphic and geochronologic synthesis critically reviewed in context of current knowledge of the fossil record.

625. (225.) Paleocology (3)

Two lectures and three hours of laboratory.

Prerequisites: Geology 506 and Biology 520.

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. (229.) Seminar: Advanced Studies in Stratigraphy (3)

Two lectures and three hours of laboratory.

Prerequisite: Geology 507.

Regional stratigraphic patterns in North America and their historical implications.

635. (235.) Petrology of Terrigenous Rocks (3)

Two lectures and three hours of laboratory.

Prerequisites: Geology 524 and 526.

Thin-section and hand-specimen description and classification of sandstones and mud-rocks. Emphasis on mineralogy, modern depositional processes, environmental interpretation, and paleogeographic reconstruction.

640. (240.) Geotectonics (3)

Prerequisite: Geology 305.

A consideration of topics on continental genesis and evolution, orogeny, plate tectonics theory, and a survey of classic geologic provinces.

645. (245.) Advanced Structural Geology (3)

Prerequisite: Geology 305.

Topics in advanced structural geology in the light of petrographic, geophysical, and experimental data, combined with classic field observations.

650. (250.) Seminar: Physical Properties of Earth Materials (3)

Prerequisite: Geology 510 or 512.

Theoretical principles and instrumental techniques used to remotely determine the physical properties of earth materials.

660. (260.) Isotope Geology (3)

Two lectures and three hours of laboratory.

A survey of isotopic and geochronologic topics with individual projects in isotopic analysis.

680. (280.) Sedimentary Geochemistry (3)

Two lectures and three hours of laboratory.

Prerequisite: Geology 530.

Problems in low temperature geochemistry, including clay mineralogy and diagenesis.

685. (285.) Genesis of Ore Deposits (3)

Two lectures and three hours of laboratory.

Prerequisites: Geology 520, 525; and Geology 530 or four units of physical chemistry.

Application of mineralogy, petrography, and chemistry to an understanding of the origin of ore deposits.

797. (297.) Research (1-3) Cr/NC

Prerequisite: Consent of the department.

Supervised research in an area of geology. Maximum credit six units applicable on a master's degree.

799A. (299.) Thesis (3) Cr/NC

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**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.

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, at least six units of which must have been in a survey course in German 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 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 a major consisting of at least 24 units in German of which at least 15 units must be in 600- and 700-numbered courses including German 600, 601, and 799A, and six units selected from German 610, 650, 655, 665, 670, 675, and 680. If Plan B is followed, the student must pass a comprehensive examination in lieu of German 799A.

ASSISTANTSHIPS

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

FACULTY

Chairman, Department of Germanic and Slavic Languages and Literatures: L. A. Kozlik

Graduate Adviser: C. M. Cross

Credential Adviser: H. W. Paulin

Professors: Boney, Kozlik, Lawson, Paulin, Schaber, Tanaka, Westervelt, Wolf, Wulbern

Associate Professor: Dunkle

Assistant Professor: Cross

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN GERMAN**UPPER DIVISION COURSES**

505. (148.) Applied German Linguistics (3)

510. (150.) German Phonetics (3)

515. Germanic Linguistics (3)

540. (107.) German Literature from its Beginning to the Reformation (3)

545A-545B. (103A-103B.) German Literature of the Eighteenth Century (3-3)

549. (115.) Goethe's *Faust* (3)

555A-555B. (105A-105B.) German Literature of the Nineteenth Century (3-3)

561A-561B. (110A-110B.) Contemporary German Literature (3-3)

563. (111.) Contemporary German Drama (3)

GRADUATE COURSES

- 600. (290.) 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. (201.) 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.
- 610. (202.) Middle High German (3)**
Prerequisite: Twelve upper division units in German or six upper division units in linguistics.
The grammatical structure of Middle High German; reading and analysis of selected literary works.
- 620. Gothic (3)**
Prerequisites: German 515 or 601 or three graduate units in linguistics or six upper division units in linguistics.
Phonology, grammar and reading of Gothic texts; the relationship of Gothic to Indo-European and to other Germanic languages.
- 650. (207.) Renaissance and Baroque Literature (3)**
Prerequisite: Twelve upper division units in German.
German literature of the sixteenth and seventeenth centuries.
- 655. (208.) Goethe (3)**
Prerequisite: Twelve upper division units in German.
Goethe's lyric, epic, and dramatic poetry excluding *Faust*.
- 665. (206.) The German Drama of the Nineteenth Century (3)**
Prerequisite: Twelve upper division units in German.
Representative works of German dramatic literature from Kleist to Hauptmann.
- 670. (205.) German Lyric Poetry from Hoelderlin to Rilke (3)**
Prerequisite: Twelve upper division units in German.
The major German lyric poets from the beginnings of Romanticism to Rilke.
- 675. (203.) The German Novelle (3)**
Prerequisite: Twelve upper division units in German.
The development of the Novelle as a literary form from Goethe to the present.
- 680. (204.) The German Novel in the Twentieth Century (3)**
Prerequisite: Twelve upper division units in German.
Selected German novels of the twentieth century.
- 700. (265.) Seminar in Germanic Linguistics (3)**
Prerequisite: Eighteen upper division or graduate units in German.
Directed research in a specialized area of Germanic linguistics or philology. Maximum credit six units applicable on a master's degree.
- 710. (251.) Seminar in Eighteenth Century Literature (3)**
Prerequisite: Eighteen upper division units in German.
Directed research in the works of an important author or in a problem, type, or movement of German literature of the eighteenth century. Maximum credit six units applicable on a master's degree.
- 720. (255.) Seminar in Nineteenth Century Literature (3)**
Prerequisite: Eighteen upper division units in German.
Directed research in the works of an important author or in a problem, type, or movement of German literature of the nineteenth century. Maximum credit six units applicable on a master's degree.
- 730. (260.) Seminar in Twentieth Century Literature (3)**
Prerequisite: Eighteen upper division units in German.
Directed research in the works of an important author or in a problem, type, or movement of German literature of the twentieth century. Maximum credit six units applicable on a master's degree.

- 797. (297.) Research (3) Cr/NC**
Prerequisite: Advancement to candidacy.
Individual research in a specialized subject in German literature or linguistics.
- 798. (298.) Special Study (1-3) Cr/NC**
Individual study. Maximum credit six units.
Prerequisites: Eighteen upper division units in German and consent of staff; to be arranged with department chairman and instructor.
- 799A. (299.) 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.

HEALTH SCIENCE AND SAFETY

GENERAL INFORMATION

The Department of Health Science and Safety, in the College of Professional Studies, offers graduate study leading to the Master of Arts degree in Health Science.

Close liaison among the departments concerned and with community agencies provides opportunities for realistic field experiences.

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 which are described in Part Three of this bulletin.

SPECIFIC REQUIREMENTS FOR THE MASTER OF ARTS DEGREE IN HEALTH SCIENCE

In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the Master of Arts degree as described in Part Three of this bulletin. The minimum 30-unit program consists of at least 24 units in health science and safety selected from those courses listed as applicable on master's degree programs, 21 units of which must be in 600- and 700-numbered courses. Students electing Plan A must include Health Science and Safety 791, 792, and 799A. Those electing Plan B must include Health Science and Safety 791, 792, and 797. Students electing Plan B will be required to pass a final comprehensive examination in lieu of the thesis. This examination may be repeated only once.

ASSISTANTSHIPS

Graduate teaching assistantships and graduate nonteaching assistantships in health science and safety are available to a limited number of qualified students. Application blanks and additional information may be secured from the chairman of the department.

FACULTY

Chairman, Department of Health Science and Safety: W. C. Burgess

Credential Adviser: L. P. Kessler

Graduate Adviser: A. C. McTaggart

Professors: Burgess, Grawunder, Harper, McTaggart

Associate Professors: Barnes, Bender, Boskin, Fellers, Kessler, Noto, Sorochan

Assistant Professor: Beasley

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN HEALTH SCIENCE

UPPER DIVISION COURSES

- 510. (154.) Workshop in Health Science and Safety (1-3)
- 520. (153.) Administration of the School Health Program (3)
- 545. (145.) Safety Education and Accident Prevention (3)
- 560. (160.) Introduction to Public Health (3)
- 561. (176.) Health and Medical Care (3)
- 562. (169.) World Health (3)
- 573. (175.) Health in Later Maturity (3)
- 574. (172.) Habit-Forming Substances (3)
- 575. (155.) Sex Education (3)
- 597. (197.) Supervised Field Experience (1-3)

GRADUATE COURSES

600. (200.) Seminar (3)

Prerequisite: Fifteen units in Health Science and Safety.

An intensive study of advanced problems in health education. Maximum credit six units applicable on a master's degree.

601. (201.) Interdisciplinary Factors in Health Education (3)

Prerequisite: Fifteen units in Health Science and Safety.

Synthesis of basic scientific and cultural principles which contribute to an understanding of human well-being and how it is deliberately influenced.

620. (252.) Health Science Curriculum Development (3)

Prerequisite: Health Science and Safety 320 or 321.

Structuring educational experiences in the health sciences; developing curriculum materials, performance standards and ways of incorporating health education in open learning environments.

640. (240.) Administration of Traffic Safety (3)

Prerequisites: Health Science and Safety 347 and 545.

Research and trends in traffic safety with emphasis on the problems of administration.

645. (245.) School Safety Programs and Procedures (3)

Prerequisite: Health Science and Safety 545.

Advanced consideration of school safety programs including legal bases and requirements, personnel responsibilities, liability, instruction, maintenance, and school transportation.

660. (204.) Program Planning and Evaluation in Community Health Education (3)

Prerequisite: Health Science and Safety 560.

Program planning and evaluation theories, systems and techniques in community health education.

671. (270.) Problems in Disease Control (3)

Prerequisite: Health Science and Safety 470.

New concepts in the community management of disease. Individual investigation and discussion.

672. (271.) Drug Abuse Education (3)

Prerequisite: Health Science and Safety 574.

Drug abuse education in the school and community.

791. (291.) Health Science and Safety Research (3)

Prerequisites: Health Science and Safety 490 and advancement to candidacy.

Methods and techniques of research appropriate to health science, the process by which potential problems in health science are analyzed, and the standards for the writing of research papers and theses.

792. (292.) Analysis of Professional Literature (3)

Prerequisite: Health Science and Safety 490.

Investigation and study of literature in the fields which have an important bearing on health science and safety programs in the school and community.

793. (203.) Evaluation Instruments (3)

Prerequisite: Health Science and Safety 490.

Construction, selection and analysis of evaluation instruments in health science and safety.

797. (297.) Research (3) Cr/NC

Prerequisites: Health Science and Safety 791, 792, and advancement to candidacy.

Supervised research in an area of health science and safety. Limited to students following Plan B for the Master of Arts degree in Health Science.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department special study adviser and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

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.

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 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, 660, or 680; three units selected from History 615, 625, 635, 645, 655, 665, or 690; 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.

Three additional units in a research seminar in history may be substituted for History 601 (in either Plan A or Plan B) with the consent of the graduate adviser. 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.

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, 660, or 680; three units selected from History 615, 625, 635, 645, 655, 665, or 690; 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.

Three additional units in a research seminar in history may be substituted for History 601 (in either Plan A or Plan B) with the consent of the graduate adviser. 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.

FACULTY

Chairman, Department of History: D. H. Strong

Graduate Advisers: A. W. Schatz (Coordinator), A. D. Coox, T. M. Davies, Jr., C. D. Hamilton

Credential Adviser: H. C. McDean

Professors: Appleby, J., Berge, Coox, Cox, Detweiler, Hanchett, Merrill, Munter, Norman, Pincetl, Rader, Ridout, Ruetten, Schatz, Smith, R., Starr, Steele, Strong, Sutherland, Weber

Associate Professors: Check, Chu, Cuniff, Davies, DuFault, Dunn, Flemion, J., Hamilton, Hoidal, O'Brien, Smith, C., Stites, Vanderwood, Vartanian

Assistant Professors: Appleby, A., Bartholomew, Filner, Flemion, P., Heyman, McDean, Oades, Phillips

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN HISTORY

UPPER DIVISION COURSES

Field (a). Ancient and Medieval

- 500A-500B. (111A-111B.) Ancient History (3-3)
- 503A-503B. (121A-121B.) Europe in the Middle Ages (3-3)
- 504. (122.) The Holy Roman Empire to the Great Interregnum (3)
- 505. (123.) The Byzantine Empire (3)

Field (b). Modern Europe

- 508. (131.) The Renaissance (3)
- 509A-509B. (132A-132B.) Early Modern Europe (3-3)
- 510A-510B. (133A-133B.) Europe in the 18th Century (3-3)
- 511A-511B. (135A-135B.) Europe in the 19th Century (3-3)
- 512A-512B. (137A-137B.) Europe in the 20th Century (3-3)
- 513A-513B. (141A-141B.) History of Scandinavia (3-3)
- 514A. (142A.) The French Revolution and Napoleonic Era (3)
- 514B. (142B.) Modern France (3)
- 515A-515B. (143A-143B.) The Iberian Peninsula (3-3)
- 516A-516B. (145A-145B.) Central and Eastern Europe (3-3)
- 517A-517B. (146A-146B.) Germany and Central Europe (3-3)
- 518A-518A. (147A-147B.) Russia and the Soviet Union (3-3)
- 519. (149.) Modern Italy (3)
- 520A-520B. (151A-151B.) England (3-3)
- 521A-521B. (152A-152B.) Constitutional History of England (3-3)
- 522A-522B. (153A-153B.) Tudor and Stuart England (3-3)
- 523A-523B. (154A-154B.) Modern Britain (3-3)
- 526A-526B. (136A-136B.) Intellectual History of Modern Europe (3-3)
- 527A-527B. (138A-138B.) Diplomatic History of Modern Europe (3-3)

Field (c). United States

- 531A-531B. (171A-171B.) Rise of the American Nation (3-3)
 532A-532B. (172A-172B.) Development of the Federal Union (3-3)
 533A-533B. (173A-173B.) Jacksonian Democracy, Civil War and Reconstruction (3-3)
 534. (174.) The Rise of Modern America, 1868-1900 (3)
 535A-535B. (175A-175B.) The United States, 1901-1945 (3-3)
 536. (175C.) The United States in the Nuclear Age (3)
 537A-537B. (181A-181B.) The Westward Movement (3-3)
 538A-538B. (182A-182B.) The American Southwest (3-3)
 539A-539B. (183A-183B.) Black American Civilization (3-3)
 540. (185.) Environmental History of the United States (3)
 541A-541B. (189A-189B.) California (3-3)
 544A-544B. (176A-176B.) American Foreign Policy (3-3)
 545A-545B. (177A-177B.) Constitutional History of the United States (3-3)
 546A-546B. (178A-178B.) Development of American Capitalism (3-3)
 547A-547B. (179A-179B.) Intellectual History of the American People (3-3)
 548A-548B. Social History of the United States (3-3)

Field (d). Latin America

- 551A-551B. (161A-161B.) Mexico (3-3)
 552A-552B. (162A-162B.) History of Brazil (3-3)
 553A-553B. (163A-163B.) The Caribbean Area (3-3)
 554. (164.) The West Coast Nations of South America (3)
 557A-557B. (165A-165B.) History of Latin American Popular Culture and Social Thought (3-3)
 558A-558B. (167A-167B.) Diplomatic History of Latin America (3-3)

Field (e). South, Southeast and East Asia

- 561A-561B. (191A-191B.) The Far East (3-3)
 562A-562B. (196A-196B.) India—Hindu, Muslim and Modern (3-3)
 564A-564B. (190A-190B.) Southeast Asia (3-3)
 566. (192.) Chinese Civilization (3) I
 567A-567B. (193.) Modern and Contemporary Chinese History (3-3)
 569. (194.) Japanese Civilization (3)
 570. (195.) Modern Japan (3)
 571A-571B. (197A-197B.) Intellectual History of Modern Asia (3-3)

Field (f). Africa and Middle East

- 573A-573B. (156A-156B.) History of the Near East from the 7th Century to World War I (3-3)
 574. (157.) The Near East in the Twentieth Century, 1914 to Present (3)
 575A-575B. (158A-158B.) Africa (3-3)

Field (g). Topical Subjects

- 581A-581B. (101A-101B.) The Contemporary World in Historical Perspective (3-3)
 582A-582B. (105A-105B.) War and Civilization (3-3)
 583A-583B. (106A-106B.) The Quest for Peace (3-3)
 584A-584B. (107A-107B.) Science and Society (3-3)
 596. Selected Studies in History (3)

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. (201.) Seminar in Historical Method (3)

General historical bibliography. The use of libraries and archives. Methods of critical historical investigation. The interpretations of history.

610. (246.) Directed Reading in Ancient and Medieval History (3)

Prerequisite: Six upper division units in Ancient or Medieval history.
 Selected readings in source materials and historical literature in a designated area of Ancient or Medieval history. Maximum credit six units applicable on a master's degree.

615. (256.) Seminar in Ancient and Medieval History (3)

Prerequisite: Six upper division units in Ancient or Medieval history.
 Directed research on topics selected from a designated area of Ancient or Medieval history. Maximum credit six units applicable on a master's degree.

620. (242.) Directed Reading in 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. Maximum credit six units applicable on a master's degree.

625. (252.) Seminar in European History (3)

Prerequisite: Six upper division units in European history.
 Directed research on topics selected from a designated area of European history. Maximum credit six units applicable on a master's degree.

630. (241.) 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. Maximum credit six units applicable on a master's degree.

635. (251.) Seminar in United States History (3)

Prerequisite: Six upper division units in United States history.
 Directed research on topics selected from a designated area of United States history. Maximum credit six units applicable on a master's degree.

640. (244.) 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. Maximum credit six units applicable on a master's degree.

645. (254.) Seminar in Latin American History (3)

Prerequisite: Six upper division units in Latin American history.
 Directed research on topics selected from a designated area of Latin American history. Maximum credit six units applicable on a master's degree.

650. (243.) 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. Maximum credit six units applicable on a master's degree.

655. (253.) Seminar in Asian History (3)

Prerequisite: Six upper division units in Asian history.
 Directed research on topics selected from a designated area of Asian history. Maximum credit six units applicable on a master's degree.

660. (245.) Directed Reading in African and Middle Eastern History (3)

Prerequisite: Six upper division units in African or Middle Eastern history.
 Selected readings in source materials and historical literature in a designated area of African or Middle Eastern history. Maximum credit six units applicable on a master's degree.

665. (255.) Seminar in African and Middle Eastern History (3)

Prerequisite: Six upper division units in African or Middle Eastern history.
 Directed research on topics selected from a designated area of African or Middle Eastern history. Maximum credit six units applicable on a master's degree.

680. (240.) 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. Maximum credit six units applicable on a master's degree.

690. (250.) Seminar in the Philosophy of History (3)

The major philosophies of history and directed research on topics selected from various philosophers of history such as Bury, Collingwood, Croce, Freud, Hegel, Marx, Pareto, Sorokin, Spengler and Toynbee.

795. (296.) 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. (297.) Research (3) Cr/NC

Prerequisite: Advancement to candidacy and written approval of the History Department graduate coordinator.

Independent research in a specialized subject in history.

798. (298.) Special Study (1-3) Cr/NC

Individual study. Maximum credit six units.

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

799A. (299.) 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.

INDUSTRIAL STUDIES**GENERAL INFORMATION**

The Department of Industrial Studies, in the College of Professional Studies, 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.

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.

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 chairman of the department.

FACULTY

Chairman, Department of Industrial Studies: H. L. Marsters

Graduate Adviser: F. J. Irgang

Credential Adviser: F. J. Irgang

Professors: Anderson, Bailey, Hammer, Irgang, McMullen, Thiel

Associate Professors: Dirksen, Guentzler, Marsters, McEwen

Assistant Professors: Blackmun, Ferree, Lybarger, Rasmussen, Sorenson

**COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS
IN INDUSTRIAL ARTS****UPPER DIVISION COURSES****Industrial Arts**

- 503. (103.) Advanced Industrial Crafts (3)
- 517. (117.) Thermoset Plastics (3)
- 523. (123.) Industrial Arts Drawing (3)
- 533. (133.) Applied Metal Forming Operations (3)
- 540. (140.) Photography for Teachers (3)
- 542. (142.) Advanced Photography (3)
- 553. (153.) Woodworking for Teachers (3)
- 563. (163.) Industrial Electronics (3)
- 573. (173.) Accessory Power Systems (3)
- 583. (183.) Industrial Arts Graphic Arts (3)
- 594. (194.) Recent Trends in Industrial Arts Education (2)
- 596. (190.) Experimental Industrial Arts (1 or 2)

Industrial Technology

591. Industrial Safety (3)
 592. Industrial Materials (3)
 593. Manufacturing Processes (3)
 594. Industrial Proposals and Specifications (3)

GRADUATE COURSES

- 600. (200.) Seminar (3)**
 An intensive study in industrial arts; topic to be announced in the class schedule.
- 601. (201.) Advanced Teaching Problems (3)**
 Prerequisites: Teaching experience in area selected and consent of instructor.
 Materials and advanced techniques of teaching specific activity areas, such as (a) industrial drawing; (b) general metalworking; (c) general woodworking; (d) electricity; (e) transportation; (f) graphic arts; (g) photography; (h) comprehensive industrial arts. Stress on project design and visual materials. Maximum credit six units applicable on a master's degree.
- 610. (210.) Problems in Industrial Crafts (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 503.
 Research in selected areas of industrial crafts with emphasis on instructional materials and techniques. Specifically designed for teachers, recreation workers and therapists.
- 615. (215.) Problems in Plastics (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 517.
 Research with selected plastics processes and materials. Development of projects, aids, resource material, oral and written presentations.
- 620. (202.) Industrial Arts Problems in Graphics and Design (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 523.
 The theories and procedures of industrial drafting, including nomographs, descriptive geometry, and graphic solutions. Emphasis on special applications to industrial arts.
- 630. (203.) Industrial Arts Problems in Metalworking (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 533.
 Problems involved in industrial arts metalworking. Individual research project dealing with instructional materials or processes.
- 640. (204.) Problems in Photography (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 443, 444 or 542.
 Advanced problems in photography in industry and photography in education. Individual research project dealing with instructional materials or industrial processes.
- 650. (205.) Industrial Arts Problems in Woodworking (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 553.
 Intensive study in selected areas of the woodworking industry as it relates to materials, production and construction. Presentation of research findings.
- 660. (206.) Problems in Electronics (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 463.
 Recent developments in the electronics areas. Special research projects and resource materials.
- 670. (207.) Research in Vehicular Power Systems for Industrial Arts (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 573.
 Research in selected areas of the vehicular power systems and effective presentation of findings in oral and written form.

- 680. (208.) Industrial Arts Problems in Graphic Arts (3)**
 One lecture and six hours of laboratory.
 Prerequisite: Industrial Arts 583.
 Selected areas of the graphic arts industry related to materials, production methods, and allied pursuits. Techniques of presentation of findings in effective written and oral form.
- 720. (220.) 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. (221.) 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. (222.) 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. (223.) 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. (224.) 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. (290.) Research Procedures in Industrial Arts (3)**
 Location, selection and analysis of scientific and professional literature, research data and specialized bibliographies.
- 795. (295.) 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. (267.) Field Work in Industrial Arts (3)**
 Prerequisites: Teaching experience in industrial arts and 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. (298.) Special Study (1-3) Cr/NC**
 Prerequisite: Consent of staff; to be arranged with department chairman and instructor.
 Individual study. Maximum credit six units.
- 799A. (299.) Thesis (3) Cr/NC**
 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

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, Economics, Geography, History, Political Science, and Spanish and Portuguese Languages and Literatures. 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, the student must demonstrate an oral and reading proficiency in either Spanish or Portuguese, through either course work or examination as determined by the Department of Spanish and Portuguese Languages and Literatures. He is 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, 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
	<hr/> 12 units	<hr/> 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.

COMMITTEE ON LATIN AMERICAN STUDIES

P. F. Flemion, *Chairman*
E. M. Barrera
J. D. Blick
T. E. Case
C. B. Christensen
N. C. Clement
R. L. Cuniff
T. M. Davies, Jr.
D. M. Dexter

W. A. Finch, Jr.
E. C. Griffin
C. L. Head
A. Jimenez-Vera
W. C. Kennedy
J. B. Kelley
J. D. Kitchen
B. E. Loveman
R. R. Nardelli

L. V. Padgett
W. D. Phillips
G. V. Segade
P. S. Staniford
P. J. Vanderwood
L. C. Watson
R. D. Weeter
D. J. Weber
R. C. Young

FACULTY

Graduate Coordinator: P. F. Flemion

Graduate Advisers:

Anthropology: L. C. Watson
Economics: N. C. Clement
Geography: J. D. Blick

History: R. L. Cuniff
Political Science: L. V. Padgett
Spanish: R. D. Weeter

Faculty members in the departments participating in the degree program are listed in the appropriate sections of this bulletin.

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN LATIN AMERICAN STUDIES

UPPER DIVISION COURSES

Anthropology

- 542. (162.) Cultures of South America (3)
- 543. (163.) Contemporary Latin American Cultures (3)
- 570. (147.) Prehistory of South America (3)
- 575. (180.) Preclassic Cultures of Mesoamerica (3)
- 576. (181.) Classic Pre-Columbian Civilizations of Middle America (3)
- 577. (182.) Post-Conquest Cultures of Middle America (3)

History

- 551A-551B. (161A-161B.) Mexico (3-3)
- 552A-552B. (162A-162B.) History of Brazil (3-3)
- 553A-553B. (163A-163B.) The Caribbean Area (3-3)
- 554. (164.) The West Coast Nations of South America (3)
- 557A-557B. (165A-165B.) History of Latin American
Popular Culture and Social Thought (3-3)
- 558A-558B. (167A-167B.) Diplomatic History of Latin America (3-3)
- 596. Selected Studies in History (3)

Political Science

- 566. (194.) Political Change in Latin America (3)
- 567. (195.) Political Systems of Latin America (3)
- 568. (184.) The Mexican Political System (3)
- 582. (175.) International Relations of the Latin American States (3)

Portuguese

- 535. (135.) Brazilian Literature (3)

Spanish

- 504A-504B. (104A-104B.) Spanish-American Literature (3-3)
- 515A-515B. (106A-106B.) Mexican Literature (3-3)
- 520. (107.) Caribbean Area Countries Literature (3)
- 522. (108.) Andean Countries Literature (3)
- 524. (109.) River Plate Literature (3)
- 570. (170.) Spanish-American Poetry (3)
- 571. (171.) Spanish-American Short Story (3)
- 572. (172.) Spanish-American Theatre (3)

APPLICABLE GRADUATE COURSES

Refer to graduate course descriptions in the sections of this bulletin under the Departments of Anthropology, Economics, Geography, History, Political Science, and Spanish and Portuguese Languages and Literatures.

Anthropology

- 600. (200.) Seminar (3)*
- 632. (235.) Culture and Society in the Nahua Area (3)
- 634. (257.) Classical Nahuatl (3)
- 797. (297.) Research (3)
- 798. (298.) Special Study (1-3)
- 799A. (299.) Thesis (3)

Economics

- 660. (292.) Seminar in International Economics (3)*
- 665. (295.) Seminar in the Economics of Underdeveloped Countries (3)
- 797. (297.) Research (3)
- 798. (298.) Special Study (1-3)
- 799A. (299.) Thesis (3)

Geography

- 620. (220.) Seminar in Regional Geography (3)*
- 797. (297.) Research (1-3)
- 798. (298.) Special Study (1-3)
- 799A. (299.) Thesis (3)

History

- 640. (244.) Directed Reading in Latin American History (3)
- 645. (254.) Seminar in Latin American History (3)
- 799. (297.) Research (3)
- 798. (298.) Special Study (1-3)
- 799A. (299.) Thesis (3)

Political Science

- 655. (280.) Seminar in Comparative Government (3)*
- 661. (282.) Seminar in the Political Systems of the Developing Nations (3)*
- 667. (283.) Seminar in Latin American Political Systems (3)
- 797. (297.) Research in Political Science (3)
- 798. (298.) Special Study (1-3)
- 799A. (299.) Thesis (3)

Spanish

- 640. (204.) The Spanish-American Novel (3)
- 650. (205.) The Gaucho Epic (3)
- 660. (206.) Modernism (3)
- 690. (209.) The Spanish-American Essay (3)
- 695. (210.) Contemporary Spanish-American Prose Fiction (3)
- 750. (250.) Seminar in Spanish-American Literature (3)
- 755. (255.) Seminar in Spanish-American Culture and Thought (3)
- 798. (298.) Special Study (1-3)
- 799A. (299.) Thesis (3)

*Acceptable when of relevant content.

LINGUISTICS**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. 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 and speaking 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, Structure of English.
2. Three units of graduate seminar—Linguistics 795, Seminar in Linguistics.
3. Nine units chosen from Linguistics 500, 510, 520, 523, 524, 550, 551, 552, 610, 611, 612, 640, 641, 790, 798.
4. Nine units chosen from Anthropology 510, 511, 604, 630; French 611; German 505, 510, 601, 610, 700; Philosophy 531, 631; Russian 580, 581, 610, 650A, 650B, 680; Spanish 548, 549, 610, 770.
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.

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 chairman of the department.

FACULTY

Chairman, Department of Linguistics: G. F. Drake

Graduate Adviser: G. F. Drake

Professors: Frey, Tidwell

Associate Professors: Donahue, Drake, Seright

Assistant Professors: Elgin, Underhill

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS
IN LINGUISTICS

UPPER DIVISION COURSES

Linguistics

500. (196.) General Linguistics (3)
 510. (180.) History of English (3)
 520. (181.) Modern English (3)
 523. (184.) Phonemics and Morphemics (3)
 524. (182.) American Dialectology (3)
 550. (185.) Theory and Practice of English as a Second Language (3)
 551. (186.) Sociolinguistics (3)
 552. (187.) Psycholinguistics (3)

Anthropology

510. (122.) Language in Culture (3)
 511. (126.) Field Methods in Linguistics (3)

German

505. (148.) Applied German Linguistics (3)
 510. (150.) German Phonetics (3)

Philosophy

531. (131.) Philosophy of Language (3)

Russian

580. (130.) Russian Syntax and Stylistics (3)
 581. (131.) Russian Phonology and Morphology (3)

Spanish

548. (149.) Spanish Linguistics (3)
 549. (150.) Phonetics and Phonemics (3)

GRADUATE COURSES

Linguistics

610. (220.) **Indo-European** (3)
 Prerequisite: Anthropology 304 or Linguistics 522.
 Phonology, morphology, and syntax of the Indo-European language community, with special attention to "Centum" and "Satem" relationships.
 611. (223.) **Old English** (3)
 Study of Old English phonology, morphology, and syntax.
 612. (224.) **Middle English** (3)
 Modern linguistic analyses of the Middle English language; emphasis on the development of historical English dialects.
 621. **Phonology** (3)
 Prerequisite: Linguistics 500 or 510 or 520.
 Phonetics, phonetic transcription, theories of phonology and phonological description.
 622. **Structure of English** (3)
 Prerequisite: Linguistics 500 or 510 or 520.
 Advanced study of linguistic theory and its application to the analysis of English.
 640. **Field Methods in Linguistics** (3)
 Prerequisite: 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. (221.) **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.

790. (290.) **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. (295.) **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. Maximum credit six units applicable on a master's degree.

798. (298.) **Special Study** (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor. Individual study. Maximum credit six units.

799A. (299.) **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

604. (204.) Seminar in Linguistics (3)
 630. (222.) Historical Linguistics (3)

French

611. (201.) History of the French Language (3)

German

601. (201.) History of the German Language (3)
 610. (202.) Middle High German (3)
 700. (265.) Seminar in Germanic Linguistics (3)

Philosophy

631. (231.) Seminar in Semantics and Logical Theory (3)

Russian

610. (201.) History of the Russian Language (3)
 650A-650B. (202A-202B.) Old Church Slavonic (3-3)
 680. (203.) Seminar in Slavic Linguistics (3)

Spanish

610. (201.) History of the Spanish Language (3)
 770. (270.) Applied Spanish Linguistics for Teachers (3)

LITERATURE

GENERAL INFORMATION

The Literature faculty, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in English.

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 ways.

1. Unconditional Acceptance

For unconditional acceptance to the graduate program in English and literature students must meet the following requirements:

- 24 units of upper division work in English or literature
- 2.75 overall on a 4.0 Grade Point Scale
- 3.0 grade point average in the English or literature major
- 950 on the Graduate Record Examination

2. Conditional Acceptance

Conditional acceptance will be granted to a candidate who is below requirements in one of the three above grade requirements. A student may be granted conditional acceptance if there is a deficiency in two or more of the above qualifications. A student accepted conditionally must achieve an average of 3.25 in nine units of School of Literature courses. These units must be taken within one calendar year. A student conditionally accepted 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.

3. Unit Deficiencies

Students who lack 24 units of credit in upper division courses in English and literature 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 unconditional acceptance if they meet the requirements for unconditional acceptance.

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 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 literature from courses listed below as acceptable on master's degree programs, of which at least 18 units must be in 600- or 700-numbered courses, exclusive of thesis.

In addition to the above requirements, the candidate must enroll in English 799A and write a thesis under departmental supervision, must pass an oral examination on his or her general knowledge of literature, and must demonstrate a reading knowledge of a relevant foreign language. A student may meet the foreign language requirement by passing the Graduate School Foreign Language Test (French, German or Spanish), by passing a local examination (except German) administered by one of the University's foreign language departments, or by achieving a grade of C or better in three units of upper division work in a foreign language literature course taught in the language, accepted as relevant by his or her graduate adviser. The Literature faculty recommends French, German or Latin for students planning to go on to advanced graduate study. Details concerning the oral examination are available from the graduate advisers. The student may take this oral examination at any time after being granted classified graduate standing, but ordinarily will take it before enrollment in English 799A, Thesis. The Literature faculty assumes no responsibility for scheduling oral examinations between the end of Term II of the summer session and the beginning of the fall semester.

American Literature

English 600, Introduction to Graduate Study (American Topics)	3
At least one seminar (American topic)	3
Any two courses in early English language and literature (English 530, 610, Linguistics 570, 611, 612), if not previously taken	6
English 799A, Thesis (American topic)	3
English electives up to 24-unit minimum	9
Other electives (which may be in English) to make up 30-unit master of arts requirement	6
Total	30
Not more than three units from among English 570, 571A-571B, 572, 579, 580, 581, 582, and 640 may count in the above.	

British Literature

English 600, Introduction to Graduate Study (British topics)	3
At least one seminar (British topic)	3
Any two courses in early English language and literature (English 530, 610, Linguistics 510, 611, 612), if not previously taken	6
English 799A, Thesis (British topic)	3
English electives up to 24-unit minimum	9
Other electives (which may be in English) to make up 30-unit master of arts requirement	6
Total	30
Not more than three units from among English 570, 571A-571B, 572, 579, 580, 581, 582, 589, and 640 may count in the above.	

Comparative Literature

English 600, Introduction to Graduate Study (comparative literature topics)	3
One English seminar	3
A minimum of four 600- or 700-numbered English courses	12
One additional 500-, 600- or 700-numbered course in English or comparative literature	3
English 799A, Thesis (comparative literature topic)	3
Electives (which may be in English or comparative literature) to make up 30-unit master of arts requirement	6
Total	30
Not more than three units from among English 570, 571A-571B, 572, 579, 580, 581, 582, and 640 may count in the above.	

To be advanced to candidacy in the comparative literature program, a student must demonstrate proficiency in reading and comprehension of at least one foreign literature in the original by satisfying one of the following:

1. Having on his or her undergraduate or graduate transcript at least six semester units of upper division or graduate courses in a foreign literature in the original, with grades of C or better.
2. Completion of six units of upper division or graduate courses in a foreign literature in the original. These courses may be chosen from a foreign language department or from comparative literature. If comparative literature courses are chosen, the instructor must certify that the works were read in the original.
3. Directed readings in a foreign literature in the original, at a level commensurate with 1 or 2 above. With approval of the graduate adviser, an instructor of comparative literature will assist the student in planning a list of readings, supervise and aid the student in the work, and finally certify that the student has demonstrated proficiency in reading and comprehension through a written translation of a work of foreign literature.

(The final oral examination on the student's general knowledge of literature is required.)

Creative Writing

English 600, Introduction to Graduate Study	3
One English seminar	3
One course in early English language and literature (English 530, 610, Linguistics 510, 611, 612), if not previously taken	3
A minimum of two creative writing courses from English 508, 570, 571A-571B, 572, 579, 580, 581, 582, 640, 642, (not more than nine units from among these 10 courses may count as part of the basic 24-unit requirement)	6-9
English 799A, Thesis	3
English electives to make up the 24-unit requirement in English	3-6
Other electives (which may be in English) to make up 30-unit master of arts requirement	6
Total	30

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.

ASSISTANTSHIPS AND SCHOLARSHIPS

Graduate teaching assistantships and graduate nonteaching assistantships in English are available to a limited number of qualified students. Application blanks and

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.

FACULTY

Director, Literature: F. S. Moramarco

Graduate Advisers: E. B. Adams, Director, Graduate Studies, J. J. Benson, E. E. Chater, M. B. Ingham, D. A. Shojai

Professors: Baker, Benson, Brashers, Dickinson, Gross, Henig, Ingham, Keller, Monteverde, Perkins, Sanderlin, Sandstrom, Santangelo, Tozer, Vanderbilt, Widmer

Associate Professors: Adams, E., Bumpus, Chater, Davis, Farber, Kehler, H., Kohler, McCoy, McLeod, Moramarco, Nelson, Nichols, Patterson, Redding, M., Redding, R., Rother, Savvas, Stiehl, Taylor, Thrane, Tunberg

Assistant Professors: Aninger, Boe, Borkat, Brown, Butler, DeMarinis, Gervais, Karnath, Kehler, D., Malmsheimer, Rogers, Rush, Sheres, Shojai, Sullivan, Wall, Wheeler

COURSES ACCEPTABLE ON THE MASTER'S DEGREE IN ENGLISH**UPPER DIVISION COURSES****English**

- 500. (175.) Advanced Composition (3)
- 505. (105.) The Bible as Literature (3)
- 507. (150.) The History of Literary Criticism (3)
- 508. (153.) Modern Criticism (3)
- 510. (130.) Early American Literature (3)
- 511. (131.) The American Renaissance (3)
- 512. (133.) American Realism and Naturalism (3)
- 513. (134.) Modern American Fiction (3)
- 514. (135.) Modern American Poetry (3)
- 516. (136.) American Drama (3)
- 520. (139.) Topics in American Literature (3)
- 530. (103.) Chaucer (3)
- 531. (171.) Renaissance Literature (3)

- 533. (101.) Shakespeare (3)
- 534. (102.) Study of Shakespeare (3)
- 536. (112.) Seventeenth Century Literature (3)
- 537. (104.) Milton (3)
- 538A-538B. (113A-113B.) Restoration and Eighteenth Century Literature (3-3)
- 540A-540B. (121A-121B.) English Fiction (3-3)
- 541A-541B. (122A-122B.) English Drama (3-3)
- 542A-542B. (114A-114B.) Nineteenth Century British Poetry (3-3)
- 543. (115.) Nineteenth Century British Prose (3)
- 544. (117.) Modern British Fiction (3)
- 545. (116.) Modern British Poetry (3)
- 546. (118.) Modern British Drama (3)
- 549. (129.) Topics in English Literature (3)
- 570. (140.) Techniques of Poetry (3)
- 571A-571B. (142A-142B.) Techniques of Fiction (3-3)
- 572. (144.) Techniques of Drama (3)
- 579. (149.) Topics in Techniques of Writing (3)
- 580. (170.) The Writing of Poetry (3)
- 581. (171.) The Writing of Fiction (3)
- 582. (172.) The Writing of Nonfiction (3)
- 589. (179.) Senior Workshop in Creative Writing (3)

Comparative Literature

- 505. (105.) The Bible as Literature (3)
- 510. (120.) Medieval Literature (3)
- 511. (122.) Continental Renaissance (3)
- 512. (124.) Seventeenth and Eighteenth Century Continental Fiction (3)
- 513. (125.) Nineteenth Century Continental Fiction (3)
- 514. (126.) Modern Continental Fiction (3)
- 525. (185.) Yiddish Literature (3)
- 526. (186.) Modern Jewish Literature (3)
- 530. (170.) Asian Literature (3)
- 535. (175.) Near Eastern Literature (3)
- 540. (180.) Afro-American Literature (3)
- 545. (145.) Modern Latin American Literature (3)
- 550. (160.) Seminar (3)
- 560. (150.) The Epic (3)
- 561. (151.) Fiction (3)
- 562. (152.) Drama (3)
- 563. (153.) Poetry (3)
- 570. (196.) Folk Literature (3)
- 571. (197.) Literary Use of Legend (3)
- 577. (192.) Major Individual Authors (3)
- 580. (194.) Concepts in Comparative Studies (3)
- 581. (195.) Literary Uses of Languages (3)

GRADUATE COURSES**600. (290.) 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.

610. (234.) 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. (235.) Renaissance Literature (3)**
Prerequisite: Twelve upper division units in English.
Selected works in the literature of the Renaissance.
- 614. (236.) 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. (237.) Earlier Nineteenth Century Literature (3)**
Prerequisite: Twelve upper division units in English.
Selected works in the literature of the early nineteenth century.
- 617. (238.) Later Nineteenth Century Literature (3)**
Prerequisite: Twelve upper division units in English.
Selected works in the literature of the later nineteenth century.
- 620. (239.) Twentieth Century Literature (3)**
Prerequisite: Twelve upper division units in English.
Selected works in the literature of the twentieth century.
- 625. (233.) 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. Maximum credit six units applicable on a master's degree.
- 630. (243.) Poetry (3)**
Prerequisite: Twelve upper division units in English.
Poetry as a literary form.
- 631. (244.) Fiction (3)**
Prerequisite: Twelve upper division units in English.
Fiction as a literary form.
- 632. (245.) Drama (3)**
Prerequisite: Twelve upper division units in English.
The drama as a literary form.
- 640. (260.) Workshop in Creative Writing (3)**
Prerequisite: Consent of instructor and departmental adviser.
Criticism and coaching in the larger forms. Maximum credit six units applicable on a master's degree.
- 642. (279.) 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. (291.) Seminar: A Major Author (3)**
Prerequisite: 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. Maximum credit six units applicable on a master's degree.
- 710. (292.) 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. Maximum credit six units applicable on a master's degree.
- 720. (293.) 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. Maximum credit six units applicable on a master's degree.

730. (294.) 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. Maximum credit six units applicable on a master's degree.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairperson and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

MASS COMMUNICATIONS

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 THE GRADUATE PROGRAM

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 total 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). 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
	<hr/> 18 units	<hr/> 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.

MASS COMMUNICATIONS COMMITTEE

H. L. Anderson, Chairman	S. W. King, Speech Communication
R. L. Benjamin, Speech Communication	F. C. Whitney, Journalism
J. K. Buckalew, Journalism	D. G. Wylie, Telecommunications and Film
M. M. El-Assal, Sociology	

FACULTY

Coordinator, Graduate Programs in Mass Communications: H. L. Anderson

Department of Journalism

Professors: Buckalew, Holowach, Odendahl, Sorensen

Associate Professors: Haberstroh, Whitney

Assistant Professors: Lancaster, Spevak

For faculty members in other departments participating in the degree program (Psychology, Sociology, Speech Communication, and Telecommunications and Film), see the appropriate sections of this bulletin.

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN MASS COMMUNICATIONS

UPPER DIVISION COURSES

Journalism

- 500. (121.) Current Problems in Mass Communications (3)
- 502. (102.) Law of Mass Communications (3)
- 503. (117.) History of Mass Communications (3)
- 505. (118.) The Foreign Press (3)
- 507. (122.) Public Opinion Measurement (3)
- 508. (162.) Mass Communications and Society (3)
- 509. (177.) Research Methods in Mass Communications (3)
- 522. (144.) Reporting of Public Affairs (3)
- 526. (155.) Advanced Editing Techniques (3)
- 529. (197.) Investigative Reporting (3)
- 583. (183.) Problems in Public Relations (3)

Sociology

- 537. (137.) Political Sociology (3)
- 545. (145.) Sociology of Mass Communication (3)

Speech Communication

- 530. (130.) Semantics (3)
- 535. (135.) Theories of Human Communication (3)
- 537. (137.) Empirical Study in Speech Communication (3)
- 540. (140.) Freedom and Responsibilities of Speech (3)
- 575. (175.) Intercultural Communication (3)
- 589. (189.) Ethics of Communication (3)
- 592. (192B.) Persuasion (3)

Telecommunications and Film

500. (101.) Broadcast Management (3)
 505. (105.) Regulation of Broadcasting (3)
 510. (110.) Script Writing for Broadcasting and Film (3)
 530. (130.) Radio Programing (3)
 540. (103.) Broadcast Advertising (3)
 541. (104.) Broadcast Commercial Practices (3)
 570. (170.) Educational Broadcasting (3)
 580. (183.) Advanced Programing and Development for Television (4)
 590. (108.) International Broadcasting (3)

GRADUATE COURSES**Journalism**

- 600. (200.) Scope and Method of Mass Communications (3)**
 Intensive preparation in methodology applicable to the various fields related to mass media study.
- 700. (221.) 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. (202.) 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. (217.) Seminar: History of Journalism (3)**
 Prerequisite: Journalism 503.
 Directed research on topics of history of American journalism.
- 705. (218.) Seminar in International Journalism (3)**
 Prerequisite: Journalism 505.
 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. (222.) Mass Communications and Public Opinion (3)**
 Prerequisite: Journalism 507 or 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. (262.) Seminar: Mass Communications and Society (3)**
 Prerequisite: Journalism 508.
 Rights, responsibilities and characteristics of mass media and mass communications practitioners; characteristics and responsibilities of audiences and society.
- 740. (240.) 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. Maximum credit six units.
- 760. (253.) 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. (283.) Seminar in Public Relations (3)**
 Prerequisite: Journalism 480.
 Analysis and critique of contemporary public relations programs and theory. Development of a comprehensive public relations project involving original research.
- 798. (298.) Special Study (1-3) Cr/NC**
 Individual study. Maximum credit six units.
 Prerequisite: Consent of staff; to be arranged with the department chairman and instructor.

799A. (299.) Thesis (3) Cr/NC

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

621. (219.) Seminar in Personnel Psychology (3)
 622. (220.) Seminar in Organizational Psychology (3)
 700. (200.) Seminar (3)
 745. (221.) Seminar in Problems in Social Psychology (3)
 746. (226.) Seminar in Political Psychology (3)
 798. (298.) Special Study (1-3)
 799A. (299.) Thesis (3)

Sociology

710. (210.) Seminar in Social Disorganization (3)
 720. (220.) Seminar in Social Organization (3)
 740. (240.) Seminar in Social Psychology: Sociological Approaches (3)
 760. (260.) Seminar in Research Methods (3)
 797. (297.) Research (3)
 798. (298.) Special Study (3)
 799A. (299.) Thesis (3)

Speech Communication

700. (200.) Research and Bibliography (3)
 730. (230.) Seminar in Analysis of Language (3)
 735. (235.) Seminar in Communication Theory (3)
 790. (290.) Experimental Procedures in Speech Communication (3)
 792. (292.) Seminar in Persuasion (3)
 798. (298.) Special Study (1-3) Cr/NC
 799A. (299.) Thesis or Project (3) Cr/NC

Telecommunications and Film

600. (200.) Research and Bibliography (3)
 601. (205.) Mass Communications Research (3)
 602. (272.) Seminar in Mass Communication Theory (3)
 603. (273.) Mass Communications Message Design (3)
 610. (210.) Seminar in Writing for Broadcast and Film (3)
 615. (212.) Criticism of Broadcasting and Cinema (3)
 620. (203.) Seminar in History of Broadcasting (3)
 640. (202.) Seminar in Broadcast Advertising Problems (3)
 670. (270.) Seminar in Educational Telecommunications (3)
 680. (284.) Seminar in Programing and Production (3)
 700. (201.) Seminar in Broadcast Management (3)
 798. (298.) Special Study (1-3) Cr/NC
 799A. (299.) Thesis or Project (3) Cr/NC

MATHEMATICS

GENERAL INFORMATION

The Department of Mathematics, 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 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, 602A, 602B, and 799A.

To satisfy the foreign language requirement either the student may present evidence that he has completed French 201, German 203, Russian 203, or Spanish 203, 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.

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 of which at least 12 units must be in 600- and 700-numbered courses in mathematics. The student is required to pass the departmental comprehensive examinations in mathematics. With the approval of the department, the student may select Plan A. In other cases, Plan B will be followed.

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, 602A, 602B, 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.

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:
 - a. 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
 - b. Three units of Mathematics 797
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.

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 671, 672, 673, 674, 675, 676, and 677.
 - c. Six units of other 600- and 700-numbered mathematics courses, except that Mathematics 600, 602A, 602B, 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. In other cases, Plan B will be followed.

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 chairman of the department.

FACULTY

Chairman, Department of Mathematics: E. I. Deaton
 Graduate Advisers: Master of Arts in Mathematics, E. J. Howard; Master of Arts (Teaching), D. B. McLeod; Master of Science in Mathematics, R. A. Hager; Master of Science in Statistics, D. W. Macky; Master of Science in Computer Science, C. F. Eckberg
 Credential Adviser: T. P. Carpenter
 Professors: Becker, Branstetter, Bray, Burton, Deaton, Drobnies, Fountain, Garrison, Gindler, Harris, Harvey, Ho, Holmes, Moser, Riggs, Saltz, Shaw, Smith, Van de Wetering, Warren, Willerdig
 Associate Professors: Bryant, Burdick, Davis, Eckberg, Elwin, Hager, Howard, Kopp, Lesley, Lopez, Macky, Marcus, Marosz, Nower, Romano, Ross, Short, Villone, Whitman
 Assistant Professors: Baase, Carpenter, Flanigan, Herndon, Hintzman, Korevaar, McLeod, Park, Salomon, Self, Vinge

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN COMPUTER SCIENCE, MATHEMATICS, AND STATISTICS

UPPER DIVISION COURSES

- 510. (105.) Introduction to the Foundations of Geometry (3)
- 511. (106.) Projective Geometry (3)
- 512. (107.) Non-Euclidean Geometry (3)
- 513. (108.) Differential Geometry (3)
- 520. (149.) Linear Algebra (3)
- 521A-521B. (150A-150B.) Modern Algebra (3)
- 522. (152.) Number Theory (3)
- 523. (155.) Mathematical Logic (3)
- 524. (156.) Logical Foundations of Mathematics (3)
- 530. (119.) Differential Equations (3)
- 531. (170.) Partial Differential Equations (3)
- 532. (175.) Functions of a Complex Variable (3)
- 533. (124.) Vector Analysis (3)
- 534A. (121A.) Advanced Calculus I (3)
- 534B. (121B.) Advanced Calculus II (3)
- 535. (160.) Introduction to Topology (3)
- 541A. (135.) Numerical Analysis and Computation (3)
- 541B. (135B.) Numerical Analysis and Computation (3)
- 548. Computer Oriented Statistical Analysis (3)
- 550. (134.) Probability (3)
- 551A. (140A.) Mathematical Statistics (3)
- 551B. (140B.) Mathematical Statistics (3)
- 552. (141.) Statistics, Theory and Applications (3)
- 553. (143.) Stochastic Processes (3)
- 557. Systems Programming (3)
- 570. (136.) Data Structures (3)
- 571. (137.) Finite Mathematics, with Computer Applications (3)
- 572. (139.) Programming Languages (3)
- 573. (158.) Automata Theory (3)
- 574. (157.) Machines and Recursive Functions (3)
- 575. (176.) Compiler Construction (3)
- 576. (177.) Artificial Intelligence (3)
- 577. Probability and Statistics (3)
- 578. Algorithms and Their Analysis (3)
- 579. Combinatorics (3)
- 596. (196.) Advanced Topics in Mathematics (1-3)

GRADUATE COURSES

- 600. (202.) 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. (203.) 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.
- 602A-602B. (204A-204B.) Topics in Analysis (3-3)
Prerequisites: Mathematics 521A and 534A. Mathematics 602A is prerequisite to 602B.
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. (230.) Rings and Ideals (3)
Prerequisite: Mathematics 521B.
A development of the theory of rings.
- 621. (231.) Theory of Groups (3)
Prerequisite: Mathematics 521B.
A development of the theory of groups.
- 622. (232.) Theory of Fields (3)
Prerequisite: Mathematics 521B.
A study of both finite and infinite fields, and field extensions.
- 623. (233.) Linear Algebra and Matrix Theory (3)
Prerequisite: Mathematics 520.
A study of matrices, determinants, and vector spaces.
- 624. (205.) Advanced Mathematical Logic (3)
Prerequisite: Mathematics 521A or 523.
First-order theories, completeness theorems, arithmetization, Godel's incompleteness theorem.
- 630A-630B. (226A-226B.) 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. (224A-224B.) 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. (222A.) Functional Analysis (3)
Prerequisites: Mathematics 520 and 535.
Banach spaces, Hilbert spaces, spectral theory and Banach algebras.
- 633A-633B. (220A-220B.) Topology (3-3)
Prerequisite: Mathematics 535. Mathematics 633A is prerequisite to 633B.
Metric spaces, regular spaces, Hausdorff spaces, general topological spaces, arcs and curves, and the Jordan curve theorem.
- 634. (212.) 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.
- 635. (214.) Advanced Partial Differential Equations (3)
Prerequisite: Mathematics 531.
Theory and application of the solution of boundary value problems in the partial differential equations of engineering and physics by various methods; orthogonal functions, the Laplace transformations, other transformation methods, Green's functions.
- 670A-670B. (240A-240B.) Advanced Mathematics Statistics (3-3)
Prerequisites: Mathematics 534A and 550. Mathematics 670A is prerequisite to 670B.
Hypothesis testing and estimation: optimality considerations, applications of the linear hypothesis, invariance and unbiasedness to analysis of variance and regression problems; sequential techniques, decision theory.
- 671. (241.) Advanced Probability (3)
Prerequisites: Mathematics 534A and 550.
Probability spaces, integration of random variables, convergence in probability, product spaces and product measures; conditional measures and independent measures.
- 672. (242.) Nonparametric Statistics (3)
Prerequisite: Mathematics 551B.
Tolerance regions, randomness problems, most powerful rank tests, the invariance methods, consistency and efficiency of tests.
- 673. (243.) Sample Surveys (3)
Prerequisite: Mathematics 551A.
The methods and applications of sample surveys, stratification and sampling, subsamples of clusters.

- 674. (244.) Multivariate Analysis (3)**
Prerequisites: Mathematics 520 and 551B.
Multivariate normal distributions, multivariate analysis of variance, factor analysis, canonical correlation.
- 675. (245.) Linear Statistical Hypothesis Testing (3)**
Prerequisites: Mathematics 520 and 551A.
The multivariate normal distribution; distribution of quadratic forms; linear and curvilinear models; general linear hypotheses of full rank, regression models.
- 676. (246.) Statistical Decision Theory and Applications (3)**
Prerequisites: Mathematics 534A and 551B.
Sequential and nonsequential decision methods, complete classes of decision functions, admissible decision functions, adaptive control systems, stochastic stability and control.
- 677. (247.) Design of Experiments (3)**
Prerequisites: Mathematics 520 and 551A.
Experimental design models, a basic approach as well as a matrix algebra approach.
- 690A-690B. (260A-260B.) Theory of Computability (3-3)**
Prerequisites: Mathematics 523 or 571 and 574.
Turing machines and their variants. Godel numbering and unsolvability results. Models of computation.
- 691A-691B. (265A-265B.) 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 finite-state grammars. Algorithms for syntactic analysis. Relationship between formal languages and automata.
- 692A-692B. (268A-268B.) Computer Architecture and Programming Systems (3-3)**
Prerequisites: Mathematics 570 and 572.
Topics to include computer architecture, operating systems, I/O hardware and software, translators. Selected applications such as simulation, computer graphics, CAI are additional optional topics.
- 693A. (270A.) Advanced Numerical Analysis (3)**
Prerequisites: Mathematics 520 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. (270B.) 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. (206.) 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. Maximum credit six units applicable on a master's degree.
- 720. (200.) Seminar (1-3)**
Prerequisite: Consent of instructor.
An intensive study in advanced mathematics, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 797. (297.) Research (1-3) Cr/NC**
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. (298.) Special Study (1-3) Cr/NC**
Prerequisite: Consent of staff; to be arranged with department chairman and instructor.
Individual study. Maximum credit six units.

799A. (299.) Thesis or Project (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 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

GENERAL INFORMATION

The Department of Microbiology, in the College of Sciences, offers graduate study leading to the Master of Science degree in Microbiology. Facilities are available for research in all areas of microbiology including ecology, electron microscopy, genetics, immunology, marine microbiology, pathogenic bacteria and fungi, physiology, and virology.

After completing his course of study, the student may continue further academic study or obtain employment as a bioanalyst, research technician, community college teacher, or supervisory medical technologist.

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 baccalaureate degree in microbiology at San Diego State University.
2. have an undergraduate grade point average of 2.75 or demonstrate the ability to do superior graduate work.
3. have a score of 1100 or better for the combined verbal and quantitative portions of the Graduate Record Examination Aptitude Test.
4. pass a comprehensive departmental written and oral examination.
5. submit two references from science faculty members attesting to capability to do graduate work in microbiology.
6. 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.

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 Chairman of the Department of Microbiology.

FACULTY

Chairman, Department of Microbiology: H. A. Walch
Graduate Adviser: B. L. Kelly
Professors: Baxter, Kelly, Moore, Walch
Associate Professors: Anderes, Phelps, Steenbergen

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN MICROBIOLOGY

UPPER DIVISION COURSES

Biology

- 519. (175.) Statistical Methods in Biology (3)
- 520. (110.) Ecology (4)
- 530. (111.) Limnology (4)
- 531. (113.) Biological Oceanography (4)
- 535. (121.) Systems Ecology (5)
- 540. (155.) Genetics (4)
- 545. (157.) Cytogenetics (4)
- 546. (171.) Mutagenesis (3)
- 547. (163.) Microbial Genetics (3)
- 560. (101.) Cellular Physiology (4)
- 561. (181.) Advanced Cellular Physiology (3)
- 564. (144.) Comparative Endocrinology (3)
- 564L. (144L.) Comparative Endocrinology Laboratory (2)
- 566. (148.) Photophysiology (3)
- 566L. (148L.) Photophysiology Laboratory (1)
- 568. (182.) Immunochemistry (3)
- 568L. (182L.) Immunochemistry Laboratory (1)
- 570. (150.) Radiation Biology (3)
- 570L. (150L.) Radiation Biology Laboratory (2)
- 571. (151.) Radioisotope Techniques in Biology (3)

Botany

- 501. (101.) Phycology (4)
- 502. (102.) Mycology (4)

Chemistry

- 501. (180.) Chemical Oceanography (3)
- 550. (155.) Advanced Instrumental Methods (4)
- 570. (170.) Radiochemistry (3)

Microbiology

- 510. (115.) Advanced General Microbiology (4)
- 515. (114.) Bacterial and Viral Genetics (2)
- 515L. (114L.) Bacterial and Viral Genetics Laboratory (2)
- 520. (102.) Pathogenic Bacteriology (4)
- 525. (104.) Medical Mycology (4)
- 530. (109.) Hematology (4)
- 535. (107.) General Virology (2)
- 535L. (107L.) General Virology Laboratory (2)
- 560. (116.) Marine Microbiology (2)
- 560L. Marine Microbiology Laboratory (2)
- 570. (130.) Experimental Immunology (4)
- 580. (120.) Animal Viruses (4)
- 590. (180.) Electron Microscopy (4)

Zoology

- 508. (108.) Histology (4)
- 521. (121.) General Entomology (4)
- 522. (122.) Special Topics in Entomology (3)
- 526. (126.) Medical Entomology (3)
- 535. (128.) Parasitology (4)

GRADUATE COURSES

Biology

640. (270.) Seminar in Genetics (2)
 651. (276.) Physiological Genetics (3)
 670. (262.) Cytoplasmic Inheritance (3)
 672. (265.) Molecular Biophysics (3)

Botany

601. (201.) Seminar in Phycology (2)
 602. (202.) Seminar in Mycology (2)

Microbiology

600. (200.) Seminar (2 or 3)
 610. (240.) Seminar in General Microbiology (2)
 620. (205.) Seminar in Microbial Physiology (2)
 630. (260.) Seminar in Immunology and Serology (2)
 640. (215.) Seminar in Bacterial and Viral Genetics (2)
 650. (210.) Seminar in Pathogenic Bacteriology (2)
 660. (230.) Seminar in Medical Mycology (2)
 670. (250.) Seminar in Virology (2)
 680. (245.) Seminar in Aquatic Microbiology (2)
 720. (272.) Advanced Pathogenic Bacteriology (3)
 725. (270.) Biology of Animal Pathogenic Fungi (3)
 790. (290.) Bibliography (1)
 791. (291.) Research Techniques (3)
 797. (297.) Research (1-3) Cr/NC
 798. (298.) Special Study (1-3) Cr/NC
 799A. (299.) Thesis or Project (3) Cr/NC
 799B. Thesis or Project Extension (0) Cr/NC

Refer to the Biological Sciences section of this bulletin for the descriptions of the courses applicable to the Master of Science degree program in Microbiology.

MUSIC

GENERAL INFORMATION

The Department of Music, in the College of Professional Studies, 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

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.
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 theory, literature and performance.
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.

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 electing the composition emphasis will be required to enroll in Music 799A and to submit an original composition in the form of a project.

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.

SCHOLARSHIPS

Information on music scholarships may be obtained by writing to the Chairman, Music Scholarship Committee, Music Department, San Diego State University.

FACULTY

Chairman, Department of Music: J. D. Smith

Graduate Adviser: J. D. Smith

Credential Advisers: E. Savage, J. D. Smith

Professors: Anderson, Biggs, Blyth, Bruderer, Brunson, Estes, Forman, Genzlinger, Hogg, Hurd, Lambert, Mracek, Rost, Savage, Sheldon, Smith, Snider, Ward-Steinman

Associate Professors: Almond, Loomis, Meadows, Mitchell, Moe, Rohlfleisch, Yates

Assistant Professors: Fly, Hill, Logan, Murphy

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS
IN MUSIC

UPPER DIVISION COURSES

507. (107.) Composition Laboratory (1)
541. (141.) Performance Studies Pedagogy (3)
542. (142.) Performance Studies Laboratory (2)
552A-552B. (152A-152B.) History of Music (3-3)
554. (154.) Music Literature (2)

GRADUATE COURSES

600. (200.) 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. (201.) Foundations of Music Education (3)
History and philosophy of music education in relation to current trends in the teaching of music.
602. (202.) Administration and Supervision of Music Education (3)
Curriculum, scheduling, finance, human relations, organizational aspects, and the role of the supervisor-consultant.
604. (204.) Comparative Music Education (3)
Various international philosophical and technical approaches to teaching music to include the Orff, Kodaly, Suzuki and other systems.
607. (207.) 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. (208.) History and Development of Music Theory (3)
Prerequisite: Music 552B.
Survey of important theoretical approaches to music, from pre-Socratic writers to the present.
609. (209.) Advanced Orchestration (2)
Intensive work in the practical scoring for ensemble, full orchestra, and symphonic band. Score analysis. Selected works of the class members will be performed.
611. (211.) Analytical Studies of Music (3)
Melodic, formal, contrapuntal and harmonic analysis of music.
613. (213.) Seminar: Music Theory (3)
Principles of traditional harmony and ear training.

614. (210.) Electronic Music (3)

Prerequisite: Undergraduate concentration in composition.
Theory, techniques and composition of various kinds of electronic music.

648A. (246A.) 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. (246B.) 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. (250.) Advanced Performance Studies (2)

Fifteen one-hour private lessons.

Prerequisite: Audition before music faculty.

Advanced studies in technical, stylistic and aesthetic elements of artistic performance culminating in a graduate recital. Maximum credit four units applicable on a master's degree.

A. Piano	J. Bassoon	R. Viola
B. Harpsichord	K. French Horn	S. Cello
C. Organ	L. Trumpet	T. Contrabass
D. Voice	M. Trombone	U. Harp
E. Flute	N. Baritone Horn	V. Classical Guitar
F. Oboe	O. Tuba	X. Classical Accordion
G. Clarinet	P. Percussion	Y. Composition
H. Saxophone	Q. Violin	

652. (252.) 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. (253.) 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.

665. (260.) Seminar in the Notation of Polyphonic Music (3)

Prerequisite: Music 552B. Completion of Music 652A is recommended.

Problems related to the notation of Medieval, Renaissance and Baroque music. Examples will be transcribed into modern notation.

- A. Notation of Ensemble Music: White Mensural Notation.
B. Notation of Ensemble Music: Black Notation to the End of Franconian Notation.

660. (255.) 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. Maximum credit six units applicable on a master's degree.

670. (270.) 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. (290.) 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. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) Thesis or Project (3) Cr/NC

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.

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 with classified graduate standing in one of three 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 2.5 (on a 4-point scale) in the last 60 units attempted;
 - c. A minimum GPA of 3.0 in upper division work in philosophy.
2. Admission with conditional classified graduate standing requires either:
 - a. Twelve units of upper division work in philosophy and satisfaction of the remaining requirements, 1.b and 1.c;

OR

 - b. Satisfaction of 1.a and either 1.b or 1.c.

Students admitted under 2.a 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 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.

Students admitted under 2.b acquire classified graduate standing by completing at least 12 units of work in philosophy with a minimum GPA of 3.0 for all units attempted after admission. Units to complete this requirement earned in courses acceptable on master's degree programs in philosophy may fulfill unit requirements for the Master of Arts degree.

3. Admission with unclassified postbaccalaureate standing.

Students admitted to the university with unclassified postbaccalaureate standing in philosophy may acquire classified graduate standing. Such students must:

 - a. Meet or have met the current requirements for a major in philosophy at San Diego State University, or their equivalent;
 - b. Complete at least 15 units in upper division courses in philosophy after admission to unclassified postbaccalaureate standing;
 - c. Attain a GPA above 3.0 in 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 graduate program to include a minimum of 24 units in philosophy 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, including Philosophy 799A, Thesis. 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, or in courses required for the community college credential.

FACULTY

Chairman, Department of Philosophy: S. N. Weissman

Graduate Adviser: P. O'Reilly

Professors: Crawford, Friedman, Howard, Koppelman, McClurg, Nelson, O'Reilly, Ruja, Shields, Snyder, Warren, Weissman

Associate Professors: Carella, Feenberg, Lauer, Rosenstein, Troxell

Assistant Professor: Weston

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS
IN PHILOSOPHY

UPPER DIVISION COURSES

502. (102.) History of Philosophy II (3)
 504. (104.) History of Philosophy IV (3)
 505A-505B. (105A-105B.) Twentieth Century Philosophy (3-3)
 508. (108.) Existentialism (3)
 509. (109.) Ordinary Language Analysis (3)
 510. (110.) Philosophy of Law (3)
 512. (112.) Political Philosophy (3)
 521. (121.) Deductive Logic (3)
 522. (122.) Inductive Logic (3)
 523. (123.) Theory of Knowledge (3)
 525. (125.) Metaphysics (3)
 527. (127.) Values and Social Science (3)
 528. (128.) Theory of Ethics (3)
 531. (131.) Philosophy of Language (3)
 532. (132.) Philosophy of History (3)
 533. (133.) Philosophy of Education (3)
 535. (135.) Philosophy of Religion (3)
 537. (137.) Philosophy of Science (3)
 541. (141.) History of Aesthetics (3)
 542. (142.) Philosophy of Art (3)
 564. (164.) American Philosophy (3)
 575. (175.) A Major Philosopher (3)
 595. (195.) Selected Topics (3)
 596. (196.) Topics in Asian Thought (3)

GRADUATE COURSES

601. (201.) **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). Maximum credit six units applicable on a master's degree.
602. (202.) **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). Maximum credit six units applicable on a master's degree.
603. (203.) **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). Maximum credit six units applicable on a master's degree.
605. (205.) **Seminar in Contemporary Philosophy** (3)
 Prerequisite: Twelve upper division units in philosophy including Philosophy 505A or 505B.
 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). Maximum credit six units applicable on a master's degree.

611. (211.) **Seminar in Legal Philosophy** (3)
 Prerequisite: Twelve upper division units in philosophy.
 Directed research in recurrent themes of philosophical significance in jurisprudential literature.
612. (212.) **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.
621. (221.) **Seminar in Deductive Logic** (3)
 Prerequisite: Twelve upper division units in philosophy including Philosophy 521.
 A comparison of deductive systems in logic. Problems of definability, consistency and completeness. The role of logic in the foundations of mathematics.
623. (223.) **Seminar in Epistemology** (3)
 Prerequisite: Twelve upper division units in philosophy.
 Basic problems concerning meaning, perception and knowledge.
625. (225.) **Seminar in Metaphysics** (3)
 Prerequisite: Twelve upper division units in philosophy.
 An inquiry into the search for significant qualities of reality.
628. (228.) **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. (231.) **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. (235.) **Seminar in Philosophy of Religion** (3)
 Prerequisite: Twelve upper division units in philosophy including Philosophy 535.
 A philosophical investigation of the nature of religious thought: its structure, growth and significance.
636. (236.) **Seminar in Philosophy of Art** (3)
 Prerequisite: Twelve upper division units in philosophy.
 An analysis, criticism and comparative study of selected philosophies of art.
637. (237.) **Seminar in Philosophy of Science** (3)
 Prerequisite: Twelve upper division units in philosophy including Philosophy 522 and 537.
 The methodology of the empirical sciences. The logical structure of science.
795. (295.) **Seminar in Selected Topics** (3)
 Prerequisite: Twelve upper division units in philosophy.
 Directed research in a major problem or movement in philosophy. Maximum credit six units applicable on a master's degree.
798. (298.) **Special Study** (1-3) Cr/NC
 Individual study. Maximum credit six units.
 Prerequisites: Twelve upper division units in philosophy and consent of staff; to be arranged with department chairman and instructor.
- 799A. (299.) **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.

PHYSICAL EDUCATION

GENERAL INFORMATION

The Department of Physical Education, in the College of Professional Studies, offers graduate study leading to the Master of Arts degree in Physical Education.

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.

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, Research Techniques, and either Physical Education 799A, Thesis (Plan A), or Physical Education 795, Seminar (Plan B), are required. Students electing Plan B must pass a final written comprehensive examination in his area of specialization. Each candidate will be required to complete an area of specialization after consulting the graduate adviser.

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 chairman of the department.

FACULTY

Chairman, Department of Physical Education: R. W. Wells

Graduate Adviser: P. Governali

Professors: Andrus, Benton, Carter, Cullen, Fox, Governali, Howell, Kasch, Lockman, Murphy, Olsen, A., Olsen, L., Phillips, Schutte, Scott, Ziegenfuss

Associate Professors: Barone, Broadbent, Cave, Franz, Friedman, Moore, Selder, Sucec, Wells, Williamson

Assistant Professors: Gutowski, Hollyfield, Lamke, Landis, Quinn, Smith, Whitby, Wilhelm, Willis

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN PHYSICAL EDUCATION

UPPER DIVISION COURSES

- 554A-554B. (154A-154B.) Problems in Dance (2-2)
- 555A-555B. (155A-155B.) Choreography in Contemporary Dance (3-3)
- 556. (156.) History and Philosophy of Dance (2)
- 560. (160.) Applied Anatomy and Kinesiology (3)
- 561. (161.) Physiology of Exercise (3)
- 563. (163.) Biomechanics of Human Movement (2)
- 565. (165.) Prevention and Rehabilitation of Injuries to Athletes (2)
- 567. (167.) Adapted and Special Physical Education (2)
- 570. (170.) Psychological Bases of Physical Education (3)
- 585. (185.) Measurement and Evaluation in Physical Education (3)

GRADUATE COURSES

600. (200.) Seminar (3)

An intensive study in advanced physical education, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

604. (204.) Problems in Recreation (3)

(Same course as Recreation 604.)
Current problems facing the recreation profession, through a review of literature, discussion of trends, and observation of school and community situations. Analysis and evaluation of actual problems. Written reports required.

631. (206.) Seminar in Competitive Athletics (3)

Prerequisite: Major or minor in physical education or recreation.
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.

660. (207.) Advanced Kinesiology and Biomechanics (3)

Prerequisite: Physical Education 560.
Principles of mechanics applied to the analysis of human motion. Electromyography and cinematography as aids in analysis. Kinetic analysis of movement.

661. (208.) 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. (223.) Advanced Exercise Physiology Laboratory (3)

Nine hours of laboratory.
Prerequisite: Physical Education 567.
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. (221.) Exercise Electrocardiography (3)

Principles of resting and exercise electrocardiography with emphasis on ergometric methods and application to exercise physiology.

666. (227.) Fitness of Adults (3)

One lecture and six hours of laboratory.
Prerequisite: Physical Education 567.
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. (209.) Advanced Adapted Activities (3)

Prerequisite: Physical Education 567.
Postural divergencies, lack of physical development, physical handicaps and special programs. Individual exercise programs. Preventive and corrective exercises. Functional examinations and the physician's report. Ethical procedures and limitations.

668. (220.) Principles of Neuromuscular Tension (3)

Prerequisite: Physical Education 560.
Theories underlying the causes of muscular hypertension and the application of hypokinetic principles in daily living.

670. (261.) 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.

674. (215.) Philosophical Foundations for Physical Education (3)

Major philosophies and their application in physical education.

675. (203.) History of Physical Education (3)

Historical forces guiding the development of physical education from ancient to modern times.

676. (205.) Current Trends and Issues in Physical Education (3)

A critical appraisal of contemporary trends and issues.
Investigation and analysis of professional literature.

677. (213.) Problems in Physical Education (3)

Prerequisite: Major or minor in physical education.
A study of selected areas of the physical education program.

680. (201.) Curriculum in Physical Education (3)

Prerequisite: Major or minor in physical education.
Curricula in physical education. Special emphasis on curriculum construction and evaluation.

682. (202.) Administration of Physical Education in the Secondary Schools (3)

Prerequisite: Major or minor in physical education.
Topics include personnel problems, selection and maintenance of equipment and facilities, program organization and evaluation, budget and related items.

685. (211.) 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. (291.) 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.)

795. (295.) Seminar in Physical Education (3)

Prerequisites: Physical Education 791 and advancement to candidacy for the master's degree in physical education.

Selected subjects in physical education culminating in written projects. Limited to students following Plan B for the Master of Arts degree in Physical Education.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of department chairman.
Individual study. Maximum credit six units.

799A. (299.) Thesis or Project (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 or project is granted final approval.

PHYSICAL SCIENCES**GENERAL INFORMATION**

The Department of Physical Sciences, in the College of Sciences, offers graduate study leading to the Master of Arts degree for teaching service in the Physical Sciences with a concentration in astronomy, chemistry, geology and physics. This curriculum is designed specifically for prospective teachers in the fields of the physical sciences.

ADMISSION TO GRADUATE STUDY

All applicants for the degree 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 the physical sciences must have substantially satisfied the undergraduate requirements for the bachelor's degree in the physical sciences. (Refer to the general catalog for a description of this major.) 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 postbaccalaureate student, are in addition to the minimum of 30 units for the master's degree.

Attention is called to the status of an unclassified postbaccalaureate student as described in Part Three of this bulletin. An unclassified postbaccalaureate student is not eligible to enroll in 600- and 700-numbered courses, except with permission of the instructor and concurrence of the Dean of the Graduate Division. All credit earned by an unclassified postbaccalaureate student is subject to evaluation as to its acceptance for graduate credit in a master's degree curriculum.

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 FOR TEACHING SERVICE

In addition to meeting the requirements for admission to the University with 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 program of 30 units, of which at least 15 must be in 600- and 700-numbered courses. A minimum of 18 units must be in the physical sciences, (astronomy, chemistry, geology, physical science, or physics), with at least six units in each of two fields. Of the 18 units, six units must be 600- and 700-numbered courses. The program must be approved by the Coordinator of Science Education. With the approval of the adviser, the student may select Plan A or Plan B. If Plan B is selected, the department will require a comprehensive examination in lieu of the thesis.

ASSISTANTSHIPS

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

FACULTY

Chairman, Department of Physical Science: C. M. Shull
Graduate Adviser: N. F. Dessel

Coordinator of Science Education: N. F. Dessel
Professors: Dessel, Merzbacher, Shull

Associate Professors: Feher, Ingmanson, Metzger, Springer, Wallace

Assistant Professors: Dowler, May, Phleger

Faculty members in the Departments of Astronomy, Chemistry, Geology, and Physics are listed in the appropriate sections of this bulletin.

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN THE PHYSICAL SCIENCES

With the approval of the department Graduate Committee, 500-, 600- and 700-numbered courses offered in the College of Sciences and in the School of Engineering may be used to satisfy the requirements for the degree.

GRADUATE COURSES

700. (200.) Seminar (2 or 3)

An intensive study in advanced physical science, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

710. (210.) Advanced Topics in Physical Science (3) I, II

Prerequisite: Undergraduate major or minor in one of the physical sciences.

Selected topics in classical and modern physical science. Topics covered in a particular semester to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

798. (298.) Special Study (1-3) Cr/NC

Individual study. Maximum credit six units.

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

799A. (299.) Thesis or Project (3) Cr/NC

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

Preparation of a thesis or project in one of the physical sciences 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.

PHYSICS

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 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 an additional fifth year of more advanced studies and is best suited for those students who plan to terminate their graduate work at the fifth year level. Experimental facilities are available for studies in such fields as acoustics, nuclear physics, optics and spectroscopy, physical electronics, solid state physics, atomic physics, low temperature physics, and high energy physics. The Master of Science degree in Radiological Physics is designed to train radiological (health) physicists as required in areas where radioactive materials and other ionizing-radiation-producing devices are used, such as hospitals and related medical facilities, colleges and universities, industrial concerns, public health services, organizations operating nuclear power reactors, military installations, and the Atomic Energy 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 and pass the qualifying examination in physics. 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 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. "An unclassified student is not eligible to enroll in 600- or 700-numbered courses, except with permission of the instructor and concurrence of the Dean of the Graduate Division. All credit earned by an unclassified graduate student is subject to evaluation as to its acceptance for graduate credit in a master's degree curriculum."

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, 608, 610A, 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 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, 797 (3 units), 799A, and three additional units chosen from Physics 606, 608 and 610A. The remaining 15 units must be approved by the student's departmental graduate committee. The student is required to pass a final oral examination on his thesis.

MASTER OF SCIENCE DEGREE IN RADIOLOGICAL 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 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 462, Principles of Human Physiology	3
Biology 570, Radiation Biology	3
Biology 570L, Radiation Biology Laboratory	2
Physics 655, Radiation Physics	3
Physics 657, Radiological Physics	1
Physics 659, Health Physics	3
Physics 797, Research	3
Physics 799A, Thesis	3
Approved 600- and 700-numbered courses	3
Total units	24

The remaining six units of the minimum 30 units required for the degree must be selected from upper division or 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. The student is required to pass a final oral examination on the thesis.

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 chairman of the department.

FACULTY

Chairman, Department of Physics: J. D. Templin

Graduate Adviser: J. G. Teasdale

Credential Adviser: L. E. Smith, Jr.

Professors: Garrison, Morris, Nichols, Piserchio, Rehfuess, Roeder, Skolil, Smith, Snodgrass, Teasdale, Templin, Wolf, Wolter

Associate Professors: Cottrell, Lilly

Assistant Professors: Burnett, Solomon

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN PHYSICS

UPPER DIVISION COURSES

510. (190.) Introductory Quantum Mechanics (3)
 520. (156.) Digital Computers (3)
 532. (180.) Solid State Physics (3)

541. (122.) Senior Physics Laboratory (2)
 542. (114.) Acoustics (3)
 552. (186.) Modern Optics (3)
 553. (187.) Modern Optics Laboratory (2)
 561. (148.) Nuclear Physics Laboratory (3)
 564. (151.) Nuclear Physics (3)
 570. Relativity (3)

GRADUATE COURSES

600. (200.) Seminar (1-3)

Prerequisite: Consent of instructor.

An intensive study in advanced physics, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

602A-602B. (210A-210B.) 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. (270A-270B.) Electromagnetic Theory (3-3)

Prerequisite: Physics 400. Physics 604A is prerequisite to 604B.

Boundary value problems; time varying electric and magnetic fields; propagation of radiation; antennas, wave guides.

606. (219.) Statistical Mechanics (3)

Prerequisites: Physics 408 and 510.

Classical and quantum statistics, kinetic theory, low-pressure phenomena, Boltzmann transport equation, irreversible processes.

608. (205.) Theoretical Mechanics (3)

Prerequisite: Physics 408.

Mechanics utilizing vector and tensor methods. Study of the motion of rigid bodies, vibration, coupled circuits. Lagrange's and Hamilton's equations. Principle of least action.

610A-610B. (275A-275B.) Quantum Mechanics (3-3)

Prerequisites: Physics 564 and 408. Physics 610A is prerequisite to 610B.

Quantum theory of radiation, molecular and nuclear systems. Approximation methods.

632. (280.) Theory of the Solid State (3)

Prerequisites: Physics 408, 510 and 532.

The band theory of solids, with applications to the electrical and optical properties of dielectrics, semiconductors and metals.

642. (214.) Advanced Acoustics (2)

Prerequisite: Physics 542.

The acoustic wave equation in two and three dimensions. Propagation of sound in bounded media and enclosures. Radiation and scattering. Electrical-mechanical-acoustical elements and circuits.

646. (232.) Concepts in Relativity (2)

Prerequisites: Physics 431A and credit or concurrent registration in Physics 431B.

The development of the concepts of relative motion from Einstein's assumptions and from experimental results. Designed for physics teachers.

648. (237.) History of Physics (2)

Prerequisite: Bachelor's degree in physics or chemistry.

Lectures and readings in the history of physics with emphasis on the history of classical physics and the subsequent development of the quantum theory.

652. (286.) 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: Graduate standing, Mathematics 149 or 520, 531 or 340B and Physics 570.

Differential geometry, metric geodesies, Equivalence Principle, collapsed objects, black holes, gravitational waves, evolution of the universe.

655. (220.) Radiation Physics (3) I

Two lectures and three 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. (221.) Radiological Physics (1) II

Three hours of laboratory.

Prerequisite: Physics 655.

Topics and experimental problems in the use of ionizing radiation in diagnosis and therapy.

659. (222.) 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.

660. 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.

661. (248.) 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, etc.

664. (251.) Nuclear Physics (3)

Prerequisites: Physics 408, 510, and 564.

Theory of nuclear forces, nuclear reactions, interaction of radiation with matter, radioactivity, nuclear structure and high energy physics.

797. (297.) Research (1-3) Cr/NC

Prerequisite: Consent of department chairman.

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

798. (298.) Special Study (1-3) Cr/NC

Individual study. Maximum credit six units.

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

799A. (299.) Thesis (3) Cr/NC

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

Preparation of a project or 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**GENERAL INFORMATION**

The Department of Political Science, in the School 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 Public Affairs Institute, the Political Science Research Center, the International Relations 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 which includes 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 (The Scope and Method of Political Science), five other graduate seminars in political science, and Political Science 799A (Thesis). A final oral examination on the general field of the thesis is also required.

ASSISTANTSHIPS

Graduate teaching assistantships and graduate nonteaching assistantships in political science are available to a limited number of qualified students. Application blanks and further information may be obtained from the Chairman of the Department of Political Science.

FACULTY

Chairman, Department of Political Science: L. M. Terrell

Graduate Adviser: D. H. Johns

Professors: Andrain, Crain, Feierabend, Generales, Gripp, Janssen, Johns, Kahng, Joy, Miles, Nesvold, Padgett, Schultze

Associate Professors: Anderson, Conniff, Cutter, Funston, Hobbs, Lewin, Little, Terrell

Assistant Professors: Fairlie, Jones, Keiser, Loveman, Soule

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN POLITICAL SCIENCE**UPPER DIVISION COURSES**

- 501A-501B. (111A-111B.) Theory of the State (3-3)
 504. (106B.) Socialist Political Thought (3)
 505. (105.) American Political Thought (3)

513. (113.) The Theory of Political Inquiry (3)
 514. (114.) Problems in Political Theory (3)
 515A-515B. (100A-100B.) Research Methods in Political Science (3)
 520. (116.) American National Government (3)
 522. (118.) Urban Politics (3)
 523. (119.) Community Political Behavior (3)
 530. (120.) Political Parties (3)
 531. (126.) Political Groups and Movements (3)
 536. (124.) The American Presidency (3)
 537. (129.) The Politics of Bureaucracy (3)
 543-S. (123-S.) Contemporary American Politics (3)
 546. (138.) Law and the Political System (3)
 547A-547B. (139A-139B.) American Constitutional Law (3-3)
 555. (190.) Comparative Political Systems (3)
 556. (185.) Governments of Continental Europe (3)
 557. (180.) Government of England (3)
 558. (186.) Comparative Communist Governments (3)
 559. (181.) Government of the Soviet Union (3)
 561. (191.) Governments and Politics of the Developing Areas (3)
 562. (187.) Governments and Politics of the Far East (3)
 563. (189.) Government and Politics of the Middle East (3)
 564. (192.) Political Change in Contemporary Africa (3)
 565. (188.) Governments and Politics of the African States (3)
 566. (194.) Political Change in Latin America (3)
 567. (195.) Political Systems of Latin America (3)
 568. (184.) The Mexican Political System (3)
 571. (193.) Seminar in Cross-national Studies (3)
 576. (172.) International Organization (3)
 577. (173.) Principles of International Law (3)
 579. (174.) National Security Policy (3)
 580. (177.) Comparative Foreign Policies (3)
 581. (176.) International Relations of the Developing Nations (3)
 582. (175.) International Relations of the Latin American States (3)
 590. (165.) Dynamics of Modern International Crises (3)

GRADUATE COURSES

601. (200.) **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.
 605. (210.) **Seminar in Political Theory** (3)
 Maximum credit six units applicable on a master's degree.
 620. (215.) **Seminar in American National Government** (3)
 Maximum credit six units applicable on a master's degree.
 622. (255.) **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.
 623. (250.) **Seminar in Local Government** (3)
 Selected problems of state and local government and intergovernmental relations. Maximum credit six units applicable on a master's degree.
 625. (221.) **Seminar in Political Participation** (3)
 Prerequisite: Six upper division units in political science, three units of which must be from Political Science courses 320 through 344, 520 through 543S.
 American political culture and subculture groupings as related to various dimensions of political behavior.

630. (220.) **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, 520 through 543S.
 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.
 638. (225.) **Seminar in the Legislative Process** (3)
 Prerequisite: Six upper division units in political science.
 Legislative institutions and processes. Emphasis on U.S., national, state and local legislatures.
 639. (226.) **Seminar in Political Psychology** (3)
 (Same course as Psychology 746.)
 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. (230.) **Seminar in Public Law** (3)
 Maximum credit six units applicable on a master's degree.
 655. (280.) **Seminar in General Comparative Political Systems** (3)
 Prerequisite: 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. (281.) **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. (284.) **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. (282.) **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. (283.) **Seminar in Latin American Political Systems** (3)
 Prerequisite: Political Science 555 or 561, and three additional upper division units in political science.
 Political developments in selected Latin American nations, with emphasis on the Mexican political system.
 675. (270.) **Seminar in International Relations** (3)
 Maximum credit six units applicable on a master's degree.
 676. (272.) **Seminar in International Organization** (3)
 Prerequisite: Political Science 576.
 Analysis of selected problems of international organization with special reference to those of the United Nations. Oral and written reports.
 685. (275.) **Seminar in Theories of International Relations** (3)
 Prerequisite: Political Science 375A or 375B.
 Theoretical concepts used in the study of international political systems. Maximum credit six units applicable on a master's degree.
 700. (290.) **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.

795. (291.) 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. (297.) Research in Political Science (3) Cr/NC

Prerequisite: Consent of the department chairman.

Research in political theory, political parties, comparative government, international relations, public law or American government.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

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 three concentrations: clinical psychology, industrial and organizational psychology, and general psychology for the community college teaching credential. 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 psychological 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 Coordinator, 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.**

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 in psychology. At San Diego State University these specific course requirements are met by Psychology 210, 260, 270, 350, 405, 410 and one course from 411, 412, 413, 414, 415, 416, 417 or 418.
2. A grade point average of not less than 3.0 in the last 60 units (90 quarter units) of the undergraduate program.
3. A total scale score of 950 or above on the GRE Aptitude Test.
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 report for these tests be forwarded directly to the Graduate Division 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.

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 670, 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

Within the 30-unit general requirement set forth above, the master of arts program requires completion of at least 30 units of graduate courses in psychology including Psychology 605, 670, 798 and 799A. Psychology 680 is required for this program if similar content has not been completed as an undergraduate.

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 three concentrations:

1. *Clinical Psychology*: At least 36 units of graduate courses in psychology, including Psychology 650, 651 or 652, 654, 655 or 656, 670, 796, 798 (Colloquium), and 799A. Psychology 653 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.
2. *Industrial and Organizational Psychology*: At least 30 units of graduate courses in psychology, including Psychology 621, 622, 670, 675, 797, 798 (Colloquium), and 799A. Psychology 620 is required for this program if similar content has not been completed as an undergraduate.
3. *General Psychology for the Community College Teaching Credential*: At least 27 units of graduate courses in psychology, including Psychology 650, 670, 675, 798 (Colloquium), and 799A. Psychology 653 and 680 are required for this program if similar content has not been completed as an undergraduate. Education 680 is also required and may be included among the 30 units required for the master's degree. The sole requirement for obtaining the Community College Instructor Credential is the completion of a master's degree in a subject matter area usually taught in a community college. Upon completion of the master's degree, the candidate should then apply directly to the Office of the Chancellor, California Community Colleges. Under current interpretation of the Education Code, no additional courses in education are required; however, it is strongly suggested that graduate students enroll in professional courses in teacher education in order to enhance employment possibilities. Most community colleges require some professional preparation and/or experience. The following courses are suggested to enhance employment in the community colleges: Education 630 and 700.

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 Chairman, Graduate Assistantships Committee, Department of Psychology.

AREA REQUIREMENT COURSES

The courses listed below constitute core courses required for the various graduate programs as listed in the Specific Requirements.

- 605. (222.) Seminar in Theoretical Psychology (3)
- 620. Industrial-Organizational Psychology (3)
- 621. (219.) Seminar in Personnel Psychology (3)
- 622. (220.) Seminar in Organizational Psychology (3)
- 650. (233.) Counseling and Psychotherapy Laboratory (4)
- 651. (217.) Seminar in Behavior Disorders of Childhood and Adolescence (3)
- 652. (212.) Seminar in Behavior Disorders of Adults (3)
- 653. Advanced Clinical Psychology (4)
- 654. (204.) Psychological Assessment I (4)
- 655. (205.) Psychological Assessment II (4)
- 656. (234.) Behavior Therapy Laboratory (4)
- 670. (223.) Experimental Design (3)
- 675. (225.) Principles of Test Construction (3)
- 680. (277.) Seminar in the History of Psychology (3)
- 796. (296.) Clinical Practicum (3 or 6) Cr/NC
- 797. (297.) Research (1-3) Cr/NC
- 798. (298.) Special Study (1-3) Cr/NC
- 799A. (299.) Thesis (3) Cr/NC

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.

- 607. (278.) Applied Community Psychology (3)
- 609. (295.) Field Work in Community Psychology (3)
- 700. (200.) Seminar (3)
- 710. (224.) Advanced Experimental Design (3)
- 711. (275.) Advanced Principles of Learning (3)
- 718. Research in Operant Behavior (3)
- 745. (221.) Seminar in Problems in Social Psychology (3)
- 746. (226.) Seminar in Political Psychology (3)
- 757. (201.) Selected Topics in Clinical Psychology (3)
- 760. (230.) Seminar in Physiological Correlates of Behavior (3)
- 761. (231.) Seminar in Ethology and Comparative Psychology (3)
- 764. Psychopharmacology and Behavioral Disorders (3)
- 770. (270.) Statistical Theory (3)
- 771. Correlational Analysis (3)

FACULTY

Chairman, Department of Psychology: R. Penn
 Graduate Adviser: W. A. Hunrichs
 Professors: Alf, Dicken, Feierabend, Gallo, Graf, Grossberg, Harari, Harrison, Hillix, Hunrichs, Kaplan, O., Karen, Kass, Kinnon, Koppman, Leckart, Leukel, Levine, Linton, McDonald, O'Day, Parker, Penn, Radlow, Sattler, Schulte, Segal, Sheposh, Stevens
 Associate Professors: Bryson, DeFran, Franzini, Graham, Hornbeck, Lynn, Mollenauer, Perrott, Plotnik, Psomas, Rodin, Sand, Smith, Yaremko
 Assistant Professors: Eisen, Kaplan, R., Litrownik, McCordick, Price, Spinetta

GRADUATE COURSES

- 605. (222.) Seminar in Theoretical Psychology (3)**
Prerequisites: Psychology 480 or 680, and consent of graduate adviser.
Basic nature of theories, their relationships to data, and the characteristics of various types of constructs used in psychological theories.
- 607. (278.) Applied Community Psychology (3)**
Prerequisite: Consent of graduate adviser.
Systematic integration of principles of psychotherapy, behavior modification, child development, gerontology, social psychology, vocational testing, and psychological methodology into community psychology.
- 609. (295.) Field Work in Community Psychology (3)**
Prerequisites: Psychology 607 and consent of graduate adviser.
Applied community psychology in the service of the community, including supervision of undergraduate students and contact with community organizations.
- 620. Industrial-Organizational Psychology (3)**
Prerequisite: Consent of graduate adviser.
Theoretical issues, methodologies, and research findings relevant to the application of psychology to the world of work and to an understanding of behavior in organizations. Not open to students with credit or concurrent registration in Psychology 320 and 321.
- 621. (219.) Seminar in Personnel Psychology (3)**
Prerequisites: Psychology 320 or 620, 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. (220.) Seminar in Organizational Psychology (3)**
Prerequisites: Psychology 321 or 620, 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. (233.) Counseling and Psychotherapy Laboratory (4)**
Two lectures and six hours of laboratory.
Prerequisites: Psychology 451 or 653, and consent of graduate adviser.
Supervised practice in the application of psychotherapeutic and counseling techniques from selected cognitive, dynamic, interpersonal, and behavioral approaches.
- 651. (211.) Seminar in Behavior Disorders of Childhood and Adolescence (3)**
Prerequisites: Psychology 330, 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. (212.) Seminar in Behavior Disorders of Adults (3)**
Prerequisites: Psychology 350 and consent of graduate adviser.
Contemporary approaches to emotional and behavioral problems of adulthood. Considers developmental, cognitive and social variables as well as theory and treatment.
- 653. Advanced Clinical Psychology (4)**
Two lectures and six hours of laboratory.
Prerequisites: Psychology 350, 405 and consent of the graduate adviser.
Clinical assessment, theory and practice of behavior change, and professional ethics. Not open to students with credit or concurrent registration in Psychology 451.
- 654. (204.) 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. (205.) 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. (234.) Behavior Therapy Laboratory (4)**
Two lectures and six hours of laboratory.
Prerequisites: Psychology 451 or 653, 487 or 711, and consent of graduate adviser.
Supervised practice in the application of behavior therapy (individual treatment) and behavior modification (group method).
- 670. (223.) Experimental Design (3)**
Prerequisites: Psychology 410 and 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. (225.) Principles of Test Construction (3)**
Prerequisites: Psychology 405, 670 and consent of graduate adviser.
Detailed consideration of adequate sampling techniques, item construction, item analysis, determination and enhancement of reliability and validity of tests.
- 680. (277.) Seminar in the History of Psychology (3)**
Prerequisites: Psychology 410 and consent of graduate adviser.
The history of modern psychology. Not open to students with credit or concurrent registration in Psychology 480.
- 700. (200.) Seminar (3)**
Prerequisite: Consent of graduate adviser.
An intensive study in advanced psychology, topic to be announced in the class schedule. Maximum credit six units applicable on a master's degree.
- 710. (224.) Advanced Experimental Design (3)**
One lecture and six hours of laboratory.
Prerequisite: Psychology 670 and consent of graduate adviser.
Methods, techniques, and apparatus applicable to questions of various types. Special attention is given to sources of error, limitations on interpretations, and psychophysical methods. Students will design and carry out experiments in preparation for original independent investigations.
- 711. (275.) Advanced Principles of Learning (3)**
Prerequisite: Consent of graduate adviser.
The empirical data, basic principles and theoretical positions of major learning theorists. Not open to students with credit or concurrent registration in Psychology 487.
- 718. Research in Operant Behavior (3)**
Prerequisites: Psychology 316 or 416 or 487 or 711 and consent of graduate adviser.
Selected research topics in the experimental analysis of behavior. Maximum credit six units.
- 745. (221.) Seminar in Problems in Social Psychology (3)**
Prerequisites: Psychology 340 or 412, and consent of graduate adviser.
Factors influencing the formation of attitudes, opinions, and stereotypes; the establishment of roles during socialization of the individual; social crises, change, and resistance to change; the causes and alleviation of interpersonal conflict.
- 746. (226.) Seminar in Political Psychology (3)**
(Same course as Political Science 639.)
Prerequisites: Psychology 340 or 410, and consent of graduate adviser.
Psychological factors of the individual's political behavior; psychological theory as it applies to political variables such as: ideology, conflict, consensus, and participation.
- 757. (201.) Selected Topics in Clinical Psychology (3)**
Prerequisites: Psychology 451 or 653 and consent of graduate adviser.
Advanced study of such clinical topics as community mental health, forensic psychology, ethics, and autogenic training. Topics will vary on a semester basis.
- 760. (230.) 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.

761. (231.) Seminar in Ethology and Comparative Psychology (3)

(Same course as Biology 610.)

Prerequisites: Psychology 414 or 417 or Biology 520, 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.

764. 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.

770. (270.) Statistical Theory (3)

Prerequisites: Psychology 270, 405 and consent of graduate adviser.

Study of quantitative methods in psychology with emphasis on normal inference and nonparametric statistics. Not open to students with credit or concurrent enrollment in Psychology 470.

771. Correlational Analysis (3)

Prerequisites: Psychology 270 and consent of graduate adviser.

Study of correlational methods in psychology with emphasis on multiple regression and factor analysis; experience in use of computer techniques in multivariate correlational analysis. Not open to students with credit or concurrent registration in Psychology 471.

796. (296.) Clinical Practicum (3 or 6) Cr/NC

Prerequisites: Psychology 451 or 653 and 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.

797. (297.) Research (1-3) Cr/NC

Prerequisite: Consent of graduate adviser.

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

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of graduate adviser.

Individual projects involving library or laboratory research in any area of psychological investigation or interest. Maximum credit six units applicable on a master's degree.

799A. (299.) 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. 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**GENERAL INFORMATION**

Public Administration and Urban Studies, in the College of Professional Studies, offers graduate study leading to the Master of Public Administration degree, the Master of Science in Criminal Justice 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. Also, it is a participant in the NASPAA Urban Administration Fellows Program.

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. 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, 341, and one other course in a related field, or equivalent courses.

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 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. The student must also complete as a part of his program: (1) at least 24 units of 600- and 700-numbered courses, including Public Administration 600; (2) a minimum of six additional units of upper division or graduate courses in public administration or related fields selected under advisement. 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 the graduate adviser. The student's program must include a minimum of nine units in one of the fields of: concentration: formulation and administration of public policy; urban administration; organizational behavior and development; recreation administration; or fiscal policy and administration. The student must include in his program Public Administration 796, Internship in Public Administration, unless this requirement is waived by the graduate adviser on the basis that he has had satisfactory qualifying experience. The internship normally will be served in a governmental agency where the intern will perform duties of an administrative nature. Placements typically will be made in the office of a city manager, a budget office, a personnel office, or in the office of the head of a major operating department.

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 also satisfy the following requirements: (1) 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); (2) have had a minimum of six units in political science, six units in sociology, six units in economics, and three units in geography, or the equivalent of these courses. 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 only in the fall semester of each year and applications must be received no later than March 31.

ADVANCEMENT TO CANDIDACY

To be eligible for advancement to candidacy and admission to the second year of the program for this degree, 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 with an overall grade point average of 3.0 or higher, and otherwise comply with the regulations of the Graduate Division as described in Part Three of this bulletin.

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 56 units of approved upper division and 600- and 700-numbered courses, to include:

1. City Planning 700, Urban Design and Land Use Planning Studio (6)
City Planning 610, Seminar in Urban Planning (3)
City Planning 620, Seminar in Urban Planning Methodologies (3)
City Planning 630, Seminar in Urban Planning Implementation (3)
City Planning 640, Seminar in Urban Planning Theory (3)
2. Public Administration 512, The Metropolitan Area (3)
3. Nine units of 600- and 700-numbered courses in planning administration, history, readings and research.
4. City Planning 796, Internship in Urban Planning (3-6)
5. Electives to complete the program will be selected with the assistance of the adviser from appropriate courses in anthropology, art, economics, geography, political science, social work, sociology, and other disciplines deemed appropriate.

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.

The student is required to pass a final comprehensive examination.

**MASTER OF SCIENCE IN
CRIMINAL JUSTICE ADMINISTRATION 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.

Students seeking admission to the graduate program in criminal justice administration which leads to the Master of Science in Criminal Justice Administration 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.

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 SCIENCE DEGREE
IN CRIMINAL JUSTICE ADMINISTRATION**

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 and must have made up any deficiencies in his undergraduate program. The student must also complete as part of his graduate program the following: (1) at least 18 units of 600- and 700-numbered courses, including Public Administration 600 and 792 or 797, and Criminal Justice Administration 601 and 630; (2) a minimum of 12 units of upper division or graduate courses in elective courses selected with the approval of the graduate adviser. 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 the graduate adviser. If Plan B is selected, the student must select areas of concentration with the approval of the director of the criminal justice administration program.

Public Administration 301 and Criminal Justice Administration 301 are required in addition to the minimum 30 units unless completed as an undergraduate.

ASSISTANTSHIPS

Graduate teaching assistantships and graduate nonteaching assistantships in public administration are available to a limited number of qualified students. Application blanks and further information may be obtained from the director of programs in public administration and urban studies.

FACULTY

Director, Public Administration and Urban Studies: J. D. Kitchen
Coordinator, City Planning Program: J. A. Clapp
Coordinator, Criminal Justice Administration Program: R. L. Boostrom
Graduate Advisers:
Master of Public Administration: W. R. Bigger, J. A. Gazell, S. H. Gilbreath,
R. A. Hamilton, J. D. Kitchen, L. Thompson, M. G. Walshok
Master of Science in Criminal Justice Administration: R. L. Boostrom,
G. T. Gitchoff
Master of City Planning: J. A. Clapp
Professors: Bigger, Gilbreath, Kitchen, Kochanski, Marini
Associate Professors: Clapp, Gazell, Gitchoff, Hamilton
Assistant Professors: Boostrom, Thompson, Walshok
Lecturers: Corso, Frankum

**COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS
IN PUBLIC ADMINISTRATION AND URBAN STUDIES****UPPER DIVISION COURSES****Criminal Justice Administration**

502. (117.) Juvenile Deviance and the Administrative Process (3)
530. (116.) Contemporary Correctional Administration (3)
531. (188.) Probation and Parole (3)

Public Administration

530. (114.) Negotiation and Bargaining in the Public Service (3)
 531. (115.) Governmental Employer-Employee Relations (3)
 540. (156.) Public Administrative Systems Analysis (3)
 550. (162.) Fiscal and Budgetary Policy (3)
 580. (149.) Comparative Public Administration (3)

Urban Studies

510. (154.) Intergovernmental Relations in the United States (3)
 512. (148.) The Metropolitan Area (3)
 520. (150.) Decision Making in the Urban Community (3)

GRADUATE COURSES IN PUBLIC ADMINISTRATION AND URBAN STUDIES

- 600. (201.) 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. (205A.) Empirical Approaches to Public Administration: Qualitative Analysis (3)**
 Prerequisite: Public Administration 600.
 Examination of basic research approaches, i.e., legal, historical, and small-group, etc.
- 606. (205B.) Empirical Approaches to Public Administration: Quantitative Analysis (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. (250.) Management of Urban Governments (3)**
 Selected problems in the management of urban governments. Maximum credit six units applicable on a master's degree.
- 621. (255.) 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. (241.) 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.
- 640. (240.) Seminar in Public Administration (3)**
 Maximum credit six units applicable on a master's degree.
- 642. (203.) Seminar in Theory of Administrative Organization (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.
- 650. (230.) Seminar in Public Financial Management (3)**
 Prerequisite: Public Administration 550.
 Problems in the administration and budgeting of public revenues.
- 660. (260.) Administration and Public Policy Development (3)**
 Prerequisite: Twelve upper division units in social science.
 Social, political and administrative problems involved in governmental program development and change.

- 662. (243.) 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.
- 680. (249.) Seminar in Comparative Administration (3)**
 Prerequisite: Public Administration 301.
 Selected problems in administration, organization, and processes of foreign and international governments. Maximum credit six units applicable on a master's degree.
- 791. (245.) Readings in Public Administration (3)**
 Prerequisite: Credit or concurrent registration in Public Administration 600.
 Selected readings in the literature of public administration.
- 792. (291.) 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. (296.) Internship in Public Administration (1-6)**
 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.
- 797. (297.) Research in Public Administration (3) Cr/NC**
 Prerequisite: Consent of Director, Public Administration and Urban Studies.
 Research in one of the areas of public administration.
- 798. (298.) Special Study (1-3) Cr/NC**
 Individual study. Maximum credit six units.
 Prerequisite: Consent of staff; to be arranged with the Director and instructor.
- 799A. (299.) 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.

GRADUATE COURSES IN CITY PLANNING

- 610. (CP266A.) Seminar in Urban Planning (3)**
 Prerequisite: Public Administration 320.
 Introductory seminar to the Master of City Planning Program, focusing on the planner's perspective of urban problems and goal formation.
- 620. (CP266B.) Seminar in Urban Planning Methodologies (3)**
 Prerequisite: City Planning 610.
 Procedures and analytical techniques in urban planning.
- 630. (CP266C.) Seminar in Urban Planning Implementation (3)**
 Prerequisite: 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.
- 640. (CP266D.) Seminar in Urban Planning Theory (3)**
 Prerequisite: 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. (CP260.) Seminar in Urban Theory (3)

Prerequisite: Public Administration 320.

Study of the various empirically and normatively based theories of the city and urbanization process, with emphasis on communication and transaction and institutional approaches.

660. (CP265.) Seminar in Planning Administration (3)

The administration of the planning function in urban government. Relationships between the planner and public and private agencies, governmental departments and elected officials. Case studies and problems.

670. (CP262.) History of Urban Planning (3)

History of urban development and of the field of urban planning.

680. (CP267.) Readings in Urban Planning (3)

Selected topics in urban planning. Maximum credit six units applicable on a master's degree.

690. (CP297.) Research in Urban Planning (3) Cr/NC

Prerequisite: 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.

700. (CP261.) Urban Design and Land Use Planning Studio (6) Cr/NC

Two lectures and eight hours of laboratory.

Prerequisite: City Planning 620.

Laboratory course concerned with graphic expression, principles of land use planning, land development, and urban design. Project integrating principles.

796. (CP296.) Internship in Urban Planning (3-6)

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.

798. (CP298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff.

To be arranged with Director of City Planning and instructor. Individual study. Maximum credit six units.

GRADUATE COURSES IN CRIMINAL JUSTICE ADMINISTRATION**601. (210.) Seminar in the Administration of Criminal Justice (3)**

Prerequisite: Criminal Justice Administration 301 or 310.

Administrative problems of criminal justice systems.

630. (216.) Seminar in Correctional Administration (3)

Prerequisite: Criminal Justice Administration 530.

Selected problems in the administration of correctional problems and institutions. Maximum credit six units applicable on a master's degree.

631. (211.) Seminar in Correctional Group Method (3)

Prerequisite: Sociology 513 or 514 or Criminal Justice Administration 321 or 531.

An exploration of current research and use of group methods in the correctional segment of the criminal justice system.

632. (212.) Seminar in the History of Correctional Reform (3)

Prerequisite: Criminal Justice Administration 321 or 531 or Sociology 513 or 514.

The historical development of concepts and practices in the field of corrections with emphasis upon developments in the United States.

791. Readings in Criminal Justice Administration (3)

Prerequisite: Six graduate units in criminal justice administration.

Selected readings in the literature of criminal justice administration.

792. Problem Analysis (3)

Analytical treatment of selected problems in criminal justice administration. Review of methods for investigation and reporting of data. Consideration of problems in preparation of projects or theses.

796. Internship in Criminal Justice Administration (1-6)

Prerequisite: Consent of instructor.

Students are assigned to various government agencies and work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences.

797. Research in Criminal Justice Administration (3) Cr/NC

Prerequisite: Consent of Coordinator of Criminal Justice Administration.

Research in one of the areas of criminal justice administration.

798. Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with Coordinator and instructor.

Individual study. Maximum credit six units.

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.

RUSSIAN

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.

ASSISTANTSHIPS

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

FACULTY

Chairman, Department of Germanic and Slavic Languages and Literatures: L. A. Kozlik
Graduate Adviser: Vytas Dukas
Credential Adviser: Vytas Dukas
Professors: Dukas, Fetzer, Kozlik

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN RUSSIAN

UPPER DIVISION COURSES

545. (103.) Old Russian Literature (3)
555A-555B. (105A-105B.) The Russian Short Story, Drama, and Poetry of the Nineteenth Century (3-3)
561A-561B. (110A-110B.) The Russian Novel of the Nineteenth Century (3-3)
563. (111.) Russian Literature of the Twentieth Century (3)
570. Slavic Linguistics (3)
580. (130.) Russian Syntax and Stylistics (3)
581. (131.) Russian Phonetics and Morphology (3)

GRADUATE COURSES

600. (290.) **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. (201.) **History of the Russian Language** (3)
Prerequisite: Twelve upper division units in Russian.
The historical development of the Russian language.
- 650A-650B. (202A-202B.) **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. (203.) **Seminar in Slavic Linguistics** (3)
Prerequisite: Twelve upper division units in Russian including Russian 570.
Selected topics in historical and comparative Slavic linguistics.
- 700A-700B. (204A-204B.) **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. (205.) **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. (253.) **Nineteenth Century Russian Literature** (3)
Prerequisite: Twelve upper division units in Russian.
Major developments in the literature of the time.
760. (255.) **Seminar: A Major Author or Movement** (3)
Prerequisite: Russian 600.
A major author or movement. Maximum credit six units applicable on a master's degree.
798. (298.) **Special Study** (1-3) Cr/NC
Individual study. Maximum credit six units.
Prerequisites: Eighteen upper division units in Russian and consent of staff; to be arranged with department chairman and instructor.
- 799A. (299.) **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.

SOCIAL SCIENCE

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.)

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; Anthropology 497, Investigation and Report; 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, Geographic Research and Techniques of Presentation (3).

Political Science: Political Science 601, The Scope and Method of Political Science (3).

FACULTY

Coordinator of Graduate Programs: M. J. Moore

Graduate Advisers:

Anthropology: M. J. Moore

Economics: J. Hambleton

Geography: C. Yahr

Political Science: H. Janssen

Sociology: D. Kirby and J. Werner

Faculty members in the Departments of Anthropology, Economics, Geography, Political Science, and Sociology are listed in the appropriate sections of this bulletin.

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

GENERAL INFORMATION

The School of Social Work offers a two-year graduate curriculum leading to the Master of Social Work degree under approval granted by the Board of Trustees of the California State University and Colleges in May, 1963. The curriculum was developed in close cooperation with the Council on Social Work Education and was fully accredited by its Accreditation Commission in June, 1966.

The School also offers a program of professional education leading to the Master of Science in Social Work degree. Students who have completed the undergraduate social welfare major at San Diego State University, or its equivalent, can be considered for admission to this program. Approval for this new degree program was granted in February, 1970.

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.

To meet these objectives, the graduate curriculum in the School of Social Work offers a program of classroom and field instruction which includes course content in the five major areas listed below. In addition, students may select emphasis in the areas of health, mental health, or aging.

- 1. Social Welfare Policy and Services.** Social welfare policy and services; their development, organization and operation; the purpose and status of current programs; the influence of social, economic and political factors; the role of the social worker in evaluation and improvement of existing programs with reference to the philosophy of social work; and the assessment of unmet needs and their resolution.
- 2. Human Behavior and the Social Environment.** Normal growth and development of the individual from childhood through old age within the social contexts of the family, group relationships, occupational settings, and community structure; the nature and causes of impaired social and emotional functioning; the nature and changing character of social and cultural structures with attention to the interaction between the individual and his social environment and the reciprocal effects of the interaction.
- 3. Social Work Practice.** Objectives, general theory, basic principles and values and ethics of the profession in social work practice; the first-year sequence is the same for all students and covers the fundamentals of practice; in the second year, there may be a concentration on intervention with individuals, families, and groups, or intervention with organizations and communities; appropriate attention to the enabling methods of research and administration.
- 4. Field Instruction.** Practice carried on in field settings under educational direction, the objectives of which include a beginning mastery of professional social work practice; the disciplined use of "self" to give professional service; the integrated use of knowledge, attitudes, and skills in achieving social work goals; broadening and deepening knowledge of the function and application of social work practice in a variety of fields and circumstances; and an understanding of and an involvement with the problems of concern to social work.
- 5. Research.** Research methodology, its processes and decision-making; developing a research proposal, data collection and analysis and writing a report based on individual or group project; course objectives include a beginning mastery of research on social work issues or social problems and familiarity with systematic approaches to the study and analysis of practice.

APPLICATION FOR ADMISSION

In seeking tentative admission to the program leading to the Master of Social Work degree or the Master of Science in Social Work degree, the student should write directly to the School of Social Work Admissions Committee 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 Dean of the School of Social Work Admissions Committee not later than January 1.

The applicant also must file an application for admission to San Diego State University with the 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, a student 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. Submit a written personal history in the manner prescribed by the School of Social Work.
3. 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.
4. Possess a personality judged suitable for the profession.
5. Arrange for an interview when so requested by the School.

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 and for admission to the second year of the program for this degree, the student must, in addition to holding classified graduate standing:

1. Have earned a 3.0 (B) grade point average on all courses required in the first year of his program.
2. Be recommended by the faculty of the School of Social Work.
3. Be approved for advancement by the Graduate Division.

SPECIFIC REQUIREMENTS FOR THE MASTER OF SOCIAL WORK DEGREE

1. Fifty-six units of graduate work 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. 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, three units, with permission of the Dean 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 when all requirements for the degree are completed. In special circumstances, students may be permitted to validate credits earned outside these time limits by satisfactorily passing comprehensive examinations on the outdated course or courses.

3. A maximum of nine units of combined credit in courses 797A-797B and 798 may be included on a student's official program for the Master of Social Work degree.
4. 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.
5. 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. In addition, the student must have earned a 3.0 (B) grade point average in both academic courses and field instruction in his program. Grade point average in academic courses is independent of grade point average in field instruction.
6. Second year electives must include at least six units of two-semester Type A courses and one Type B course during the duration of the degree program.

COURSE REQUIREMENTS

The program of study normally required for all beginning first-year graduate students in the Master of Social Work degree program is as follows:

Sequence	Semester				Total Units
	I	II	III	IV	
Social Welfare Policy and Services	SW 600A (3)	SW 600B (3)			(6)
Human Behavior and Social Environment	SW 620A (3)	SW 620B (3)			(6)
Social Work Practice	SW 630A (3)	SW 630B (3)	SW 730A or SW 734A (3)	SW 730B (3)	(12)
Field Instruction	SW 650A (4)	SW 650B (4)	SW 752A or SW 754A (5)	SW 750B or SW 754B (5)	(18)
Research	SW 690A (2)	SW 690B (2)	SW 797A (3)	SW 797B (3)	(10)
Electives*			2-3 Units	2-3 Units	(4-6)
Total Units	(15)	(15)	(13-14)	(13-14)	(56-58)

*To be chosen on individual student basis from electives but must include a course from Type B grouping during the duration of the degree program.

MASTER OF SCIENCE DEGREE IN SOCIAL WORK

ADVANCEMENT TO CANDIDACY

Students who have been admitted to the School of Social Work and have enrolled in the Master of Science program for the fall semester will meet with their advisers during the first half of the Spring semester following to discuss the advisability of undertaking the balance of the calendar year professional degree program.

To be eligible for advancement to candidacy and for admission to the summer session of the Master of Science degree program, the student must, in addition to holding classified graduate standing:

1. Have earned a 3.0 (B) grade point average on all courses required in the first semester of his program.
2. Be recommended by the faculty of the School of Social Work.
3. Be approved for advancement by the Graduate Division.

SPECIFIC REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

1. A minimum of 30 units of graduate work 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. Of the minimum 30 units required for the Master of Science degree, three may be fulfilled, with permission of the Dean of the School of Social Work, by substituting relevant 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 when all requirements for the degree are completed. In special circumstances, students may be permitted to validate credits earned outside these time limits by satisfactorily passing comprehensive examinations on the outdated course or courses.
3. A maximum of six units of combined credit in courses 797A-797B and 798 may be included on a student's official program for the Master of Science in Social Work degree.
4. All candidates for the degree must satisfactorily pass a comprehensive examination in lieu of a thesis under the provisions of Plan B as described elsewhere in this bulletin.
5. 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. In addition, the student must have earned a 3.0 (B) grade point average in both academic courses and field instruction in his program. Grade point average in academic courses is independent of grade point average in field instruction.
6. Electives must include at least one Type B course during the duration of the degree program.
7. Student may use all M.S.W. course listings in making up a program of study, except those listed as normally required for semester I and II under M.S.W. requirements.

The completion of the Master of Science in Social Work degree normally requires two full semesters' work followed by the completion of 6-8 units during the Summer Session or the following academic year.

COURSE REQUIREMENTS

The program of study normally required for all students in the Master of Science in Social Work degree program is as follows:

Sequence	Semester			Total Units
	I	II	Summer (12 weeks)	
Social Work Practice	SW 730A (3) or SW 734A (3)	SW 730B or SW 734B (3)		(6)
Social Work Field Instruction	SW 756A (4)	SW 756B (4)	SW 758 (6-8)	(14-16)
Research	SW 797A (3)	SW 797B (3)		(6)
Electives*	3 units	1-3 units		(4-6)
Total Units	(13)	(11-13)	(6-8)	(30-34)

*To be chosen on individual student basis, but must include a Type B course during the duration of the degree program.

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 entitled "Regulations of the Graduate 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 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 consideration for waivers of nonresident tuition fees and the other forms of 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 Dean 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 will be recommended for an award.

FIELD INSTRUCTION DURING PERIODS OF UNIVERSITY HOLIDAYS

Because of the nature of field instruction and the student's responsibility to the agency to which he is assigned, and the clientele it serves, field instruction may continue on the regular work schedule of the agency under certain circumstances.

FACULTY

Acting Dean, School of Social Work: J. B. Kelley

Acting Associate Dean, School of Social Work: J. Maxwell

Professors: Griffin, Haworth, Horowitz, Ishikawa, Kahn, Kelley, Kukkonen, Lee, Maxwell, Morgan, Ontell, Pilcher, Reichert, Stanford, Stumpf, Tebor

Associate Professors: Anderson, Baily, Clary, Guidry, Herman, Pepper, Rubin, Sardinas, Valle

Assistant Professors: Ajemian, Raymer, Siman, Sucato, Watson

Appointments Under Grants from Outside Funds

Lecturers: Hudson, Kenney, Lockery, Shenko

REQUIRED COURSES IN M.S.W. OR M.S.S.W. PROGRAMS

Social Work 600A, 600B, 620A, 620B, 630A, 630B, 650A, 650B, 690A-690B, 750A or 754A, 750B or 754B, 756A, 756B, 758, 797A-797B.

Electives:

Type A—Social Work Roles

Social Work 730A-730B, 734A-734B, 740A-740B, selected sections of 781 and 798.

Type B—Substantive Content Areas

Social Work 700A-700B, 720, 755, selected sections of 781 and 798.

GRADUATE COURSES

Prerequisite for enrollment in all graduate courses: admission to the School of Social Work.

600A. (200.) Social Welfare Policy and Services I (3)

Social welfare as a societal institution; philosophical, historical and comparative analysis of the welfare functions, issues and problems, with special focus on personal and social deprivation.

600B. (201.) Social Welfare Policy and Services II (3)

Prerequisite: Social Work 600A.

Conceptional analysis of social welfare programs related to income maintenance and other social service areas, including social insurance, child welfare and community development.

620A. (220.) Human Behavior and Social Environment I (3)

Theoretical perspectives on man in the changing world. View based on biological, psychological, interpersonal and social structure assumptions over the life-cycle, for application to social work practice.

620B. (221.) Human Behavior and Social Environment II (3)

Prerequisite: Social Work 620A.

Examination of deviant behavior from relative frameworks of a medical model and a career process model. Selected social problem areas are used as illustrations.

630A. (230.) Social Work Practice I (3)

Prerequisite: Concurrent registration in Social Work 650A.

Principles of social work practice with individuals, families, groups and communities. Attention is given to social work objectives, principles and skills.

630B. (231.) Social Work Practice II (3)

Prerequisites: Social Work 630A and concurrent registration in Social Work 650B.

Principles of social work practice with individuals, families, groups and communities with emphasis on refinement of skills of social study and social problem analysis. Attention to interactional and small group processes in determination of goals and change.

650A. (250.) Field Instruction I (4)

Prerequisite: Concurrent registration in Social Work 630A.

Field instruction in a public or voluntary social work setting. Experiences are drawn upon in relation to classroom learning to emphasize application of social work objectives, principles and skills to services to individuals, families, groups and communities.

650B. (251.) Field Instruction II (4)

Prerequisites: Social Work 650A completed in the preceding semester and concurrent registration in Social Work 630B.

Continuation of field instruction initiated in Social Work 650A. Opportunities are provided for the application of social study and social problem analysis to experience with interactional and small group processes.

690A-690B. (290A-290B.) Social Work Research Methods and Analysis (2-2)

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.

700A. (202.) Social Welfare Policy and Services III (3)

Prerequisite: Social Work 600B.

Problems and issues in emerging social welfare programs, including analysis of the structure of social services and of social work as a profession.

700B. (203.) Social Welfare Policy and Services IV (3)

Prerequisite: Social Work 600B.

Analysis of existing or projected social welfare programs or service.

710. (291.) 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. Topics announced in class schedule. Maximum credit nine units applicable on a master's degree.

720. (222.) Human Behavior and Social Environment III (3)

Prerequisite: Social Work 620B.

Theories of natural and induced change in human behavior which have utility for social work practice.

730A. (232.) Social Work Practice III (3)

Prerequisites: Social Work 630B and concurrent registration in Social Work 750A.

Social work intervention with families and groups toward personal, social, organizational and institutional change and problem solving. Emphasis on social, ethnic and economic interaction contexts.

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730B. (233.) Social Work Practice IV (3)

Prerequisites: Social Work 730A, consent of instructor and concurrent requirement in field work.

Designed to offer opportunity for integration and application of the student's knowledge of an array of approaches to practice. Specific content relevant to selected models of social problems experienced by individuals, families and groups in interaction with their social environment.

734A. (234.) Social Work Practice With Organizations and Communities (3)

Prerequisites: Completion of first year courses and concurrent practicum.

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.

734B. (235.) Social Planning in Social Work (3)

Prerequisites: Social Work 734A, consent of instructor and concurrent requirement in field.

Examines structures and processes of decision making in development of community and human services; relationships of social, physical and economic planning in old cities and new towns; designing human care system; and supervision, consultation and administration in social planning.

740A-740B. (205.) Management Knowledge and Technique (3-3)

Prerequisite: Social Work 600B.

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.

741A-741B. Facilitative and Educational Roles in Social Agencies (3-3)

Prerequisites: Completion of first year courses.

Examines facilitative and educational roles of practitioner in social agencies 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.

750A. (252.) Field Instruction III: Individuals, Families and Groups (4-5)

Prerequisites: Social Work 650B and concurrent registration in Social Work 730A.

Field instruction in a social work setting providing a concentration on social work practice aimed at achieving change in or on behalf of individuals, families and groups. Practice under educational direction at an advanced level.

750B. (253.) Field Instruction IV: Individuals, Families and Groups (4-5)

Prerequisites: Social Work 750A completed in the preceding semester and concurrent registration in Social Work 730B.

Continuation of Field Instruction III at an advanced level. Emphasis is placed on the use of diverse problem-solving strategies and resources in social work.

754A. (255.) Field Instruction V: Organizations and Communities (4-5)

Prerequisites: Social Work 650B and concurrent registration in Social Work 734A.

Field instruction in a social work setting providing a concentration on social work practice aimed at achieving changes in social policies, organizations and communities. Practice under educational direction at an advanced level.

754B. (256.) Field Instruction VI: Organizations and Communities (4-5)

Prerequisites: Social Work 754A completed in the preceding semester and concurrent registration in Social Work 734B.

Continuation of Field Instruction V at an advanced level. Emphasis is placed on the use of diverse social work strategies and resources in social planning or community development.

755. (270.) Seminar: Social Work Analysis (1-4)

Discussion of student experience in field instruction and its broader implications. Maximum credit four units applicable on a master's degree.

756A. (236.) Social Work Practice VII (4)

Prerequisite: Concurrent registration in Social Work 730A or 734A.

Laboratory field instruction enabling the student to integrate social work theory, knowledge and concepts in developing interventive skills with individuals, families, groups, organizations and communities. Enrollment limited to students admitted to the M.S.S.W. program.

756B. (237.) Social Work Practice VIII (4)

Prerequisites: Social Work 756A and concurrent registration in Social Work 730B or 734B.

Continuation of Social Work Practice VII with emphasis on refinements of skills in intervention with individuals, families, groups, organizations and communities.

758. (238-5.) Social Work Practice IX (6-8) S

Emphasis on the further development of skills with individuals, families, groups, organizations and communities. Enrollment limited to students admitted to M.S.S.W. program.

760. 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. Social Work and Aging (3)

Prerequisites: Completion of first year courses and concurrent practicum in aging.

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.

In-depth 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. Social Work and Health (3)

Prerequisites: Completion of first year courses and concurrent practicum in health.

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. Social Work and Mental Health (3)

Prerequisites: Completion of first year course and concurrent practicum in mental health.

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.

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780. (291.) 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. Maximum credit six units applicable on a master's degree.

781. (291.) 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. Maximum credit six units applicable on a master's degree.

797A-797B. (297A-297B.) Research (3-3) Cr/NC

Prerequisite: Social Work 690A-690B.

Research in the field of social work and completion of a research project. Individual or group project.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with Dean and instructor. Individual study. Maximum credit six units.

SOCIOLOGY**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 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 majoring in sociology must take the four 600-level core courses (Sociology 601, 602, 603, and 604) and must complete each course with a minimum "B" grade by the end of the first year in the master's program. A student may seek exemption from a maximum of two course areas 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, the student must include in his graduate program a minimum of 24 units from courses in sociology listed below as acceptable on master's degree programs, of which at least 18 units must be in 600- and 700-numbered courses, including 799A, Thesis. A comprehensive examination in theory and methodology 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 6 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 3 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.

ASSISTANTSHIPS

Graduate teaching assistantships and graduate nonteaching assistantships in sociology are available to a limited number of qualified students. Application blanks and further information may be obtained from the chairman of the department.

FACULTY

Chairman, Department of Sociology: T. L. Gillette
Graduate Adviser: M. J. Daniels
Professors: Daniels, DeLora, J.R., El-Assal, Gillette, Johnson, Milne, Mouratides, Somerville, Sorensen, Wendling, Winslow
Associate Professors: Buck, Chandler, Cottrell, DeLora, J.S., Emerick, Kennedy, Scheck, Schulze, Werner
Assistant Professors: Halpern, Hohm, Ima, Kirkpatrick, Kolodij, Preston, Stephenson

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN SOCIOLOGY

UPPER DIVISION COURSES

506. Modernization of Traditional Societies (3)
 510. (110.) Sociology of Deviance (3)
 511. (111.) Current Topics in Sociology (3)
 512. (112.) Sociology of Conflict (3)
 513. (113.) Criminology and Penology (3)
 514. (114.) Juvenile Delinquency (3)
 519. Topics in Comparative Societies (3)
 520. (120.) Industrial Sociology (3)
 521. (121.) Sociology of Occupations and Professions (3)
 523. (123.) The Sociology of Mental Illness (3)
 525. (125.) Minority Group Relations (3)
 526. (126.) Medical Sociology (3)
 527. Sociology of Aging (3)
 528. Sociology of Death (3)
 533. Sex Roles in Contemporary Societies (3)
 534. Sexuality in Modern Society (3)
 535. (135.) The American Family and Its Alternatives (3)
 536. (136.) The Family in Cross-Cultural Perspective (3)
 537. (137.) Political Sociology (3)
 538. (138.) Sociology of Religion (3)
 539. (139.) Sociology of Education (3)
 541. (141.) Advanced Social Psychology: Sociological Approaches (3)
 545. (145.) Sociology of Mass Communication (3)
 546. (146.) Collective Behavior (3)
 547. (147.) Sociology of Social Movements (3)
 548. (148.) Small Groups (3)
 550. (150.) Population Problems (3)
 557. (157.) Urban Sociology (3)
 563. The Logic of Sociological Inquiry (3)
 597. (197.) Investigation and Report (3)

GRADUATE COURSES

- 601. Advanced Social Theory: Core Course (3)**
 Prerequisites: Unclassified 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: Unclassified 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)**
 Prerequisite: Unclassified 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. Social Organization: Core Course (3)**
 Prerequisites: Unclassified 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.

700. (200.) 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. Maximum credit six units applicable on a master's degree.

705. (205.) Directed Readings in Social Theory (3)

Prerequisites: Sociology 401 and 464.

Selected readings providing comprehensive coverage of the field of social theory.

710. (210.) 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. Maximum credit six units applicable on a master's degree.

715. (215.) Directed Readings in Social Disorganization (3)

Prerequisites: Sociology 464 and 510.

Selected readings providing comprehensive coverage of the field of social disorganization.

720. (220.) 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. Maximum credit six units applicable on a master's degree.

725. (225.) Directed Readings in Social Organization (3)

Prerequisites: Sociology 422 and 464.

Selected readings providing comprehensive coverage of the field of social organization.

730. (230.) 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. Maximum credit six units applicable on a master's degree.

735. (235.) Directed Readings in Social Institutions (3)

Prerequisites: Sociology 422 and 464.

Selected readings providing comprehensive coverage of the field of social institutions.

740. (240.) 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. See class schedule for specific content. Maximum credit six units applicable on a master's degree.

745. (245.) Directed Readings in Social Psychology: Sociological Approaches (3)

Prerequisites: Sociology 440 and 464.

Selected readings providing comprehensive coverage of the field of social psychology.

750. (250.) 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. See class schedule for specific content. Maximum credit six units applicable on a master's degree.

755. (255.) Directed Readings in the Community (3)

Prerequisites: Sociology 464 and 557.

Selected readings providing comprehensive coverage of the sociological study of human communities.

760. (260.) 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. Maximum credit six units applicable on a master's degree.

765. (265.) Directed Readings in Research Methods (3)

Prerequisite: Sociology 464.

Selected readings providing comprehensive coverage of sociological research methods.

770. (270.) Seminar in Population and Demography (3)

Prerequisites: Sociology 464 and 550.

Demographic theories, fertility, mortality, migration, construction and application of demographic indices, demographic prediction, world population trends, special topics. See class schedule for specific content. Maximum credit six units applicable on a master's degree.

775. (275.) Directed Readings in Population and Demography (3)

Prerequisites: Sociology 464 and 550.

Selected readings providing comprehensive coverage of the fields of population and demography.

797. (297.) Research (3) Cr/NC

Prerequisite: Sociology 464.

Independent investigation of special topics.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

SPANISH**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 which includes a major consisting of at least 24 units in Spanish, of which at least 18 units must be in 600- and 700-numbered courses, including Spanish 601 and either Spanish 799A in Plan A programs, or Spanish 794 in Plan B programs.

Students who plan to earn a teaching credential as well as the master's degree in Spanish will normally follow Plan B, which includes the passing of a comprehensive examination in lieu of the thesis.

ASSISTANTSHIPS

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

FACULTY

Chairman, Department of Spanish and Portuguese Languages and Literatures: G. L. Head
Graduate Adviser: M. E. O'Brien
Credential Adviser: C. B. Christensen
Professors: Baker, Case, Head, Lemus, Walsh
Associate Professors: Barrera, Christensen, Jiménez-Vera, Santaló, Segade, Talamantes, Weeter
Assistant Professors: O'Brien, Windsor, Young

**COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS
IN SPANISH****UPPER DIVISION COURSES****Spanish**

- 504A-504B. (104A-104B.) Spanish-American Literature (3-3)
510A-510B. (105A-105B.) Modern Spanish Drama (3-3)
515A-515B. (106A-106B.) Mexican Literature (3-3)
520. (107.) Caribbean Area Countries Literature (3)
522. (108.) Andean Countries Literature (3)

524. (109.) River Plate Literature (3)
 530. (110.) Nineteenth Century Spanish Novel and Short Story (3)
 532. (111.) Twentieth Century Spanish Novel and Short Story (3)
 533. (112.) Contemporary Spanish Novel (3)
 548. (149.) Spanish Linguistics (3)
 549. (150.) Phonetics and Phonemics (3)
 550. Golden Age Literature I (3)
 560. Golden Age Literature II (3)
 570. (170.) Spanish-American Poetry (3)
 571. (171.) Spanish-American Short Story (3)
 572. (172.) Spanish-American Theatre (3)
 580. (180.) Modern Spanish Poetry (3)

Portuguese

534. (134.) Portuguese Literature (3)
 535. (135.) Brazilian Literature (3)

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

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. (290.) **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. (201.) **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. (202.) **Cervantes** (3)
 The principal prose works of Cervantes: The *Novelas ejemplares* and *Don Quixote*.
630. (203.) **Lope de Vega and Calderon** (3)
 The works of Lope de Vega and Calderon.
640. (204.) **The Spanish-American Novel** (3)
 The Spanish-American novel to 1935.
650. (205.) **The Gaucho Epic** (3)
 The *Poesía gauchesca*, with particular emphasis on *Martin Fierro*, *Fausto*, and *Santos Vega*.
660. (206.) **Modernism** (3)
 The *Modernista* movement in Spanish America, with special attention to representative poets.
670. (207.) **Medieval Spanish Literature** (3)
 Prerequisite: Spanish 610.
 The literature of Spain from the earliest extant works to the *Celestina*.
680. (208.) **The Modern Spanish Essay** (3)
 The thinkers, essayists and philosophers of Spain from the generation of 1898 to the present.
690. (209.) **The Spanish-American Essay** (3)
 Principal Spanish-American essayists of the 19th and 20th centuries.
695. (210.) **Contemporary Spanish-American Prose Fiction** (3)
 The principal writers of prose fiction in Spanish America from the mid-thirties to today.
720. (220.) **Seminar in Spanish Golden Age Literature** (3)
 A representative author, a genre or movement of the Spanish Golden Age. Maximum credit six units applicable on a master's degree.

730. (230.) Seminar in 19th Century Spanish Literature (3)

A representative author, a genre or movement of the 19th century in Spain. Maximum credit six units applicable on a master's degree.

740. (240.) Seminar in 20th Century Spanish Literature (3)

A representative author, a genre or movement of the 20th century in Spain. Maximum credit six units applicable on a master's degree.

750. (250.) Seminar in Spanish-American Literature (3)

A genre or movement of Spanish America. Maximum credit six units applicable on a master's degree.

755. (255.) Seminar in Spanish-American Culture and Thought (3)

Works of representative authors of Spanish America. Maximum credit six units applicable on a master's degree.

770. (270.) 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.

798. (298.) Special Study (1-3) Cr/NC

Prerequisite: Consent of staff, to be arranged with department chairman and instructor.

Individual study. Maximum credit six units.

799A. (299.) 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.

SPEECH COMMUNICATION

GENERAL INFORMATION

The Department of Speech Communication, in the College of Professional Studies, 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. An emphasis in oral interpretation within the speech communication degree program is also available.

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 attained classified graduate standing and 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 from courses listed below as acceptable on master's degree programs in speech, 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 six 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.

Emphasis in Oral Interpretation

The requirements for students electing an emphasis in oral interpretation are as follows:

1. A minimum of 30 units, including at least 21 units of 600- and 700-numbered courses.
2. Speech Communication 700 (3), 708 (6), 735 (3), 750 (3), and 798 (3).
3. Nine units to be taken from the courses listed below:

English

- 507. The History of Literary Criticism (3)
- 508. Modern Criticism (3)
- 513. Modern American Fiction (3)
- 514. Modern American Poetry (3)
- 516. American Drama (3)
- 537. Milton (3)
- 540A or 540B. English Fiction (3)
- 542A or 542B. Nineteenth Century British Poetry (3)
- 543. Nineteenth Century British Prose (3)
- 544. Modern British Fiction (3)
- 545. Modern British Poetry (3)
- 546. Modern British Drama (3)
- 570. Techniques of Drama (3)

- 572. Techniques of Drama (3)

- 579. Topics in Techniques of Writing (3)

- 630. Poetry (3)

- 700. Seminar: A Major Author (3)

- 710. Seminar: A Cultural Period (3)

- 720. Seminar: A Literary Problem (3)

Drama

- 520. Play Analysis (3)
- 522. Playwriting the One-Act Play (3)
- 560A or 560B. History of the Theatre (3)

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

- 648. Seminar in Dramatic Theory (3)

4. Speech Communication 799A, Thesis (3)

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 chairman.

FACULTY

Chairman, Department of Speech Communication: F. C. Sanders

Graduate Adviser: S. W. King

Professors: Adams, Benjamin, Mills, Samovar

Associate Professors: King, Sanders

Assistant Professors: Moore, Weitzel

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN SPEECH COMMUNICATION

UPPER DIVISION COURSES

- 508. (108.) Advanced Interpretation (3)
- 530. (130.) Semantics (3)
- 535. (135.) Theories of Human Communication (3)
- 537. (137.) Empirical Study in Speech Communication (3)
- 540. (140.) Freedom and Responsibilities of Speech (3)
- 575. (175.) Intercultural Communication (3)
- 589. (189.) Ethics of Speech Communication (3)
- 592. (192B.) Persuasion (3)

GRADUATE COURSES

700. (200.) 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.

708. (208.) Seminar in Oral Interpretation (3)

Prerequisite: Speech Communication 508.

Aesthetic discipline applied to oral interpretation of various forms of literature. Analysis of thought and emotional content, and aesthetic form. Investigation of advanced problems of delivery. May be repeated with new content. Maximum credit six units.

730. (230.) 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. (235.) Seminar in Communication Theory (3)

Prerequisite: Speech Communication 535.

Theories of communication; communication models, codes, perception and effects.

750. (250.) 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. (251.) 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.

762. (262.) Seminar in Argumentation (3)

Prerequisite: Speech Communication 362.

Significant topics in argumentation: the formulation of problems for argument; analysis; the brief with patterns of argument, traditional and recent; presumption; probability; laws of evidence; fallacies.

780. (280.) Seminar in Public Address, 1600-1850 (3)

Examination of the problems confronting American speakers and the solutions they offered. Special emphasis placed on the rhetorical means used to solve major crises in American history.

781. (281.) Seminar in American Public Address, 1850 to Present (3)

Examination of the problems confronting American speakers and the solutions they offered. Special emphasis placed on the rhetorical means used to solve major crises in American history.

782. (282.) Seminar in Contemporary American Public Address (3)

Prerequisite: Speech Communication 392 or 592.

790. (290.) 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. (291.) Seminar in Group Discussion Theory (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. (292.) 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.

793. (293.) Seminar in Greek and Roman Public Address (3)

Prerequisites: Speech Communication 350, and 392 or 592.

794. (294.) Seminar in 18th Century British Public Address (3)

Prerequisite: Speech Communication 392 or 592.

798. (298.) Special Study (1-3) Cr/NC

Individual study. Maximum credit six units.

Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

799A. (299.) Thesis or Project (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 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.

SPEECH PATHOLOGY AND AUDIOLOGY**GENERAL INFORMATION**

The Department of Speech Pathology and Audiology, in the College of Professional Studies, 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. Observation, diagnostic and therapeutic experience with out-patient children and adults is available. Field experience is offered in the public schools and community agencies. Practicum and observation experiences are possible at San Diego Speech, Hearing and Neurosensory Center, Children's Hospital; United Cerebral Palsy Center; The Home of Guiding Hands (mental retardation); Anderson and Lafayette Schools (deaf and severely hard of hearing); Head Start (disadvantaged); Rolando School (congenital aphasia); University of California Medical School Hospital; U.S. Naval Hospital, Balboa Park; U.S. Veterans Administration Hospital; Chicano Community Center; San Ysidro Community Health Center; and Edgemoor Geriatrics Hospital.

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.

Minimum requirements for admission as a classified graduate student in the Department of Speech Pathology and Audiology include the following: (1) a score of 950 on the GREAT; (2) a grade point average of not less than 2.5 in all undergraduate work taken for the baccalaureate degree; (3) a grade point average of not less than 3.0 in courses taken for a speech pathology-audiology-deaf education major of 24 semester units; (4) three letters of recommendation; (5) a personal interview by one or more members of the department or by a member of the profession specified by the department; (6) a handwritten statement from the applicant regarding career goals, awards, volunteer, and other relevant experience.

ADVANCEMENT TO CANDIDACY

All students must meet the general requirements for advancement to candidacy which are 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 attained classified graduate standing and to have completed Speech Pathology and Audiology 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 speech pathology and audiology which must include Speech Pathology and Audiology 600 and 797 or 799A. Fifteen units of the 24 units must be in 600-numbered courses in speech pathology and audiology, including Speech Pathology and Audiology 600, 601, 602, 603, 604, 605, 606, 640, 644, 649, 654, 657, or 658. A student must complete Speech Pathology and Audiology 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 Speech Pathology and Audiology 797, Research; and pass a comprehensive examination (which may be repeated only once).

CREDENTIALS**Restricted Credential: Speech and Hearing Specialist (Phase II)**

The Restricted Credential is not available to students who did not complete credential requirements by September 14, 1974, or who were not on a list of candidates in the program (lock list) as of December 1, 1973. The Restricted Credential is a five-year program leading to a credential which authorizes service in all grades in the area specified. It requires the same lower division courses as are required in the preparation for the major in speech pathology and audiology, a bachelor's degree and completion of a specific pattern of courses. The following speech pathology and audiology courses are required: Speech Pathology and Audiology 320, 321, 322, 323, 324, 326, 329, 340, 527,

528, 551; and 15 units chosen with the approval of the adviser from Speech Pathology and Audiology 341, 342, 346, 390, 496, 530, 531, 532, 543, 547, 550, 552, 553, 601, 602, 603, 604, 605, 606, 626, 628, and 654. Two courses may be selected from Speech Pathology and Audiology 356, 357, 640, 644, 645, 646, 649, 656, or 657. Consult the adviser for specific courses required outside of the department. A provisional credential is no longer offered, and there is no postponement of requirements prior to receiving the restricted credential.

Specialist Credential for the Communicatively Handicapped (Ryan Bill)

Assembly Bill 122 (Ryan Bill) has changed the credential structure in the State of California. All students who did not complete the credential requirements by September 14, 1974, or who are not on a lock list as of December 1, 1973, must meet the requirements of the new credentials offered by Assembly Bill 122. The Specialist Credential for the Communicatively Handicapped prepares students for an emphasis in one or more of the following areas of handicap:

- Aphasia
- Deaf and Severely Hard of Hearing
- Deaf-Blind
- Severe Oral Language
- Speech and Hearing

The Specialist Credential for the Communicatively Handicapped may be pursued in conjunction with the Multiple Subjects Teaching Credential or with the Single Subject Teaching Credential. Students may choose to pursue a departmental major and pass the National Teachers Examination prior to entering the School of Education curriculum. The credential specifies a sequence of speech pathology and audiology courses plus education courses. The education courses have not been fully specified at this time but will parallel those required by the regular elementary and secondary credentials, with some exceptions. Consult the department adviser.

Services Credential: Speech and Hearing (Ryan Bill)

Assembly Bill 3150 provides for a Services Credential for Speech and Hearing. Specific requirements are not known at this time, but it is the intention of the Department of Speech Pathology and Audiology to offer this credential. Contact the department office for more information.

CERTIFICATES

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 practice requirements must meet certain specifications. Consult an adviser in the area in which certification is desired for specific information.

Preparation Leading to the Professional Certificate from the Council on Education of the Deaf

Students may complete the academic and practice requirements leading to 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.

FACULTY

Chairman, Department of Speech Pathology and Audiology: H. G. Kopp

Graduate Adviser:

- E. J. Allen
- L. Ellis
- H. G. Kopp
- A. C. Nichols
- R. L. Martin
- R. M. Riedman
- E. L. Thile

Credential Adviser, Speech and Hearing Specialist: E. L. Thile

Credential Adviser, Deaf: H. G. Kopp

Professors: Kopp, Nichols, Riedman

Associate Professors: Allen, Thile

Assistant Professors: Ellis, Martin, Scott, Williams, Wood

COURSES ACCEPTABLE ON MASTER'S DEGREE PROGRAMS IN SPEECH PATHOLOGY AND AUDIOLOGY

UPPER DIVISION COURSES

- 527. (127.) Diagnostic Methods in Speech Pathology (3)
- 528. (128.) Diagnostic Practicum in Speech Pathology (3)
- 530-S. (130-S.) Family Communication Dynamics (3)
- 531. (131.) Language Structure (3)
- 532. (132.) Assessment of Language Disorders (3)
- 543. (143.) Hearing Amplification (1-3)
- 547. (147.) Hearing Conservation (3)
- 550. (150.) Education of Deaf Children (3)
- 551. (151.) Speech Reading and Auditory Training (3)
- 552. (152.) Speech for the Hearing Impaired (3)
- 553. (153.) Language for the Hearing Impaired (3)
- 596. (198.) Selected Topics in Speech Pathology and Audiology (1-3) #

Not more than three units of 596 are acceptable on master's degrees in Speech Pathology and Audiology.

GRADUATE COURSES

- 600. (200.) **Research and Bibliography** (3)
Bibliographic techniques in 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. (201.) **Voice Science** (3)
Prerequisite: Speech Pathology and Audiology 320.
Relationship of basic principles of sound to the speech mechanism. Analysis of speech sound production. Application of mechanical electronic equipment to speech.
- 602. (202.) **Problems of Aphasia** (3)
Prerequisite: Speech Pathology and Audiology 321.
Evaluation of aphasia, familiarity with diagnostic tools, theories of aphasia, and therapy for persons with disorders of symbolization (adult and congenital aphasia). It is recommended the student take one unit of Speech Pathology and Audiology 626 concurrently with this course.
- 603. (203.) **Problems of Cerebral Palsy** (3)
Prerequisites: Speech Pathology and Audiology 323 and 324.
Evaluation, theories of treatment and therapy for persons with speech disorders in cerebral palsy. It is recommended the student take one unit of Speech Pathology and Audiology 626 concurrently with this course.

- 604. (204.) Problems in Cleft Palate and Orofacial Anomalies (3)**
Prerequisites: Speech Pathology and Audiology 323, 324, and 340. Minimum of 75 hours of supervised clinical practicum.
Etiological considerations, evaluation and remediation of individuals with orofacial anomalies and cleft palate. Concurrent registration in Speech Pathology and Audiology 626 is recommended.
- 605. (205.) Problems of Stuttering (3)**
Prerequisite: Speech Pathology and Audiology 322.
Differential diagnosis of stuttering, individual and group therapy for children and adults with dysfluency problems. It is recommended the student take one unit of Speech Pathology and Audiology 626 concurrently with this course.
- 606. (206.) Problems of Voice Pathology (3)**
Prerequisites: Speech Pathology and Audiology 323 and 324.
Structural, medical and functional voice problems. Differential diagnosis of vocal anomalies, theories and therapy for vocal problems. It is recommended the student take one unit of Speech Pathology and Audiology 626 concurrently with this course.
- 626. (226.) Advanced Clinical Practice in Speech Pathology (1-2)**
Two hours for each unit of credit plus one hour of staffing.
Prerequisite: Speech Pathology and Audiology 324.
Supervised work with representative advanced speech cases such as stuttering, aphasia, laryngectomies, etc. Maximum credit four units of 626, 645, and/or 646 applicable on a master's degree.
- 628. (228.) Advanced Diagnostic Methods in Speech Therapy (3)**
Prerequisite: Speech Pathology and Audiology 528.
Diagnosis of individuals with complicated speech problems as brain injury, congenital aphasia, adult aphasia, cerebral palsy, hearing loss, laryngectomy, mental retardation, stuttering and voice problems.
- 640. (240.) Medical Audiology (3)**
Prerequisites: Speech Pathology and Audiology 345 and 644.
Problems of diagnosis, referral and report writing. Testing in a medical setting and medically significant hearing pathologies.
- 644. (244.) Audiology (3)**
Prerequisite: Speech Pathology and Audiology 341.
Psychophysical concepts underlying clinical audiology. Relationship of audiologic test results to the conditions under which they were obtained.
- 645. (245.) Advanced Clinical Practice in Audiologic Assessment (1-2)**
Two hours for each unit of credit.
Prerequisite: Speech Pathology and Audiology 644.
Advanced casework in hearing evaluation. Maximum credit four units. Maximum credit four units of Speech Pathology and Audiology 626 and 645 applicable on a master's degree.
- 646. (246.) Advanced Clinical Practice with Hard of Hearing (1-2)**
Two hours for each unit of credit.
Prerequisite: Speech Pathology and Audiology 551.
Supervised practice with problem hearing cases. Maximum credit four units of Speech Pathology and Audiology 626, 645, and 646 applicable on a master's degree.
- 649. (249.) Seminar in Audiology (3)**
Prerequisite: Speech Pathology and Audiology 644.
Major research in clinical audiology. Audiologic techniques used in differential diagnosis. Maximum credit six units applicable on a master's degree.
- 654. (254.) Physiological Phonetics (3)**
Prerequisite: Speech Pathology and Audiology 552.
Physiology underlying the production of continuous speech, including transitional movements, based on a syllabic concept.

- 656. (256.) Advanced Field Work with the Deaf (1-3)**
Two hours for each unit of credit plus one hour of staffing.
Prerequisites: Speech Pathology and Audiology 552 and 553.
Supervised clinic practicum at an advanced level with representative deaf cases. Maximum credit six units of Speech Pathology and Audiology 656 and 657 applicable on a master's degree.
- 657. (257.) Differential Diagnosis of the Hearing Impaired (3)**
Prerequisite: Speech Pathology and Audiology 106; 550; 527 or 551.
Diagnosis of multiply-handicapped, hearing-impaired children, including clinical teaching; assessment methods; materials and equipment; prognosis; current philosophies and trends. Maximum credit six units of Speech Pathology and Audiology 656 and 657 applicable on a master's degree. Twenty-six hours of observation are included.
- 658. (258.) Seminar in Deaf Education (3)**
Prerequisites: Speech Pathology and Audiology 356, 550; Special Education 475.
Problems of deafness, evaluation of research, interdisciplinary approach to habilitation.
- 797. (297.) Research (2) Cr/NC**
Prerequisite: 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. (298.) Special Study (1-3) Cr/NC**
Individual study. Maximum credit six units.
Prerequisite: Consent of staff; to be arranged with department chairman and instructor.
- 799A. (299.) Thesis or Project (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 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.

TELECOMMUNICATIONS AND FILM

GENERAL INFORMATION

The Department of Telecommunications and Film, in the College of Professional Studies, 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 February 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. Note: Graduate students will not be permitted to enroll in entry-level (lower division) production courses at San Diego State University. 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.

SPECIFIC REQUIREMENTS FOR ADVANCED DEGREES IN TELECOMMUNICATIONS AND FILM

Students accepted for graduate study in the Department of Telecommunications and Film will first be given Conditional Graduate Standing (classified) in the Graduate Division. 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.

Further specific information on the master of science degree is listed under the heading "Mass Communications." Candidates for the Master of Arts in Radio and Television must also include the following in their programs:

1. Telecommunications and Film 799A (Thesis or Project).
2. 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 a graduate program 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.
3. At least 18 units in the program must be graduate-level courses.

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 teaching assistantships in telecommunications and film are available to a limited number of qualified students. Application blanks and further information may be obtained from the department chairman.

FACULTY

Chairman, Department of Telecommunications and Film: K. C. Jameson
 Graduate Adviser: D. G. Wylie
 Professors: Jameson, Jones, Lee, Madsen, Steen, Wylie
 Associate Professors: Anderson, Heighton, Johnson, Martin
 Assistant Professors: Meador, Misiorowski

COURSES ACCEPTABLE ON ADVANCED DEGREE PROGRAMS IN TELECOMMUNICATIONS AND FILM

UPPER DIVISION COURSES

- 500. (101.) Broadcast Management (3)
- 505. (105.) Regulation of Broadcasting (3)
- 510. (110.) Script Writing for Broadcasting and Film (3)
- 520. (180.) Directing Television and Film Drama (3)
- 530. (130.) Radio Programming (3)
- 540. (103.) Broadcast Advertising (3)
- 541. (104.) Broadcast Commercial Practices (3)
- 550. (156.) Advanced Lighting and Staging for Television and Film (4)
- 560A-560B. (168A-168B.) Film Production (3-3)
- 562. (164.) Documentary and Propaganda Film (3)
- 563. (160.) Film Classics (3)
- 565. (165.) Animated Film Techniques (3)
- 570. (170.) Educational Telecommunications (3)
- 580. (183.) Advanced Programming and Development for Television (4)
- 581. (184.) Advanced Television Directing (4)
- 590. (108.) International Broadcasting (3)

GRADUATE COURSES

- 600. (200.) 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.
- 601. (205.) Mass Communications Research (3)**
Prerequisite: Telecommunications and Film 600.
Design and execution of a media research project; audience and message analysis; experimental design and survey research methodology.
- 602. (272.) 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. (273.) 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. (210.) Seminar in Writing for Broadcast and Film (3)**
Prerequisites: Telecommunications and Film 363, 460 and 510.
Dramatic structures as they apply to broadcasting and cinema. Writing a full-length script or scenario.
- 615. (212.) 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. (203.) Seminar in History of Broadcasting (3)**
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
The development of broadcasting in its social, legislative and economic settings, with emphasis on broadcasting in the U.S.
- 640. (202.) 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. (268.) Directing the Dramatic Film (3)**
Prerequisites: Telecommunications and Film 520, 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. (270.) Seminar in Educational Telecommunications (3)**
Prerequisite: The equivalent of an undergraduate major in telecommunications and film or educational technology.
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. (284.) Seminar in Programing and Production (3)**
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
Theory and analysis of programing and production of broadcasting.
- 700. (201.) 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. (207.) Seminar in Broadcast Law and Regulations (3) I**
Prerequisite: Telecommunications and Film 505.
Analysis of legal concepts and issues as applied to commercial and noncommercial broadcasting; relationship of local, state and federal government to broadcast media.
- 770. (275.) 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.
- 798. (298.) Special Study (1-3) Cr/NC**
Individual study. Maximum credit six units.
Prerequisite: Consent of staff; to be arranged with department chairman and instructor.
- 799A. (299.) Thesis or Project (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 or Project Extension (0) Cr/NC**
Prerequisite: Prior registration in Thesis 799A with as 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.

APPENDIX

The California State University
and Colleges

The individual California State Colleges were brought together as a system by the Donahoe Higher Education Act of 1960. In 1972 the system became the California State University and Colleges and fourteen of the nineteen campuses received the title *University*.

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

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

The Trustees, the Chancellor and the Presidents develop systemwide policy, with actual implementation at the campus level taking place through broadly based consultative procedures. The Academic Senate of The California State University and Colleges, made up of elected representatives of the faculty from each campus, recommends academic policy to the Board of Trustees through the Chancellor.

Academic excellence has been achieved by The California State University and Colleges through a distinguished faculty, whose primary responsibility is superior teaching. While each campus in the system has its own unique geographic and curricular character, all campuses, as multipurpose institutions, offer undergraduate and graduate instruction for professional and occupational goals as well as broad liberal education. All of the campuses require for graduation a basic program of "General Education—Breadth Requirements" regardless of the type of bachelor's degree or major field selected by the student. A limited number of doctoral degrees are offered jointly with the University of California.

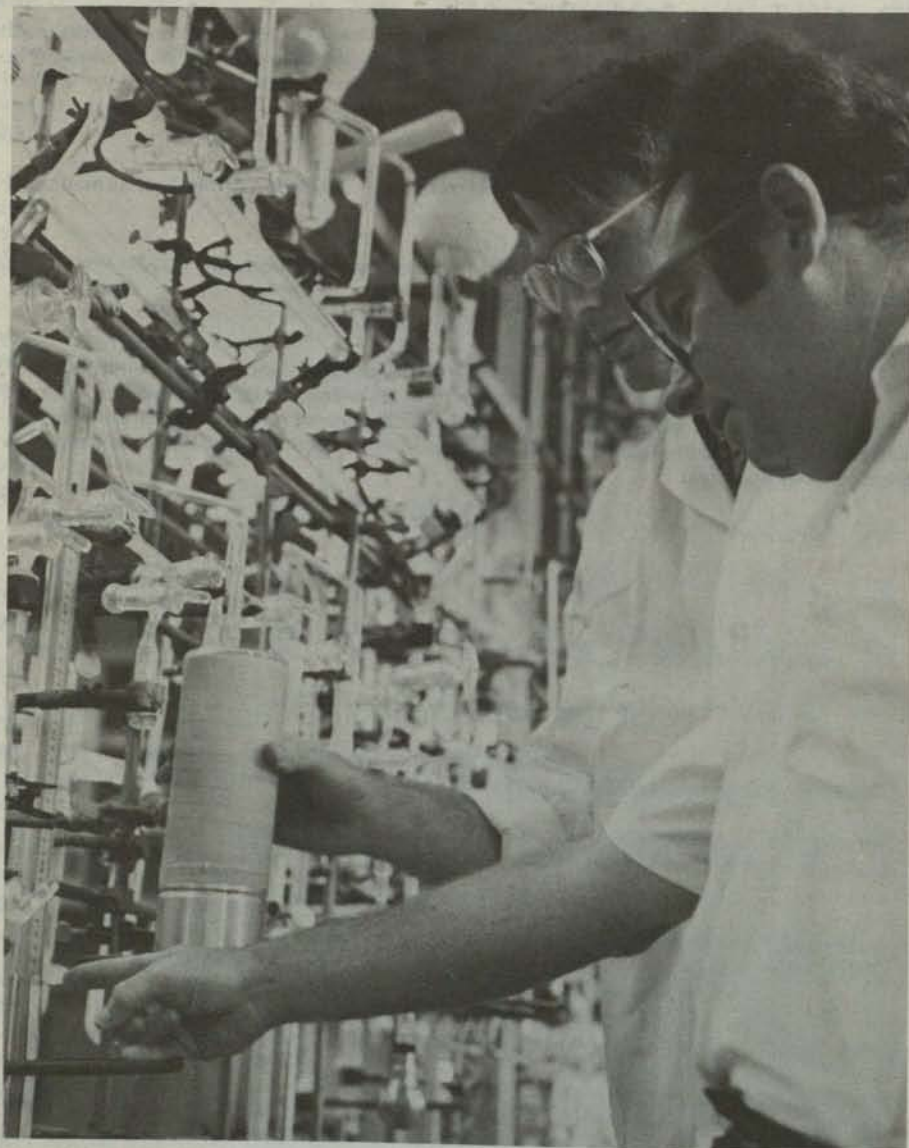
Presently, under the system's "New Approaches to Higher Education," the campuses are implementing a wide variety of innovative programs to meet the changing needs of students and society. Among pilot programs under way are instructional television projects, self-paced learning plans, minicourses, and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

Enrollments in fall 1974 totaled approximately 292,000 students, who were taught by a faculty of 16,000. Last year the system awarded over 57 percent of the bachelor's degrees and 36 percent of the master's degrees granted in California. Over 465,000 persons have been graduated from the nineteen campuses since 1960.

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Appointments are for a term of eight years expiring March 1 of the years in parentheses. Names are listed in order of appointment to the Board.

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