SAN DIEGO STATE UNIVERSITY GRADUATE DIVISION CATALOG 1977-78
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1977-1978 Academic Calendar

1977 Summer Sessions
May 31
May 31-June 17
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.
July 8
Graduate School Foreign Language Test, by appointment five weeks in advance, Test Office.
July 23
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.

August 1
Final day for submitting theses to the Thesis Review Service, Love Library.
August 19
Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation. Also last day for removing incompletes and for reporting results on comprehensive examinations to the Graduate Division Office by department or school.
August 1-19
Term III summer session (3 weeks).

Fall Semester
August 1-31
Applications for admission or readmission to San Diego State University for the spring semester 1978. Accepted after this date only until enrollment quotas are met.
August 15-26
Testing, advising and registration.
August 22
Opening date of the academic year.
August 29
First day of classes. Also the earliest date to apply for graduation this semester.
September 5
Holiday—Labor Day.
September 10
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.
September 12
Last day to apply for refunds.
September 26
Last day to withdraw from class or change program.
September 30
Last day to apply for mid-year graduation with an advanced degree, Graduate Division Office.
October 8
Graduate School Foreign Language Test, by appointment five weeks in advance, Test Office.
October 15
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.
November 1-30
Application for admission or readmission to San Diego State University for the fall semester 1978. Accepted after this date only until enrollment quotas are met.
November 8
Graduate Record Examination Aptitude Test for master's degree applicants, 6:15-10:00 p.m., by appointment five weeks in advance, Test Office.
November 24-27
Thanksgiving Recess.
December 2
Final day for submitting theses to the Thesis Review Service, Love Library.
December 10
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.

December 12
Last day of classes before final examinations.

December 14-21
Final examinations.

December 21
Final day for depositing completed approved theses at Aztec Shops for processing for mid-year graduation. Also last day for removing incompletes and for reporting results on comprehensive examinations to the Graduate Division Office by department or school.

December 22
Winter recess begins.

December 28
Grades due.

January 9-20
Spring Semester
Testing, advising and registration.

January 16
First day of spring semester.

January 23
First day of classes. Also the earliest date to apply for graduation this semester.

February 4
Graduate School Foreign Language Test, by appointment five weeks in advance, Test Office.

February 6
Last day to apply for refunds.

February 17
Last day to withdraw from class or change program.

February 24
Holiday—Washington's Birthday.

February 27
Last day to apply for May graduation with an advanced degree, Graduate Division Office.

March 2
Graduate Record Examination Aptitude Test for master's degree applicants, 6:15-10:00 p.m., by appointment five weeks in advance, Test Office.

March 17
Last day of classes before spring recess.

March 20-26
Spring Recess.

March 27
Classes resume.

April 8
Graduate School Foreign Language Test, by appointment five weeks in advance, Test Office.

April 22
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.

May 1
Final day for submitting theses to the Thesis Review Service, Love Library, for processing for May graduation.

May 11
Last day of classes before final examinations.

May 12
Study and Consultation Day.

May 13-20
Final examinations.

May 21
Commencement.

May 22
Final day for depositing completed approved theses at Aztec Shops for processing for May graduation. Also last day for removing incompletes and for reporting results on comprehensive examinations to the Graduate Division Office by department or school.

May 24
Grades due.

May 26
Last day of spring semester.

May 29
Holiday—Memorial Day.

1978 Summer Session
Earliest date to apply for graduation in the summer session.

Term I summer session (3 weeks).

June 10
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.

June 19-July 28
Term II summer session (6 weeks).

July 22
Final day for submitting theses to the Thesis Review Service, Love Library.

July 28
Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation. Also last day for removing incompletes and for reporting results on comprehensive examinations to the Graduate Division Office by department or school.

July 31-August 18
Term III summer session (3 weeks).

August 18
Graduate Record Examination Aptitude Test for master's degree applicants, 8:30-12:00 noon, by appointment five weeks in advance, Test Office.

July 4
Graduate Division Office.

July 4
Holiday—Independence Day.

July 30
Last day to apply for refunds.

July 28
Last day to withdraw from class or change program.

July 22
Graduate School Foreign Language Test, by appointment five weeks in advance, Test Office.

July 22
Holiday—Independence Day.

July 28
Final day for submitting theses to the Thesis Review Service, Love Library.

July 31-August 18
Term III summer session (3 weeks).

August 18
Final day for depositing completed approved theses at Aztec Shops for processing for summer graduation. Also last day for removing incompletes and for reporting results on comprehensive examinations to the Graduate Division Office by department or school.
### Annual Calendar

#### CALENDAR 1977

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<tr>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
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#### CALENDAR 1978

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<thead>
<tr>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
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### 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 $5.00.)

**Fees for Student Services—All Students:** on basis of units carried. (Auditors pay same fees as students carrying courses for credit.) Nonresident and foreign students pay additional fees. See information below.

- 0 units—0.0 units $61.00
- 6.1 or more units $96.00

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 $787.50
- Nonresident student enrolled for less than 15 units or fraction thereof—per unit $52.50

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

**Health insurance (mandatory for foreign students)** per year, approximately $43.00

**Parking Fees**

- Nonresident parking space, per semester $15.00
- Car pool: Nonresident students pay 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 2.00
- 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) 25.00
- Check returned for any cause 5.00
- Loss or damage of equipment and library books cost 6.00
- Graduation fee 20.00
- Credential fee 20.00

**Bank Americards**

Students may use California BankAmericards (the first four digits must be 4019 or 4024) to pay registration fees up to and including $100. Amounts over $100 must be cleared with the University Cashiers Office in CL108.

BankAmericard accounts are subject to a 1% "check service" fee. ($1 minimum.)

**Master Charge**

Approved for extension courses and summer session only.

**REGULAR SESSION FEE REFUNDS**

Fees may be refunded only as authorized by Sections 41802, 41803, and 41913 of Title 5, California Administrative Code and other pertinent provisions of law. Whether a fee may be refunded and the circumstances under which a fee or any part of a fee may be refunded, may vary depending on the particular fee involved. Requirements governing refund may include such matters as the reason for seeking a refund (for example, death, disability, compulsory military service, the...
number of days of instruction which have elapsed before application for refund is made, and the
degree to which the campus has provided the services for which the fee has been charged. Details
concerning the fees which may be refunded, the circumstances under which fees may be refunded,
and the appropriate procedure to be followed in seeking a refund may be obtained from the
Controller's Office, A.D. 3rd floor.

Refund of Fees
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
$10.00 will be refunded. A student dropping from more than six units to six units or less must file an
application with the Cashier's Office not later than 14 days following the day the academic term
begins. The amount of $5.00 shall be retained. For additional information contact the Cashier's Office
or telephone 286-6253.

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 an application is received by the Cashier's Office within the
following time limits:

<table>
<thead>
<tr>
<th>Time Limit</th>
<th>Amount of Refund</th>
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<tbody>
<tr>
<td>(1) Before or during the first week of the semester</td>
<td>100 percent of fee</td>
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<tr>
<td>(2) During the second week of the semester</td>
<td>90 percent of fee</td>
</tr>
<tr>
<td>(3) During the third week of the semester</td>
<td>80 percent of fee</td>
</tr>
<tr>
<td>(4) During the fourth week of the semester</td>
<td>70 percent of fee</td>
</tr>
<tr>
<td>(5) During the fifth week of the semester</td>
<td>50 percent of fee</td>
</tr>
<tr>
<td>(6) During the sixth week of the semester</td>
<td>30 percent of fee</td>
</tr>
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</table>

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

Nonresident space per semester:

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

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

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

SUMMER SESSION FEES
Tuition, each session:  
Activity Fee: (per unit) $35.00
Term I  
Term II  
Term III  
Student Union Fee:  
Term I  
Term II  
Term III  
Parking Fees (nonresident spaces):  
Entire summer period  
Six-week session  
Three-week session
EXTENSION COURSE FEES
Lecture or discussion course: (per unit) $33.00

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.

ALAN PATTEE SCHOLARSHIPS
Children of deceased public law enforcement or fire suppression employees, who were California
residents and who were killed in the course of law enforcement or fire suppression duties, are not
charged fees or tuition of any kind at any California State University or College, according to the Alan
Pattee Scholarship Act, Education Code Section 23762. Students qualifying for these benefits are
known as Alan Pattee scholars. For further information, contact the Admissions/Registrar's Office,
which determines eligibility.

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

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

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

2. Counseling: includes the cost of 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.

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
42290 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 owning 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's 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.
PART ONE

San Diego State University
**Principal Officers of Administration**

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<th>Position</th>
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</thead>
<tbody>
<tr>
<td>President</td>
<td>Brage Golding</td>
</tr>
<tr>
<td>Vice President for Academic Affairs</td>
<td>Trevor Colbourn</td>
</tr>
<tr>
<td>Vice President for Business and Financial Affairs</td>
<td>William L. Erickson</td>
</tr>
<tr>
<td>Dean of Student Affairs</td>
<td>Daniel B. Nowak</td>
</tr>
<tr>
<td>Director of University Affairs</td>
<td>Frank P. McCready</td>
</tr>
</tbody>
</table>

**Academic Administration**

**GRADUATE DIVISION**

- Dean of the Graduate Division and Research: James W. Cobble
- Associate Dean: Irving Alan Sparks
- Acting Associate Dean: Dennis J. Seiler
- Assistant Dean: Arthur W. Schatz

**THE GRADUATE COUNCIL**

The Graduate Council of San Diego State University consists of the Dean of the Graduate Division and Research (chairman), the Vice President for Academic Affairs, the Associate and Assistant Deans of the Graduate Division, and members of the faculty from the various schools and colleges. For the academic year 1976-77, the membership of the Council was as follows:

- James W. Cobble
- Trevor Colbourn
- Louis A. Kanner
- Irving Alan Sparks
- Dennis J. Seiler
- Arthur W. Schatz
- William F. Barber
- James R. Beatty
- Stephen M. Brown
- Joan E. Curry
- Glendon F. Drake
- Barbara E. Gunning
- Peggy M. Hawley
- Glenn O. Haworth
- Harvey E. Hedges
- William A. Huchins
- James Koontz
- Harriet G. Kopp
- Skandthee Kriangs
- Govindaswamy Krishnamoorthy
- Charles D. Smith
- Stephen M. Brown
- Jean D. Swiggett
- Earl P. Wadsworth

*Membership for 1977-78 will be determined prior to the beginning of the academic year.*

**Colleges, Schools and Departments**

<table>
<thead>
<tr>
<th>College</th>
<th>Chairmen</th>
</tr>
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<tbody>
<tr>
<td>COLLEGE OF ARTS AND LETTERS</td>
<td>Elsie B. Adams</td>
</tr>
<tr>
<td>Associate Dean</td>
<td>Frances Foster</td>
</tr>
<tr>
<td>Assistant Dean for Student Affairs</td>
<td>James N. Kerr</td>
</tr>
<tr>
<td>Afro-American Studies</td>
<td>John Rouillard</td>
</tr>
<tr>
<td>American Indian Studies</td>
<td>Larry Leach</td>
</tr>
<tr>
<td>Anthropology</td>
<td>Steven C. Schabner</td>
</tr>
<tr>
<td>Classical and Oriental Languages and Literatures</td>
<td>Fred Sebold</td>
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<tr>
<td>Economics</td>
<td>Elizabeth Jackson</td>
</tr>
<tr>
<td>French and Italian Languages and Literatures</td>
<td>Warren Johnson</td>
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<tr>
<td>Geography</td>
<td>Ludek Kozlik</td>
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<tr>
<td>Germanic and Slavic Languages and Literatures</td>
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<tr>
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<td>Glendon Drake</td>
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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
Allan Bailey
Finance
Peter 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 for Student Affairs
Jaime Lujan
Coordinator, Clinical Training Center
Joan F. Curry
Coordinator, Counselor Education
John D. Chamley
Coordinator, Educational Administration
Howard B. Holt
Coordinator, Educational Technology
Patrick J. Harrison
Coordinator, Elementary Education
James M. Kaatz
Coordinator, Graduate Programs
Peggy Hawley
Coordinator, Higher Education Programs
Robert D. Smith, Jr.
Coordinator, Secondary Education
Doris A. Meek
Coordinator, Special Education
Francis A. Ballantine

SCHOOL OF ENGINEERING
Glen L. Martin, Dean
Associate Dean
George T. Craig
Assistant Dean for Student Affairs
George T. Craig
Aerospace Engineering
Howard H. Chang
Civil Engineering
Richard A. Fitz
Electrical Engineering
Shu-Yun Chen
Mechanical Engineering

SCHOOL OF SOCIAL WORK
Harry Butler, Dean
Associate Dean
Glenn Haworth
Assistant Dean for Student Affairs
E. Frederick Anderson

COLLEGE OF EXTENDED STUDIES
William P. Locke, Dean
Director, External Academic Programs
Larry Clinger
Director, Summer Session
Larry Cobb
Director, Conferences & Professional Programs
Hugh Terrell
Director, Military Education Programs
Hollie Elliott

PART TWO
General Information
College of Extended Studies
External Degree Programs
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 border of San Diego on a mesa overlooking Mission Valley, the site of the 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.

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 on 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 645,000 volumes including books and bound periodicals, and 515,000 bound government documents. Additional resources include 1.1 million microfiche and microfilm, 36,000 reels of microfilm, 7,000 college catalogs, 65,000 items of curriculum library, 10,000 periodic and serial titles, excluding government documents. It is a depository Organization of American States publications, as well as many publications of other national and international bodies.

Significant research collections in the social sciences and humanities include Asian studies, history, American literature, English literature, French literature, French and Spanish languages, and the history of San Diego. The library is a member of the California State University and Colleges system, the University Libraries, and the San Diego County Library system. The library also participates in the San Diego County Library system's bookmobile program.

Research

The importance of research in graduate instruction is recognized by the faculty and all graduate programs contain provisions for research experience. Among the facilities for research which may be utilized by students are those provided in organized bureaus, centers, and institutes located on the campus.

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

Asian Studies

Alvin D. Cox, Director

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

Business and Economic Research

Darryl Milty, Director

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

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

Graduate students and faculty are encouraged to make use of bureau facilities.

Counselor Education

Raymond Howard, Director

The Center for the Study of Counselor Education is an interdisciplinary task force under the administrative jurisdiction of the Dean of the 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**

Yannis Venieris, Director

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

**Bureau of Educational Research and Evaluation**

Peggy M. Hawley, 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 and their students as a resource in research design and statistical techniques, (3) assisting the research activities of individual faculty members who wish to make use of its services, (4) assisting those directing cooperative studies established between the School of Education and other educational communities, and (5) keeping faculty informed about current and potential bureau research activities and services.

**European Studies Center**

William O. Westervelt, 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 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'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**

Adam Gifford, Director

The Institute of Labor Economics is a faculty of the Department of Economics to encourage research by students and faculty in all phases of labor problems, collective bargaining, labor legislation and social security. The center is designed to complement the curricular and degree programs in the Department of Economics and to be of service to related disciplines. Publications are exchanged with the publications in the area of labor economics are maintained in the Social Science Research Laboratory. The center is operated as a special unit of the College of Sciences.

**Latin American Studies**

Philip F. Flemion and Ernst C. Griffin, Co-Directors

The Center for Latin American Studies seeks to encourage teaching and research related to Latin America. It has primary responsibility for the administration of the Latin American undergraduate and 10 Latin American undergraduate and graduate programs that focus on: (1) initiative of a problem-oriented approach to Latin American studies dealing with the creation of courses dealing with urbanization and modernization of the area; (2) development of innovative methods of instruction in Spanish and Portuguese; (3) provision of services to the general public through the sponsorship of conferences, workshops, lectures and films. The created a special collection of Latin American materials which is available in the Center's reading room.
Sociological Research
Warner Bloomberg, Director

The Sociological 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. 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
Richard Hofstetter, Director

The Social Science Research Laboratory houses the Economic Research Center, the Sociological Research Center, the Political Science Research Center, 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 is established to encourage and support the use of computers in all instructional, research and administrative activities of the University. The present equipment includes a large-size digital computer—an IBM 360 Model 50 with 339,216 bytes of core storage and a large array of peripherals. The supervisor is the Disc Operating System which supports the Assembler, COBOL, FORTRAN, PL/I and RPG languages. Remote Job Entry facilities are located on the East and West sides of the campus. A smaller digital computer, an 8K IBM 1130, supports the APF and FORTRAN languages, has a plotting capability and serves as a remote job entry facility. A dual CDC 3300 located at the Chancellor's Office for statewide usage is available to campus users via a high speed data link. Over 70 time sharing terminals are strategically located throughout the campus and are available via dial-up telephone lines to either a DEC 11/45 on campus or to the statewide time sharing system. Programming and data processing courses, and courses related to some specialized applications of computers are offered by several departments within the University. Many of these courses have special purpose minicomputers devoted to their area.

Residence Halls

Accommodations for 1668 single students are available in six residence halls on campus. Five of the halls are three-story red-brick buildings accommodating 211 students each—the sixth is a high-rise building which accommodates 613 students. All of the halls are fireproof and air-conditioned. Dormitory-style rooms are available in six residence halls on campus. Five of the halls are fireproof and air-conditioned. Student governments and staff in each of the halls recommend standards for basic behavior in the residence halls. Participation in campus activities is encouraged.

Currently, the cost for room rental is approximately $373 to $468 per semester. Three food service plans (10, 14 or 19 meals per week) are offered in the Commons at additional charges presently ranging from approximately $260 to $380 per semester; on an optional basis.

ONE WISHES TO OBTAIN ON-CAMPUS HOUSING, APPLYING. APPLICATIONS ARE GIVEN PRIORITY IN HOUSING, THE STUDENT SHOULD SEND A SELF-ADDRESSED ENVELOPE TO THE UNIVERSITY HOUSING OFFICE. FOR Applications are completed, it should be accompanied by a deposit and mailed to the Cashier's Office at the University. A request for a room is confirmed after the student is admitted to the apply as early as a year in advance. Though consideration will be given to a student's request for an individual hall and roommate, a specific assignment cannot be guaranteed.

No reservation can be confirmed until the student is accepted for admission to San Diego State University. Receipt of a housing contract does not mean that the University is committed to admitting the student. 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 receipt-of-check date priority. A refundable security deposit must 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, and rooms are available in 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 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 services, the University provides health services for the protection and maintenance of student health. These services are funded by student services fees and administered under the supervision of a medical director-administrator. A full-time physician staff is available to all students during the school year.

In addition to five full-time and four part-time general practitioners, the medical staff includes two full-time gynecologists, a full-time surgeon, three part-time dermatologists, a part-time internist, an orthopedic surgeon, a psychiatrist, a radiology group, and an ear, nose and throat specialist.

Nurse practitioners are also available to assist physicians in providing consultation, treating minor physical conditions, and assisting in emergencies. Full-time nurses as well as X-ray and laboratory technicians are also on duty when school is in regular session. Special clinics include Family Planning, Dermatology, Gynecology, and Orthopedics.

A health history is required from all students prior to admission. In addition to the health history, students must show proof of having had a tuberculosis test at some time during the preceding year. For students who have not had such a test, the procedure may be completed without charge at Health Services. A physical examination is recommended for all entering students, but is not required.

Student input is directed through the Student Health Advisory Board. The Board members are involved in numerous health education projects and their advice is sought on program evaluation.

INSURANCE: The Associated Students offer a student health insurance program that is strongly recommended to students having no private medical insurance coverage. This insurance covers hospitalization and specified medical and surgical services, and may be purchased by the semester or by the year through Aztec Shops. An open enrollment period is available the first 30 days of each semester.

Career Planning and Placement Center

What will I do for a living?

This question is uppermost in the minds of many students when they first arrive on the campus. Students spend increasing amounts of time considering the question as their collegiate career passes, and probably every graduate is concerned with finding the best possible answer to the question. The Career Planning and Placement Center does not find the answer for any student, but does strive to help all students find the answer for themselves.

The Center is open from 8:00 a.m. to 7:00 p.m. Monday through Thursday, and from 8:00 a.m. to 4:30 p.m. on Friday. Career Counselors work with individual students on a one-to-one basis, and also work with groups of students through workshops in life planning and career decision-making, interview techniques, resume preparation, and job search strategies.

In addition to the counseling staff, the Center also has an extensive library that is available to all students. The material in the library is concerned with information on employment opportunities, aids in making a career or academic major decision, and audiovisual material on careers. A special section of the library is concerned with careers for women.

In addition to helping the student become established in the World of Work following graduation, the Center also assists individual students in finding part-time and summer employment while in
Cost of Living

As a student nears graduation, opportunities for interview with potential full-time employers are arranged by the Center. The Center also maintains an evaluations file for alumni who are involved in an education career as well as others whose employment may require such a file, and publishes a regular newsletter of current job vacancies in education, government and industry.

Career Placement Information

The campus may furnish, upon request, information concerning the subsequent employment of students who graduate from programs or courses of study which have the purpose of preparing students for a particular career field. This information includes data concerning average starting salary and the percentage of previously enrolled students who obtained employment. The information provided may include data collected from either graduates of the campus or graduates of all campuses in the California State University and Colleges. Interested prospective students may request copies of the published information from the School Relations Officer.

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 $1.25 plus tax if purchased at the Bookstore, and $2.00 if ordered by mail. The catalog contains information on admissions, fees and tuition, programs and degrees, courses, scholarships, residence halls, student services and activities; and a faculty directory.

The Graduate Catalog, published annually in May, may be obtained from the Aztec Shops Bookstore on the campus. The current price is $1.05 plus tax if purchased at the Bookstore, and $1.50 if ordered by mail.

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.

<table>
<thead>
<tr>
<th>Estimated Expenses for the Academic Year</th>
<th>Living Off Campus</th>
<th>Living On Campus</th>
<th>Commuting From Home</th>
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<td>student union fee, facilities fee</td>
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<td>Total</td>
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<td>$2593</td>
<td>$1978</td>
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In addition, foreign and out-of-state students pay an annual tuition of $1440. Typical expenses for married students without children average $4855 for a nine-month period.

College of Extended Studies

Functions

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

Summer Programs

The College of Extended Studies administers a comprehensive summer program for San Diego State University. Approximately 400 regular courses, workshops, short courses, interdisciplinary and experimental offerings, and special programs are available for matriculated students, students from other institutions and special groups. Selected degrees and certificate programs are available for individuals who can only attend school during the summer. Credit earned during the summer is applicable to graduation and residence requirements.

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

A preliminary schedule of summer session terms and class offerings will be available shortly after 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 March 15.

Conferences and Professional Programs

The Division of Conferences and Professional Programs designs, implements and administers a comprehensive, year-round, University conference operation for on- and off-campus conferences, meetings, seminars, and workshops. Professional certificate programs are coordinated by this division and educational services are provided for a wide variety of groups and professional organizations. The Division also coordinates the activities of the Center for Continuing Education in Business in cooperation with the School of Business Administration. For additional information contact the Director of Conferences and Professional Programs.

Military Education Programs

The Division of Military Education Programs serves as the liaison with the military installations in the University service area for the purpose of developing higher educational opportunities for military personnel. The University, which has been designated by the Department of Defense as a Serviceman’s Opportunity College, offers a wide variety of external degree and certificate programs designed specifically for military personnel, including Bachelor of Science degree offerings in Industrial Technology and Health Care Administration, and a Bachelor of Arts degree in Business Administration and Liberal Arts. Most classes are held on base for the convenience of the students, while some are scheduled on the University campus to take advantage of laboratories and other resources. For additional information contact the Director of Military Education Programs. This division also administers special certificate programs for the military including American literature, human resources management and international relations.
Retired Adults Education Program

The Educational Growth Opportunities Program (EGO) is sponsored by the College of Extended Studies at San Diego State University. EGO's programs for retired adults living in the San Diego area are planned and taught by a group of senior adults who are interested in furthering the educational growth of retired persons. For further information, contact the Director of Retired Adult Education Programs.

American Language Programs

The College of Extended Studies, in cooperation with the Department of Linguistics, offers several accredited English programs for bilingual or international students. Academic English for the University-bound is a program offered in semester-long segments to students who intend to matriculate in American colleges or universities. The American Language and Culture Program is offered in quarterly segments to students whose goals are to improve their spoken English and to better understand American customs and lifestyles. Additionally, the division offers English for Special Purposes. Programs usually sponsored by a governmental agency or firm and Summer Language Institutes, accelerated workshops for students, teachers or business personnel.

Information about and applications for these programs may be obtained from the Director of the Foreign Study Programs.

Foreign Travel/Study Programs

Each summer the College offers a variety of travel/study programs which are designed to give students and community members an opportunity to travel abroad and earn extension units of credit. Programs range from two to five weeks in length, with a maximum of six units of credit offered for the longer programs. Participants need not be regularly matriculated students at SDSU. For further information contact the Coordinator of Foreign Travel/Study Programs.

Extension Programs

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

Extension

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

The amount of extension course credit acceptable on master's degree programs is limited to a total of nine 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 nine units of extension credit) for the Master of City Planning degree; and 35 units (including a maximum of nine 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 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.

Concurrent Enrollment

A limited number of regular, on-campus classes are open to qualified extension students by special permission of the department and the instructor. Students who take advantage of "Concurrent Enrollment" are required to pay regular extension fees. They are permitted to enroll only after concurrent extension enrollment at the University may be considered to be residence credit for students who subsequently matriculate at the University in an advanced degree program.

Wintersession

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

International Programs

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

Cooperating universities abroad include the University of Provence, France; the Universities of Heidelberg and Tubingen, Germany; the University of Tel Aviv and Hebrew University of Jerusalem in Israel; the University of Florence, Italy; The Universidad Ibero-Americana, Mexico; the Universities of Granada and Madrid, Spain; the University of Uppsala, Sweden; Lincoln University College of Agriculture and Massey University, New Zealand; and Waseda University of Japan. In the United Kingdom, cooperating universities (which may vary from year to year) include, among others, Aberdeen, Dundee, Edinburgh, Bangor, Heriot-Watt, Leicester, London, Manchester, Nottingham, Oxford, Liverpool, Lampeter, Sheffield, and Strathclyde. In addition, CSUC students may attend a special program in Taiwan, Republic of China, or an architecture program in Copenhagen, Denmark.

Eligibility for application is limited to those students who will have upper division or graduate standing by September 1978 at a CSUC campus; who have demonstrated the ability to adapt to a new cultural environment; and, who, in the cases of France, Germany, Mexico and Spain, will have completed at least two years of college-level study in the language of instruction at the host university, or possess equivalent knowledge of the language. At the time of application, students must have a minimum cumulative grade point average (g.p.a.) for all college-level work of 2.5, except for the programs in Israel, New Zealand, and the United Kingdom where a minimum g.p.a. of 3.0 is required. Selection is competitive and is based on home campus recommendations and the applicant's academic record. Final selection decisions are made by a statewide committee of faculty members, except for the programs in New Zealand and the United Kingdom where final selections are made by the respective host universities.

The International Program supports all tuition and other academic and administrative costs overseas for each of its participants to the same extent that such funds would be expended to support similar costs in California. Students assume costs for predeparture orientation, insurance, transportation, housing and meals. Home campus registration and other fees and personal incidental expenses or vacation travel costs while abroad are also paid by the student. Nonresident students are subject to nonresident fees. The Office of International Programs collects and administers funds for those items which the program must arrange or can negotiate more effectively, such as home campus fees, orientation costs, insurance, outbound transportation, and, in some centers, housing. International Programs participants may apply for any financial aid available at their home campuses, except for campus work-study.


Detailed information and application materials may be obtained from the College of Extended Studies; further information may also be obtained by writing to The California State University and Colleges International Programs, 400 Golden Shore, Suite 300, Long Beach, California 90802.
External Degree Programs

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

Admission Requirements

Master of Arts Degree in Public Administration (M.P.A.)

Students may be admitted to the program who hold a baccalaureate degree or who are unusually qualified and who have an appropriate academic background in the collective opinion of the student's adviser and the Regional Academic Program Coordinator.

The adviser and coordinator may require the applicant for admission to take courses in addition to those listed as requirements for the degree in order to remove background deficiencies. The program is designed to serve those who are administrative practitioners in the public service; however, others may be admitted whose educational and professional background warrant the conclusion that the program would be educationally and professionally appropriate for them.

Application for admission must be submitted prior to the time a student has completed nine semester units of academic credit.

Master of Arts Degree in Vocational Education (M.A.V.E.)

Students may be admitted to the program who:
1. Have a baccalaureate degree from an accredited institution;
2. Hold a valid California Teaching Credential in a vocational subject;
3. Have completed their last 16 semester units of academic work with a grade point average of 2.5 or higher;
4. Are individuals whose maturity, experience, previous academic background and scholastic aptitude indicate a probability of success in the program;
5. Are persons who by reasons of geography, employment, family responsibility, or other personal circumstances find it difficult to spend extensive periods of time "in residence" on a university campus, or who are employees of particular firms, agencies or institutions, or occupational groups for whom an external curriculum is appropriate.

Application for Admission

Application for admission to external degree programs may be obtained from the College of Extended Studies. An application fee of $20 must be submitted with the application.

The application for admission must be supported by:
1. Official transcripts of all previous academic work;
2. Employment history (M.P.A.);
3. Verification of current professional experience (M.P.A.).

Enrollment Procedures

Students may enroll in courses without having been admitted to the program. Priority will be given to those persons who have applied for admission and have been accepted into the degree program. Admission recommendation of their adviser, and with the approval of the campus program coordinator. Such admitted to the program. A maximum of nine semester units of work taken in this program under the nonadmitted status may be counted toward the degree.

Instruction and Scheduling

The quality of instruction in external degree programs is maintained at the same high level as that in campus programs. While the length of the instructional term for external degree programs may vary from 5 to 16 weeks, depending on the time constraints of the student population being served, the contact time per unit of credit is the same as required in campus programs. All courses offered in external degree programs earn semester units and resident credit.

Fees

Since Continuing and External Degree programs do not receive state support, they are required to be financially self-supporting. Fees for external degree courses range from $45 to $65 per semester unit.

Degree Requirements

The following is a description of the specific requirements for graduate external degree programs administered by the College of Extended Studies.

Master of Arts Degree in Vocational Education

The external program in vocational education is designed for adult Californians employed in education, business and industry whose job mobility, geographic location, personal circumstances, or work schedules limits their ability to complete a graduate program in residence at one of the campuses of The California State University and Colleges. The program combines philosophy and theory of vocational education with the specific skills of administration, curriculum development, and evaluation.

It is offered through the Consortium of The California State University and Colleges in conjunction with San Diego State University. The degree is awarded by the Consortium in the name of the Board of Trustees of The California State University and Colleges.

The program of study totals 30 semester units. Requirements are:

1. Four core courses (12 units)
   a. I.A. 795A Introduction to Vocational Education (3)
   b. I.A. 795B Elements of Vocational Education, Administration, Curriculum and Research (3)
   c. I.A. 795C Implementing Change in Vocational Education (3)
   d. I.A. 795D Program Evaluation of Vocational Education (3)

2. An area of specialization (6 units) selected from:
   a. Program Administration and Management
      1. I.A. 795E Administration and Management of Vocational Education and Personnel (3)
      2. I.A. 795F Budget Development and Fiscal Management (3)
   b. Curriculum Development
      1. I.A. 795H Vocational Education Curriculum Design (3)
      2. I.A. 795J Vocational Education Curriculum Development (3)
   c. Research and Evaluation
      1. I.A. 795K Research Procedures in Vocational Education (3)
      2. I.A. 795L Data Collection and Research Analysis (3)

3. Electives (6 units). Courses selected will be relevant to the various areas within vocational education, and will relate to the area of specialization selected.

4. I.A. 796 Field Study (3 units)

5. I.A. 600 Integrative Seminar (3 units)

6. I.A. 796R Graduate Directed Study (1-2 units). Maximum 2 units.

Master of Arts Degree in Public Administration

The program is designed for practicing public administrators whose job mobility, geographic location, personal circumstances, or work schedule limits their ability to complete a graduate program in residence at one of the campuses of The California State University and Colleges. It offers flexibility in content and delivery/methodology—an educational experience suited to the public administrator's experience, knowledge, time commitments, and lifestyle.
It is offered through the Consortium of The California State University and Colleges in conjunction with San Diego State University. The degree is awarded by the Consortium in the name of the Board of Trustees of The California State University and Colleges.

### Program Requirements

The course of study will consist of 10 classes (30 semester units) and a thesis or graduate project. Students will usually take five core seminars (one in each of five areas of public administration) plus an integrative seminar. The five areas of concentration and core seminars are:

1. **The Environment of Public Administration**
   - PA 600 Scope of Public Administration (3 units)
2. **Analytical Processes**
   - PA 605 Seminar in Empirical Approaches to Public Administration: Qualitative Analysis (3 units)
3. **Organizational Behavior**
   - PA 642 Seminar in Administrative Theory (3 units)
4. **Administrative Processes**
   - PA 606 Seminar in Empirical Approaches to Public Administration: Quantitative Analysis (3 units)
5. **Public Policy Processes and Analysis**
   - PA 660 Administration and Public Policy Development (3 units)
6. **Integrative Seminar**
   - PA 792 Problem Analysis (3 units)

**Graduate Project or Thesis**

- PA 799A Thesis (3 units)
- PA 799B Thesis Extension (0 units)

The remaining four courses are professional electives which may be taken as Advanced Tutorial studies (Directed Study) with participating faculty, or as graduate courses at San Diego State University. Students must take Advanced Tutorials (or approved equivalents) in at least three of the five core areas.

Credit may be granted toward the MPA degree for three relevant graduate courses taken prior to admission to this program.

### Advanced Tutorial Series

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<tr>
<th>Core Area I</th>
<th>Core Area II</th>
<th>Core Area III</th>
<th>Core Area IV</th>
<th>Core Area V</th>
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</table>

Credit may be granted toward the degree for three relevant graduate courses taken prior to admission to the program.

Contact the Director of Extension for additional information on Extension, External Degrees, The Wintersession, Concurrent Enrollment, and International Programs.

### Elective Courses

- PA. 630 Seminar in Public Personnel Administration (3 units) (543)
- PA. 650 Seminar in Public Financial Management (3 units) (544)
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.

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

Graduate study is highly exacting and requires in-depth study and scholarship and not merely the completion of a prescribed set of courses. Further, thesis and dissertation research requires the development of intellectual skills and the demonstration of creativity which can only be achieved through dedicated and persistent scholarship. The University has the necessary faculty and facilities to offer such opportunities in over fifty different areas of knowledge.

Authorized Graduate Degrees

<table>
<thead>
<tr>
<th>DOCTOR OF PHILOSOPHY</th>
<th>MASTER OF ARTS</th>
<th>MASTER OF SCIENCE</th>
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<tbody>
<tr>
<td>American Studies</td>
<td>Physics</td>
<td>Aerospace Engineering</td>
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<tr>
<td>Anthropology</td>
<td>Political Science</td>
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<td>Art</td>
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<td>Asian Studies</td>
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<td>Biology</td>
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<td>Chemistry</td>
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<td>Economics</td>
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<td>Education</td>
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<td>English</td>
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<td>French</td>
<td>Speech Pathology and Audiology</td>
<td>Electrical Engineering</td>
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<td>Geology</td>
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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, educational technology, engineering, English, French, geography, geological sciences, German, health sciences and safety, family studies and consumer sciences, industrial arts, mathematical sciences, microbiology, natural science, physical education, 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 each semester on the official program of study, except during the terminal semester.

Appointment to a graduate teaching assistantship is for a period of either one semester or the academic year. Reappointment following an appointment of one semester or one year, 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. A Handbook for Graduate Teaching Assistants is published annually by the Graduate Division Office.

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 each semester on the official program of study.

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

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

Graduate Scholarships and Awards

Graduate students interested in 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 Scholarships Committee. Since the examination may be scheduled through the University Test Office. Applicants should take this examination no later than the early fall of their senior year. The examination is open to students who have completed the undergraduate degree requirements, have maintained a grade point average of 3.0 or better on a 4.0 scale, and are in the upper one-third of their class. For information regarding the examination and application procedures, students should consult the announcement published in the Bulletin of the San Diego State University Foundation.

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 and professional schools are eligible to receive a State Graduate Fellowship. Fellows are in the amount of tuition and fees (in instances where the Commission determines that the student needs for less than a full tuition award because of his or her other resources. State tuition and fees at independent colleges; and in the amount of fees charged at state universities (September through June). They are awarded after consideration of both academic and financial need. The amounts that may be borrowed, based on college-related need, may not exceed $2,500 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 extends for nine months thereafter. The loan must be repaid at the rate of seven percent per year beginning when the loan is granted. In most cases, the interest paid by the federal government while the student is in college and for nine months thereafter.

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.

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 grants is made available for part-time employment on or off campus. Students should check with the department of their major to determine what scholarship, fellowship, or grant could be available to them.

San Diego State University Foundation Loan Program

National Direct Student Loan Program

United Student Aid Fund Program

Federally Insured Loan Programs

Scholarships and Fellowships Administered by Departments

During the 1974-75 academic year, about 150 undergraduate 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, or grant could 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 grants is made available for part-time employment on or off campus. Students should check with the department of their major to determine what scholarship, fellowship, or grant could be available to them. The programs explained below are administered by the Financial Aid Office located in the Campus Laboratory School.

Minimum Requirements for All Applicants

San Diego State University participates in 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 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 have received over $500 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 catalog.

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.

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

Application Procedures
All applicants for postbaccalaureate study (e.g., advanced degree applicants, those seeking credentials, and those interested in taking courses for 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.

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

NOTE: Beginning with the fall semester, 1977, students being graduated with an advanced degree in or after the fall semester, 1977, will be required to file an application for readmission in order to return to the University and enroll in courses.

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

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

A student wishing to be admitted to a program leading to an advanced degree must meet the criteria specified under General Admission Requirements. 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 Admission Requirements. If the student has already filed an application with the Graduate Division Office, the student may submit a graduate standing application to the Graduate Division Office to request a classified status. The official forms must be filed and the file must be submitted to the Departmental Admissions Office. The official forms must be filed and the file must be submitted to the Departmental Admissions Office.

Condition for Standing (Classified)

A student wishing to be admitted to a program of study leading to an advanced degree must meet the criteria specified under General Admission Requirements. If the student has already filed an application with the Graduate Division Office, the student may submit a graduate standing application to the Graduate Division Office to request a classified status. The official forms must be filed and the file must be submitted to the Departmental Admissions Office. The official forms must be filed and the file must be submitted to the Departmental Admissions Office.

Graduate School Standing (Classified)

Graduate School Standing (Classified) requires that the student meet the professional, personal, and scholastic standards prescribed by the Graduate School. The official forms must be filed and the file must be submitted to the Departmental Admissions Office. The official forms must be filed and the file must be submitted to the Departmental Admissions Office.

Required Official Forms

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

1. Application for admission or re-admission, accompanied by a $20 non-refundable application fee. Make check or money order payable to San Diego State University. (Fee may be waived for re-admission 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 the student was enrolled at another institution in a regular session subsequent to such previous semesters.)

2. Health history record

3. Residence statement

These forms may be obtained from the Admissions Office. Letters from applicants signing on behalf of the student are required to include their social security number in designated places on the forms. Applicants are required to include their social security number in designated places on the forms. If the student is from another country, the social security number will be used as a means of identifying the student for purposes of financial aid eligibility and verification of the student's attendance. The repayment of financial aid and other debts payable to the institution.
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, 4115 Health Administration Building, San Diego, California 92182 for information on admission requirements and procedures.

Admission to the University 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. Since spring 1976, San Diego State University has been limiting graduate enrollment on the basis of field and aptitude of the applicant.

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

Registration

A student who has been admitted to the University, the 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 an alternate's ID card and must pay the 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.
Postbaccalaureate (Unclassified) Enrollment

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

Changes in Class Schedule

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.

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 Catalog 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 classes (or the first week of summer term II) of the semester in which the concurrent credit is earned. The bachelor's degree must be completed at the end of the semester or term in which the concurrent credit is earned. The maximum number of units which may be earned as concurrent master's degree credit is determined by the difference between the number of units remaining for the bachelor's degree and 15. 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 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 the Graduate Catalog. 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, 1977 will be required to follow the procedures and regulations stated in the 1977-1978 editions of the Graduate Catalog. A student who was admitted to a graduate degree curriculum at this university prior to that date and who has been enrolled in one or more courses during each consecutive semester since first enrolling as a graduate student, or whose attendance has not been interrupted by more than two consecutive semesters, will be held responsible for the regulations in effect at the time his official master's degree program was approved.

Student Responsibility for Catalog Information

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

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 procedure, in whole or in part, at such time as it may choose. No Executive Order shall be construed, operate as, or have the effect of an abridgment 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 abridgment 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 abridgment or limitation of any rights, powers, or privileges of the President.

Every effort has been made to assure the accuracy of the information in this catalog. Students are advised, however, that such information is subject to change without notice. Therefore, they should consult the appropriate instructional departments, schools, or administrative offices for current information.

Privacy Rights of Students in Education Records

The federal Family Education Rights and Privacy Act of 1974 (20 U.S.C. 1232g) and regulations adopted thereunder (45 C.F.R. 99) and California Education Code Section 22509 et seq., set out requirements designed to protect the privacy of students concerning their records maintained by the campus. Specifically, the statute and regulations govern: 1) access to student records maintained by the campus; and 2) the release of such records. In brief, the law provides that the campus must provide students access to official records directly related to the student and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate; the right to a hearing under the law does not include any right to challenge the appropriateness of a grade as determined by the instructor. The law generally requires that written consent of the student be received before releasing personally identifiable data about the student from records to other than a specified list of exceptions. The institution has adopted a set of policies and procedures concerning implementation of the statutes and the regulations on the campus. Copies of these policies and procedures may be obtained at the Office of the Dean of Student Affairs.

Among the types of information included in the campus statement of policies and procedures are: 1) the types of student records and the information contained therein; 2) the official responsible for the maintenance of each type of record; 3) the location of access lists which indicate persons requesting or receiving information from the record; 4) policies for reviewing and expunging records; 5) the access rights of students; 6) the procedures for challenging the content of student records; 7) the cost which will be charged for reproducing copies of records; and 8) the right of the student to file a complaint with the Department of Health, Education and Welfare. An office and review board have been established by the Department to investigate and adjudicate violations and complaints. The office designated for this purpose is The Family Educational Rights and Privacy Act Office (FERPA), Department of Health, Education and Welfare, 330 Independence Avenue, SW, Washington DC 20220.
The campus is authorized under the Act to release public directory information concerning students. Directory information includes the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student and any other information authorized in writing by the student. The above designated information is subject to release by the campus at any time unless the campus has prior written objection from the student specifying information which the student requests not be released. Written objections should be sent to the Dean of Student Affairs.

The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons are those who have responsibilities in connection with the campus' academic, administrative or service functions and who have reason for using student records connected with their campus or other related academic responsibilities.

Grading System

At the end of each semester or summer session in which a student is enrolled, a report of courses taken, showing hours and grades earned, is sent to the student. Grades and grade points per unit used points; C (satisfactory progress), D (passing), 1 point; F (failure), 0 points, I (Incomplete), counted as (withdrawal), not counted in the grade point average; Cr (credit), signifying units earned, but not point average.

The symbol "CR" is used to report the satisfactory completion of Courses 79A, 79B, 79C, 79D, 79E, 79F, 79G, 79H, 79I, and Education and Speech Pathology and Audiology. Failure to satisfactorily complete such courses will mean the student is not a candidate for graduation.

Grade Point Averages

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.
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 the 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.

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 class without filing official withdrawal forms within the established deadlines. Veterans unofficially withdrawing will have veterans' allowances immediately suspended and will be subject to full repayment of allowances received after date of unofficial withdrawal.

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 to take, a student must file application for the leave at the Registrar's Office. Deadlines for filing may be obtained from 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 be 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 applicant was not regularly enrolled in either of the two semesters immediately preceding the subsequent to the last attendance at San Diego State University.

Repeated Courses
Ordinarily a graduate student may not repeat courses which have been taken as part of the official master's degree program. A graduate student may, with prior written permission of the graduate department, take a course on the official program of study in which a grade of C, D or F has been calculated in the grade point average.

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.

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

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

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

1. Withdrawal from all or a substantial portion of a program of studies in two successive terms or in any three terms.
2. Repeated failure to progress toward the stated degree 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 Dean of the Graduate Division and Research. 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.
Graduate Division and Research. The person, graduate adviser, and Dean of the Graduate Division and Research shall consider residence status of students who have completed individual course prerequisites and who meet the approval of the course instructor, department chairperson, graduate adviser, and Dean of the Graduate Division and Research.

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

Subject to lower limitations for individual programs, as indicated in Part Four of this catalog, the maximum amount of transfer and San Diego State University extension course credit acceptable on master’s degree programs is nine units. Exceptions are the Master of City Planning degree which permits 26 units (including a maximum of nine units of extension credit) and the Master of Social Work which permits 35 units (including a maximum of nine units of extension credit). All credit earned in other colleges or in San Diego State University extension courses is subject to approval by the Dean of the Graduate Division and Research. Credit earned through one semester of concurrent extension enrollment at the University may be considered residence credit for the master’s degree. Concurrent extension enrollment allows standards for regular enrollment to enroll in regular campus classes on a space available basis with the Graduate Division and Research.

Study List limits in the Graduate Division

Section 40601 (i) 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 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 and Research. Graduate teaching assistants who enroll for more units than authorized will not receive credit on their official degree programs for the excess number of units completed.
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 catalog 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 Catalog of San Diego State University and in the Graduate Studies Catalogs 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 catalog.

Examinations

As part of the admission procedure, all students desiring an advanced degree must take the Graduate Record Examination Aptitude Test, except for students holding a master's or higher degree from an institution which is a member of the Council of Graduate Schools of the United States. Examinations required in the various subject matter fields of study are listed in the appropriate sections of Part Five, Courses and Curricula under Specific Requirements for the Master's Degree. (See below for the foreign language examinations and for the comprehensive examination required in lieu of thesis under Plan B.)

Official Programs of Study

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

Official master's degree programs of study, as signed or revised by the graduate adviser and approved by the Graduate Council, are binding unless the student withdraws from the University. Withdrawal is defined as having taken no courses during a calendar year. A student who withdraws from the University and is later readmitted with classified graduate standing may, with the consent of the graduate adviser and the Graduate Council, continue his original official program of study or he may be required to submit a new program which complies with the requirements of the current Graduate Catalog.

When courses listed on an official master's degree program deviate from the prescribed requirements as stated in the Graduate Catalog, a statement indicating justification for approval must be submitted to the Dean of the Graduate Division and Research by the department concerned. It is the student's responsibility to complete the specific courses listed on the official program of study. No changes will be permitted unless approved by the graduate adviser and the Dean of the Graduate Division and Research. No course can be deleted from an official program of study after the course has been completed.

Foreign Language Requirement

When a student is required to satisfy this requirement in French, German, Russian 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.

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 by the Dean of the Graduate Division and the Department of or school concerned. A student may be recommended for advancement to candidacy by the department or school concerned; and (5) have completed any additional course work required for advancement to candidacy.

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

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

Unit Requirements

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

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

Thirty units (36 units for the Master of Science in Counseling degree 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 60 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 Fine Arts in Drama Degree

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

Master of Science in Rehabilitation Counseling Degree

Sixty units of 600- and 700-numbered courses specified by the Rehabilitation Counseling Program, at least 30 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 60 units for the degree. Credit earned by correspondence is unacceptable. Not more than a total of nine units in courses 740 and 750 will be accepted; not more than a total of nine units in courses 720 and 730 will be accepted.
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.

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 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 invalided 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, 56, or 60 units and the requirements concerning foreign languages are listed in the appropriate sections of Part Four, Courses and Curricula under Specific Requirements for the Master's Degree.

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 "C" 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 "C" grade for the thesis is the responsibility of the Graduate Division. Registration in Course 799A, Thesis, is required; however, students will not be permitted to register for this course until they have received official notification of advancement to candidacy from the Graduate Division Office and have an officially appointed thesis or project committee on file in the Graduate Division office.

Two microfiche copies and one bound copy of all master's theses or projects are accessioned by the library of San Diego State University and are subject to the regulations of the library with respect to watermarked 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 catalog. Dates on which comprehensive examinations in lieu of thesis 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

Thesis Research Involving Human Subjects

University policy and procedures for research involving human subjects is published in Policy and Procedures for the Protection of Human Subjects, which is available in departmental offices and from the committee (Physics 343, 286-6822). Students should allow for a minimum of two weeks turn-around time after a protocol statement has been submitted to the committee. Approval must be obtained from the committee prior to data collection.

Grade Point Averages

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

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.

Final Approval

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

Application for Graduation

Graduation is not automatic on the completion of degree requirements. The student must file an application in the Graduate Division Office during the semester or term in which he expects to be graduated. Refer to the calendar preceding Part One of this catalog 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. NOTE: Beginning with the fall semester, 1977, students being graduated with an advanced degree in or after the fall semester, 1977, will be required to file an application for readmission in order to return to the University and enroll in courses.

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.

Diploma

The appropriate diploma is forwarded to the student by the Graduate Division Office.
PART FOUR

Courses and Curricula
Courses and Curricula

This section contains the specific requirements for all graduate degrees authorized at San Diego State University by the Board of Trustees of The California State University 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 catalog. All official master's degree programs must be prepared in conformity with the basic and specific requirements for the degree in question.

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

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

Prerequisites for graduate courses

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

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

Registration in Course 798, Special Study, must be arranged by the student through the instructor, 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 Office of the Graduate Division and Research.

Thesis Extension (799B)

This course is intended solely for those graduate students who have had prior registration in Thesis 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 unit value of the course, preparation, or three hours of laboratory work or two hours of activities, each week for a semester of 18 weeks.

American Studies

Faculty

Graduate Advisers: Members of the American Studies Committee. Contact C.A.L. Student Advising Center, LE-469.

Faculty members in the departments participating in the degree program are listed in the American Studies Handbook, available from the C.A.L. Student Advising Center, LE-469.

Committee on American Studies

D. E. Berge
T. Cox
L. Foulke
H. J. Lewin
R. W. Redding
P. Vartanian
C. Wall
S. N. Weber
D. Wenberg

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 catalog, 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 catalog. In addition, students will be required to pass an oral examination, details of which are available from the graduate adviser.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Three of this catalog, 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, excluding Thesis 799A, in one of the following fields:
Courses Acceptable on Master's Degree Programs in American Studies

<table>
<thead>
<tr>
<th>UPPER DIVISION COURSES IN AMERICAN STUDIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>501. Study of American Culture (3) I, II</td>
</tr>
<tr>
<td>Prerequisite: Major in American studies; open to other students with permission of instructor.</td>
</tr>
<tr>
<td>American studies as a discipline, the critical methods of the field, the variety of materials for interdisciplinary study. (Formerly numbered Humanities 180.)</td>
</tr>
<tr>
<td>580. Topics in American Studies (3) I, II</td>
</tr>
<tr>
<td>Topics dealing with cultural images and myths, social protest, folklore; themes focusing upon fear, alienation and nationalism; problems around racism, minorities and counter-cultures. May be repeated once with new content; and with the approval of the adviser, more than once by American studies majors. Maximum credit: six units applicable on a master's degree in American studies. (Formerly numbered English 136.)</td>
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<tr>
<th>Literature and Philosophy:</th>
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<tbody>
<tr>
<td>American Studies Course</td>
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<tr>
<td>English Courses</td>
</tr>
<tr>
<td>521. Major and Minor Periods in American Literature (3)</td>
</tr>
<tr>
<td>522. Individual American Author (3)</td>
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<tr>
<td>523. Individual Movement in American Literature (3)</td>
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<tr>
<td>524. Individual Issues in American Literature (3)</td>
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<tr>
<td>525. Studies in American Fiction (3)</td>
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<tr>
<td>526. Studies in American Poetry (3)</td>
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<tr>
<td>527. Studies in American Drama (3)</td>
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<tr>
<th>Linguistics Courses</th>
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<tbody>
<tr>
<td>510. (180.) History of English (3)</td>
</tr>
<tr>
<td>520. (181.) Modern English (3)</td>
</tr>
<tr>
<td>524. (182.) American Dialectology (3)</td>
</tr>
<tr>
<td>551. (186.) Sociolinguistics (3)</td>
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<tr>
<td>552. (187.) Psycholinguistics (3)</td>
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<table>
<thead>
<tr>
<th>Philosophy Course</th>
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<tbody>
<tr>
<td>564. (164.) American Philosophy (3)</td>
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<tr>
<th>History Courses</th>
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<tbody>
<tr>
<td>531A-531B. (171A-171B) Rise of the American Nation (3-3)</td>
</tr>
<tr>
<td>532A-532B. (172A-172B) Development of the Federal Union (3-3)</td>
</tr>
<tr>
<td>533A-533B. (173A-173B) Jacksonian Democracy, Civil War and Reconstruction (3-3)</td>
</tr>
<tr>
<td>534. (174.) The Rise of Modern America, 1868-1900 (3)</td>
</tr>
<tr>
<td>535A-535B. (175A-175B) The United States, 1901-1945 (3-3)</td>
</tr>
<tr>
<td>536. (175C.) The United States in the Nuclear Age (3)</td>
</tr>
<tr>
<td>537A-537B. (181A-181B) The Westward Movement (3-3)</td>
</tr>
<tr>
<td>539A-539B. (183A-183B) Back American Civilization (3-3)</td>
</tr>
<tr>
<td>540. (185.) Environmental History of the United States (3)</td>
</tr>
<tr>
<td>541A-541B. (189A-189B) California (3-3)</td>
</tr>
<tr>
<td>545A-545B. (177A-177B) Constitutional History of the United States (3-3)</td>
</tr>
<tr>
<td>547A-547B. (179A-179B) Development of American Capitalism (3-3)</td>
</tr>
<tr>
<td>547A-547B. (179A-179B) Intellectual History of the American People (3-3)</td>
</tr>
<tr>
<td>548A-548B. Social History of the United States (3-3)</td>
</tr>
<tr>
<td>596. Selected Studies in History (when content relates to American Studies) (3)</td>
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<tr>
<th>Social Sciences and Education:</th>
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<tbody>
<tr>
<td>Anthropology Courses</td>
</tr>
<tr>
<td>540. (180.) Ethnological Field Methods (3)</td>
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<tr>
<td>541. (181.) The California Indian (3)</td>
</tr>
<tr>
<td>545. (171.) Ethnology of North America (3)</td>
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<tr>
<td>546. (172B.) Southwestern Ethnology (3)</td>
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<tr>
<th>Geography Courses</th>
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<tbody>
<tr>
<td>555. Urban Location and Settlement Geography (3)</td>
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<tr>
<td>566. Environment Perception and Spatial Behavior (3)</td>
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<tr>
<td>570. Land Use Analysis (3)</td>
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<tr>
<td>573. (173) Geography as Human Ecology (3)</td>
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<td>575. (175) Geography of Recreational Land Use (3)</td>
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<tr>
<th>Journalism Courses</th>
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<tbody>
<tr>
<td>500. (121.) Current Problems in Mass Communications (3)</td>
</tr>
<tr>
<td>503. (117) History of Mass Communications (3)</td>
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<tr>
<td>508. (162) Mass Communications and Society (3)</td>
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<tr>
<th>Political Science Courses</th>
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</thead>
<tbody>
<tr>
<td>505. (105.) American Political Thought (3)</td>
</tr>
<tr>
<td>522. (118) Urban Politics (3)</td>
</tr>
<tr>
<td>531. (126) Political Groups and Movements (3)</td>
</tr>
<tr>
<td>543S. (123S) Contemporary American Politics (3)</td>
</tr>
<tr>
<td>547A-547B. (139A-139B) American Constitutional Law (3-3)</td>
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<tr>
<th>Sociology Courses</th>
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<tbody>
<tr>
<td>525. (125) Minority Group Relations (3)</td>
</tr>
<tr>
<td>545. (145) Sociology of Mass Communications (3)</td>
</tr>
<tr>
<td>546. (146) Collective Behavior (3)</td>
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<tr>
<td>547. (147) Sociology of Social Movements (3)</td>
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<tr>
<td>557. (157) Urban Sociology (3)</td>
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<tr>
<th>Fine Arts:</th>
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<tbody>
<tr>
<td>Art Course</td>
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<tr>
<td>560. (157) History of American Art (3)</td>
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<tr>
<th>Comparative Literature Course</th>
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<tbody>
<tr>
<td>570. (196) Folk Literature (when relevant to American Studies) (3)</td>
</tr>
</tbody>
</table>
Religious Studies Courses

520. (150.) Religious Consciousness in American Society (3)
522. (151.) Religion in America (3)

GRADUATE COURSES IN AMERICAN STUDIES

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

Literature and Philosophy:

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

625. (233.) American Literature (3)
630. (241.) Directed Reading in United States History (3)
635. (251.) Seminar in United States History (3)

American History:

History Courses

620. (202.) Social Foundations (2 or 3)
625. (221.) Seminar in American National Government (3)
630. (215.) Seminar in American National Government (3)
650. (250.) Seminar in Systematic Geography (3)

Social Sciences and Education:

Education Course

620. (247.) Seminar in History of Theatre and Drama-American (3)
652E. (252.) Seminar in Music History-American Music (3)

Speech Communication Course

780. (280.) Seminar in American Public Address (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 catalog under the appropriate
departments.
Anthropology

Faculty
Chairman, Department of Anthropology: L. L. Leach
Coordinator of Graduate Programs in Anthropology: D. D. Whitney
Graduate Advisers:
- Physical Anthropology: J. B. Frazee, R. Sonek, L. L. Leach, E. Henry
- Ethnology: V. Goldkind, D. D. Whitney
- Ethnography: J. W. Ball
- Social Anthropology: W. C. Pendleton
- Ethnolinguistics: P. J. Greenfeld, R. S. Himes
- Professors: goldkind, Leach, Lippold, Pendleton, Watson, Whitney
- Associate Professors: Greenfeld, Himes, Roni, Stanford
- Assistant Professors: Ball, Bartel, Henry, Moore, Pillsbury, Sonek

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.

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 catalog under Social Science. The Master of Arts degree in Anthropology is designed to provide systematic advanced training for (a) students who anticipate additional work leading to the doctoral degree in anthropology, and also for (b) students who plan to terminate their graduate training at the master's level.

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

Admission to Graduate Standing
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three of this catalog. In addition, students seeking the Master of Arts degree in Anthropology must have completed or complete at least 15 upper division units in Anthropology, 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 GRE or GPA scores are to be sent to the Admissions Office. In addition to (1) at least three letters of recommendation from persons in a position to judge academic ability and experience, a materials should be submitted by December 1 for admission for spring semester and May 1 for the fall semester.

Advancement to Candidacy
Part Three of this catalog. In addition, the students must: (1) satisfactorily complete two of the four recommended for advancement to candidacy by the faculty of the Department of Anthropology; and examination demonstrating reading knowledge of an appropriate foreign language, or complete a sequence of at least one lower division and one upper division course with a grade point average

2.0 or better) in either:
(a) a foreign language other than Spanish, German, French or Russian, or
(b) 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 catalog, the student must complete a graduate program of at least 30 units of which at least 24 units must be in 600- and 700-numbered courses in anthropology, to include:
1. Anthropology 601, 602, 603, and 604 (with a grade point average of 3.0 or better in these courses);
2. Anthropology 797, Research (3) (to be taken after advancement to candidacy);
A final oral examination on the general field of the thesis must be passed as a requirement for the degree. Only Plan A, requiring the thesis, is permitted for the Master of Arts degree in Anthropology.

Courses Acceptable on Master's Degree
Programs in Anthropology

UPPER DIVISION COURSES

500. (115.) Primatology (3)
Two lectures and three hours of laboratory.
Prerequisites: Anthropology 101 or 400A.
Description, taxonomy, and comparative anatomy of the anthropoid apes, monkeys, and lesser primates. Primate behavior as a basis for the reconstruction of prehistoric human behavior. Extensive use of the primate collections of the San Diego Zoo.

501. (116.) Human Paleontology (3)
Prerequisite: Anthropology 101 or 400A.
Comparative anatomy of fossil man and other primates; evolutionary relationships and cultural associations.

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

503. Human Variation (3)
Prerequisite: Anthropology 101 or 400A.
Morphological, physiological, and genetic aspects of human variability. Significance of this diversity in the biological adaptations of human populations.

510. (122.) Language in Culture (3)
Prerequisites: Anthropology 102 or 400B, and Anthropology 304 or Linguistics 500.
Survey of anthropological interests in the study of language and of linguistic interests in the sociocultural context of language.

511. (126.) Field Methods in Linguistics (3)
Two lectures and three hours of laboratory.
Prerequisites: Three units of linguistics or Anthropology 304, and consent of instructor. Principles and techniques of linguistic analysis. Problems and methods in the phonetic transcription and analysis of unwritten, non-Indo-European languages. Emphasis on phonetics, phonemics, field techniques, and work with informants.

520. (150.) Ethnological Field Methods (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 350.
The problems and techniques of obtaining data in ethnological and social anthropological field work; preparation, gaining and maintaining rapport; evaluating data, participant observation. A review of literature followed by work with informants.

522. (154.) Social Anthropology (3)
Prerequisite: Anthropology 350.
Development of social anthropology as a distinct subfield of cultural anthropology. Readings and analysis of functionalism as theory and methodology in the explanation of social and cultural processes. (Formerly numbered Anthropology 352.)
523. (149) Kinship and Social Organization
   Prerequisite: Anthropology 102 or 400B.
   Comparison of kinship systems and the structure of social relationships throughout the world. The methodological orientations and theories relating to social organization with emphasis on non-Western societies.

524. (153) Primitive Religion
   Prerequisite: Anthropology 102 or 400B.

525. (155) Peasant Society and Culture
   Prerequisite: Anthropology 102 or 400B.
   The social organization and culture of present-day small agricultural communities with emphasis on changes brought about by modernization.

526. (156) Cultural Change and Processes
   Prerequisite: Anthropology 102 or 400B.
   The individual and the culture pattern: the acquisition of culture, innovation and invention, direction of cultural development, diffusion and interpretation of cultures. Illustrations from contemporary and historic peoples: Indians of the Southwest, Eskimos, aboriginal groups of Australia, Africa, and Oceania.

527. (158) Economic Anthropology
   Prerequisite: Anthropology 102 or 400B.
   Social relationships and cultural values inherent in the economies of primitive and peasant societies. Cross-cultural comparisons made of various means by which goods and services are acquired and distributed in non-Western, non-market-industrial societies.

528. (159) Cultural Ecology
   Prerequisite: Anthropology 102 or 400B.
   Examination and comparison of the relationships which exist between the natural environment and the sociocultural processes in nonindustrial and peasant communities.

529. (164) Urban Anthropology
   Prerequisite: Anthropology 102 or 400B.
   Cultural roles of urban centers and processes of urbanization in non-Western, nonindustrial societies of past and present. Urban influence on traditional peasant and primitive peoples of Africa, Asia, and Latin America.

530. (167) Political Anthropology
   Prerequisite: Anthropology 102 or 400B.
   Political processes, institutions, and ideologies in primitive and peasant societies.

531. (170) Applied Anthropology
   Prerequisite: Anthropology 526.
   Application of anthropological concepts to the solution of practical problems of culture change in industry, corporate organization and community development.

532. (165) Culture and Personality
   Prerequisite: Anthropology 102 or 400B.
   The relationship of individual personality to culture in a variety of cultures. A consideration of various theories and studies in the social and personality sciences.

533. (168) Evaluative Procedures in Culture and Personality
   Two lectures and three hours of laboratory.
   Prerequisite: Anthropology 102 or 400B.
   Methods of eliciting and evaluating cross-cultural information about patterns of behavior. Such field methods as the interview and participant observation will be reviewed and evaluated.

540. (148) Cultures of Europe
   Prerequisite: Anthropology 102 or 400B.
   The study of society and culture in contemporary Europe, utilizing current ethnographic materials and sociocultural research.

541. (161) The California Indian
   Prerequisite: Anthropology 102 or 400B.
   Native California Indian cultures with stress on the Indian groups of Southern California. The study of living peoples and archaeological evidences.

542. (162) Cultures of South America
   Prerequisite: Anthropology 101 or 102 or 400A or 400B.
   Indian cultures in terms of origins, migration, relation to habitat, cultural variation and relevance to contemporary trends. Development of Inca civilization, the effects of the Spanish conquest and its aftermath.

543. (163) Contemporary Latin American Cultures
   Prerequisite: Anthropology 102 or 400B.
   A social anthropological approach to the structure and dynamics of contemporary conditions and problems, especially as revealed in studies of particular communities. Included are such topics as ethnic and regional differences within national societies, population change, social consequences of economic changes, changing stratification systems, values, institutional change.

545. (171) Ethnology of North America
   Prerequisite: Anthropology 102 or 400B.
   Native cultures and the role of environmental and historical factors in North America.

546. (172B) Southwestern Ethnology
   Prerequisite: Anthropology 102 or 400B.
   Indian cultures of the American Southwest in historic times, ecological adaptations, responses to white contact, adaptations to modern American life.

547. (175) Cultures of Southeast Asia
   Prerequisite: Anthropology 102 or 400B.
   Prehistory, races and cultures of Indonesia, Philippines and nearby mainland Southeast Asia. Includes both primitive and peasant societies and reviews them with respect to environmental, historical and social factors.

548. (178) Cultures of Oceania
   Prerequisite: Anthropology 102 or 400B.
   The aboriginal cultures and people of Melanesia, Australia, Micronesia, and Polynesia in prehistoric, historic, and modern times.

549. (165) Cultures of Sub-Saharan Africa
   Prerequisite: Anthropology 102 or 400B.
   Indigenous peoples and cultures of Africa south of the Sahara. A comparison of cultural traditions, social organization, and modern trends in newly emergent nations of the area.

550. (186) Cultures of India
   Prerequisite: Anthropology 102 or 400B.
   Indigenous peoples and cultures of India and contiguous areas of South Asia. The development of political organization, social organization, and modern trends.

551. (191) Chinese Society
   Prerequisite: Anthropology 102 or 400B.
   Culture and social organization of Chinese people. Traditional China, overseas Chinese, contemporary Taiwan and Hong Kong. Recent social change in Mainland China.

552. (192) Japanese Society
   Prerequisite: Anthropology 102 or 400B.

553. Near Eastern Societies
   Prerequisite: Anthropology 102 or 400B.
   Cultural and social organization of the peoples of Southwest Asia and North Africa. Traditional and modern relations of political, social, economic, and religious institutions. Effects of colonialism, nationalism and social change.

560. (173) Advanced Archaeological Field Methods
   One lecture and six hours of laboratory.
   Prerequisite: Anthropology 200. Advanced projects in excavation and stabilization of ruins, archaeological surveys, laboratory analysis and preparation of reports.

561A-561B. (188A-188B) Archaeological Laboratory Methods
   Prerequisite: Anthropology 560. Anthropology 561A is prerequisite to 561B. Semester I: Application of palynology, paleontology and technologies. Semester II: Practical applications of materials from 561A. Individual laboratory research project required.
570. (147) Prehistory of South America (3)
Prerequisite: Anthropology 101 or 400A.
Development of native South American cultures from initial occupation to the 16th century. Emphasis on major historical trends, particularly of the Andean area.

571. (170) Archaeology of North America (3)
Prerequisite: Anthropology 101 or 400A.
Origin of the American Indian and survey of the main prehistoric cultures of the North American continent.

572. (172A) Southwestern Prehistory (3)
Prerequisite: Anthropology 101 or 400A.
Prehistoric Indian cultures in the American Southwest; ecological adaptations and outside cultural influences.

573. (174) Paleolithic Archaeology of Europe (3)
Prerequisites: Anthropology 101 and 102 or 400A and 400B.
Culture change in the area from Ireland eastwards to European Russia beginning with the first evidence of hominid activity through the end of the Pleistocene.

574. (176) Archaeology of Western and Central Asia (3)
Prerequisites: Anthropology 101 and 102 or 400A and 400B.
Culture change in the area from Anatolia eastwards to India and including the Arabian peninsula beginning with the first evidence of hominid activity through ethnohistorically known societies.

575. (180) Preclassic Cultures of Mesoamerica (3)
Prerequisite: Anthropology 101 or 400A.
The development of civilization in pre-Columbian Mexico and Central America antecedent to the Toltecs, Classic Maya, and related cultures.

576. (181) Classic Pre-Columbian Civilizations of Middle America (3)
Prerequisite: Anthropology 101 or 400A.
Aboriginal Mexican and Central American civilizations through the Age of Exploration and Conquest. Aztecs, Mixtecs, Zapotecs, Mayas, and related cultures.

577. (182) Post-Conquest Cultures of Middle America (3)
Prerequisite: Anthropology 102 or 400B.
Aboriginal and mixed cultures of Mexico and Central America in Colonial and recent epochs. Aftermath of Conquest and exploitation.

578. (183) Post-Pleistocene Archaeology of Europe (3)
Prerequisites: Anthropology 101 and 102 or 400A and 400B.
Culture change in the area from Ireland eastwards to European Russia in the time period from the initial Holocene hunter-gatherer-fisher adaptations and domestication of plants and animals through Roman Colonism.

579. (184) Archaeology of Africa (3)
Prerequisites: Anthropology 101 and 102 or 400A and 400B.
Culture change in the regions of northern Africa and sub-Saharan Africa beginning with the first evidence of hominid activity through ethnohistorically known societies.

580. (189) Topics in Arctic Anthropology (3)
Prerequisites: Anthropology 101 or 102 and consent of instructor.
Topics of selected areas, periods or problems in the context of broad considerations of prehistoric, historic or contemporary cultural development and human ecology throughout the arctic and subarctic regions.

581. (190) Archaeology of East Asia and Oceania (3)
Prerequisite: Anthropology 101 or 102 or 400A.
Culture change in the areas of China, Siberia, southeast Asia, Australia, Japan and Oceania beginning with the first evidence of hominid activity through ethnohistorically known societies.

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 101 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.
Art

Faculty

Chairperson, Department of Art: W. H. Higgins
Graduate Coordinator: J. D. Swiggett
Credential Adviser: J. L. Tanzer
Professors: Baker, Berg, Bigelow, Covington, Fisch, Higgins, Hopkins, Hunter, Lingren, Longenecker, Miller, Rogers, Tanzer, Wallace
Associate Professors: Austin, Bowne, Frick, Groover, Hodge, Orth, Papworth
Assistant Professors: Esser, Macon, Perczel, Ray, Roberts, Mansfield, Van Tongeren

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.

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 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 San Diego Museum of Art, and the La Jolla Museum of Contemporary Art, 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 catalog. In general, the student must have completed an undergraduate major in art with a minimum of 24 upper division units, including two studio courses. The student must also be a declared major in art at the University before he is permitted to begin work on his graduate program. The student must be able to show that he is adequately advanced to carry out projects requiring formal presentation to the Emphasis Area Faculty of a portfolio of examples of the student's work. The range of work should be great enough to give a demonstration of the student's strengths and weaknesses. A statement of the student's work must be submitted by April 1 and November 1. Art History applications, obtainable from the graduate coordinator, are due March 23 or October 23.

Advancement to Candidacy

In addition to meeting the requirements as described in Part Three of this catalog, all students will be required to pass a comprehensive examination covering the fields of art history, the principles of art appreciation, and the techniques and materials of 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 102, Art 258, 259, 264, 265, 557, 568, 571, 573, 575; and six units in art history selected with the consent of the art faculty. 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.

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 catalog, 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 as well as Art 694, one course in the Art 780 or 770 series or Art 690, 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. Not more than a total of six units in Art 786 will be accepted.

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.

Courses Acceptable on Master's Degree

Programs in Art

UPPER DIVISION COURSES

500. (100A-100B.) Advanced Drawing (3) I, II
Six hours.
Prerequisites: Art 203 and 204.
Drawing emphasizing the qualitative aspect of visual subject matter. Maximum credit six units.

502. (120A-120B.) Inter-Media (1-3) I, II
Two hours for each unit of credit.
Prerequisites: Art 102 and 103.
Process and materials in plane and space. Maximum credit six units.

503. (115C-115D.) Life Drawing and Painting (3) I, II
Six hours.
Prerequisite: Art 403.
Drawing and painting from nude and costumed models. Maximum credit six units.

504. (116C-116D.) Advanced Painting (3) I, II
Six hours.
Prerequisite: Art 404.
Pictorial composition and painterly process. Maximum credit six units.

505. (118B.) Advanced Aqueous Media (3) I, II
Six hours.
Prerequisite: Art 405.
Composition in watercolor and related media.
506. **Design and Composition (3)** I, II  
Six hours.  
Prerequisite: Art 406.  
Structure in picture making.

509. **Relief Printmaking (3)** I, II  
Six hours.  
Prerequisite: Art 203.  
Woodcut, wood engraving, gesso cut, linoleum, collograph, and relief printmaking processes.  
Emphasis on fine print quality and technical development using mixed media. Maximum credit six units.

510. **Intaglio Printmaking in Color (3)**  
Six hours.  
Prerequisite: Art 410.  
Advanced creative intaglio printmaking in color, including zinc and copper plate; etching, drypoint, aquatint, engraving, embossing and color variations. Emphasis on fine print quality and technical development in the color process unique to this medium. Maximum credit six units.

511. **Lithography Printmaking in Color (3)**  
Six hours.  
Prerequisite: Art 411.  
Advanced creative lithography printmaking in color. Emphasis on fine print quality in color process and color technology unique to this medium. Maximum credit six units.

512. **Serigraphy (3)**  
Six hours.  
Prerequisite: Art 203.  
Techniques of reproducing original prints by means of the silkscreen process. Maximum credit six units.

516. **Advanced Sculpture (3)** I, II  
Six hours.  
Prerequisite: Art 216.  
The influence of art media and tools on aesthetic organization in sculpture in relief and in the round. Maximum credit six units.

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

521. **Industrial Design (3)** I, II  
Six hours.  
Prerequisite: Art 421.  
The design of objects for manufacture with reference to their use, materials, and in accordance with factory practices and machine techniques. Practice in the techniques of presentation, working drawings, rendering and perspective and scale models.

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

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

525. **Ceramics (3)** I, II  
Six hours.  
Prerequisite: Art 425.  
Study of ceramic design through creative projects of clay forms. Maximum credit six units.
552. (156C) Professional Methods of Interior Design (3) Irregular
Six hours.
Prerequisite: Art 451.
Techniques and analyses of specification writing, estimating, contractual agreements, budget studies and supervision of professional interior design projects.

553. (158D) Contract Interior Design (3) Irregular
Six hours.
Prerequisite: Art 451.
Projects in nonresidential architectural interiors involving space planning, systems analysis, specification writing, equipment and materials appropriate to commercial function. Maximum credit six units.

554. Proxemics and Interior Design (3) Irregular
Prerequisites: Art 249, 251, and consent of instructor.
Lectures in proxemics and study of literature pertaining to relevant controlled experiments involving use and perception of enclosed spaces. Application of theories to field problems.

555. History of Modern Art (3) I, II
Prerequisites: Art 258 and 259.
Development of painting, sculpture, and architecture from the French Revolution to the present.

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

557. (156A) History of Ancient Art (3) I, II
Prerequisites: Art 258 and 259.
The art and architecture of ancient times viewed with focus on the culture of ancient times. Field trips included.

558. (156B) Contemporary Art (3) I, II
Prerequisite: Art 557.
Current movements in sculpture, painting, graphics, and architecture.

559. (152A) The Art of India and Southeast Asia (3) I
Prerequisites: Art 258 and 259.
History of the art, architecture, and sculpture of India and Southeast Asia.

560. (152B) The Art of Persia and the Islamic World (3) I
Prerequisites: Art 258 and 259.
History of the art, architecture, sculpture, and minor arts of Persia and the Islamic World.

561. (153A) Art of the Ancient Near East (3) I
Prerequisite: Art 258.
Development of painting, sculpture, architecture, and crafts from prehistoric times to the fourth century B.C.

562. (153B) Art of Crete, Mycenae, Greece, and Rome (3) II
Prerequisite: Art 258.
Development of painting, sculpture, architecture, and crafts from prehistoric times to the fifth century A.D.

563. (153C) Art of Sub-Saharan Africa (3) II
Prerequisite: Art 158.
Form and content of the arts of Sub-Saharan Africa viewed within a cultural context.

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

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

566. Northern Renaissance Art (3) I
Prerequisites: Art 258 and 259.
Architecture, sculpture, and painting of the Northern Renaissance period.

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

568. Arts of Native North America (3) Irregular
Prerequisite: Art 158 or American Indian Studies 265.
Form and content of the arts of Native North America viewed within a cultural context. Field trips included.

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

570. History of Primitivism (3) Irregular
Prerequisites: Art 258 and 259.
History of primitivism from its inception to the present.

571. Advanced History of Ceramics (4)
Three lectures and two hours of activity.
Prerequisite: Art 479.
Focus on 20th century international ceramics. Philosophical approaches to historical heritage.

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

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

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

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

576. Arts of Native North America (3) Irregular
Prerequisite: Art 158 or American Indian Studies 265.
Form and content of the arts of Native North America viewed within a cultural context. Field trips included.

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

578. History of Primitivism (3) Irregular
Prerequisites: Art 258 and 259.
History of primitivism from its inception to the present.

579. Advanced History of Ceramics (4)
Three lectures and two hours of activity.
Prerequisite: Art 479.
Focus on 20th century international ceramics. Philosophical approaches to historical heritage.

580. History of Costume (3) Irregular
Prerequisites: Art 258 and 259.
Historic origins of costume traced through the evolution of aesthetic, social and political influences during each period.

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

582. Aesthetics of Visual Environment for Young People (3) I, II
Six hours.
Prerequisite: Art 101.
Means of developing an expanded awareness of the environment in the young. Not open to students with credit in Art 247 or 347.

583. Concepts and Observations in Art (3) I, II
Six hours.
Prerequisite: Art 101.
Means of developing an expanded awareness of the environment in the young. Not open to students with credit in Art 247 or 347.

584. Aesthetics of Visual Environment for Young People (3) I, II
Six hours.
Prerequisite: Art 101.
Means of developing an expanded awareness of the environment in the young. Not open to students with credit in Art 247 or 347.

585. Concepts and Observations in Art (3) I, II
Six hours.
Prerequisite: Twelve upper division units in art.
Study of principles and fundamentals of art as related to strategies of presentation.

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

587. Exploration in Crafts for Young People (3) I, II
Six hours.
Prerequisite: Art 101.
A design-crafts course that explores in depth materials and processes that could be used with young people. Not open to students with credit in Art 220.

588. Principles and Elements of Visual Aesthetic Organization (3) II
Three hours.
Prerequisites: Senior standing and Art 157.
Visual aesthetic materials and the psychological principles involved in aesthetic organization.
591. (191A) Gallery Exhibition Design (3) I, II
Six hours.
Prerequisite: Fifteen units of art.
Fundamental art elements and principles applied to the theories and techniques of gallery exhibition design.

592. (191B) Gallery Exhibition Design (3) I, II
Six hours.
Prerequisite: Art 591.
Advanced problems in the theories and techniques of gallery exhibition design.

GRADUATE COURSES

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

604. (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)
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.

629. Enamel Workshop (3) I, II
Six hours.
Prerequisite: Art 529.
Workshop in enamel technology and its application to the craft. Maximum credit six units applicable on a master's degree. (Formerly numbered Art 628.)

631. (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 334.
Problems in textile design and technology. Projects will be determined by the individual student in consultation with the instructor. Maximum credit six units applicable on a master's degree.

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

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

690. Seminar in Art History (3)
Intensive investigation of specialized area of art history. Subject to be announced in class schedule.

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.

760. (291.) Studio Art Experience (3)
Six hours.
Independent research in specified areas, which may require the presentation of a paper with its oral defense.
Each course may be taken to a maximum of six units. Maximum credit six units of 700 applicable on a master's degree.

A. Studio Art in Painting
B. Studio Art in Sculpture
C. Studio Art in Printmaking
D. Studio Art in Ceramics
E. Studio Art in Crafts
F. Studio Art in Graphic Communication
G. Studio Art in Environmental Design

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 modern art.

769. (292A.) Seminar in Ancient Art (3)
Prerequisites: Art 258 and 567 or 568.
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.) Seminar in Art Education (3)
Prerequisite: Fifteen upper division units in art.
Historic and current art education philosophies.
Seminar in Bibliography and Research Methods (2)
Introduction to research methods and materials, compiling of a specialized bibliography, preparatory to writing a master's thesis.

Special Study (1-3) Cr/NC
Individual study. Maximum credit six units.
Prerequisites: Consent of the staff; to be arranged with department chairman and the instructor.

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.

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

Asian Studies

Faculty
Graduate Coordinator: A. D. Coxx, Director, Center for Asian Studies
Graduate Advisors:
- Paochin Chu, History (East Asia)
- T. J. Kahng, Political Science (East Asia)
- E. A. Keen, Geography (East Asia)
- D. D. Whitney, Anthropology (East Asia)

Members of the Center for Asian Studies
A. D. Coxx, Director
A. W. Anderson
L. L. Chan
P. Chu
A. B. Cottrell
T. R. Cox
D. V. DuFault
F. A. Frick
R. C. Gipp
E. Henry
R. S. Himes
G. R. Jordan
T. J. Kahng
E. A. Keen
M. Longenecker
M. C. Madhavan
D. D. McLeod
J. G. McLevie
J. E. Merrill
W. H. Nam
R. H. Nai
H. Neyndorff
R. A. Oldies
K. Ogawa
G. R. Jordan
B. Pillsbury
R. H. K. Schulze
L. J. Shaw
R. T. Smith, Jr.
W. S. Snyder
A. L. Srbich
P. S. Stanford
D. D. Whitney
C. Woo
C. C. Yahr

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 cultures, societies, peoples, and social forces at work in the Asian/Pacific world. The program is also designed for those who plan to pursue further graduate study in Asian Studies beyond the Master of Arts degree.

Admission to Graduate Study
In addition to meeting the requirements for admission to the University with classified graduate standing, as described in Part Three of this catalog, 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 catalog. 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 catalog, 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.

<table>
<thead>
<tr>
<th>Courses Acceptable on Master's Degree Programs in Asian Studies</th>
<th>Asian Studies Course</th>
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<tr>
<td>Asian Studies Course</td>
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<td>Anthropology Courses</td>
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<tr>
<td>547. (175.) Cultures of Southeast Asia (3)</td>
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<td>550. (186.) Cultures of India (3)</td>
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<td>551. (191.) Chinese Society (3)*</td>
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<td>552. (192.) Japanese Society (3)*</td>
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<td>581. (190.) Archaeology of East Asia and Oceania (3)*</td>
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<td>Art Course</td>
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<td>565. (152A.) The Art of India and Southeast Asia (3)</td>
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<td>Comparative Literature Course</td>
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<td>530. (170.) Asian Literature (3)</td>
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<td>History Courses</td>
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<td>566A-567B. (191A-191B.) The Far East (3-3)*</td>
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<tr>
<td>582. (196.) Civilization of India: The Great Traditions (3)</td>
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<td>593. (196B.) The Modern Indian Subcontinent (3)</td>
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<td>594A-564B. (190A-190B.) Southeast Asia (3-3)</td>
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<td>566B. (192.) Chinese Civilization (3)</td>
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<td>557A-567B. (193.) Modern and Contemporary Chinese History (3-3)*</td>
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<td>597. (194.) Japanese Civilization (3)*</td>
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<td>570. (195.) Modern Japan (3)*</td>
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<td>History Courses</td>
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<td>596. Selected Studies in History (3)**</td>
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<td>Philosophy Courses</td>
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<td>575. (175.) A Major Philosopher (3)**</td>
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<td>597. (196.) Topics in Asian Thought (3)</td>
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</table>

*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.

GRADUATE COURSES IN ASIAN STUDIES

501. (121A) Religions of India (3)
Prerequisite: Three units of religious studies.
Phenomenological studies in the major religious traditions of India, especially Hinduism and Buddhism.

502. (121) Religions of the Far East (3)*
Prerequisite: Three units of religious studies.
Phenomenological studies in the major religious traditions of East Asia, especially China and Japan.

580. (180.) A Major Figure (3) I, II**
Prerequisite: Religious Studies 100 or 200, and three upper division units in religious studies.
Life, works and significance of one major figure in a religious tradition. May be repeated with new content. Maximum credit six units.

581. (181.) A Metaphysical Doctrine (3) I, II**
Prerequisites: Philosophy 102, Religious Studies 100 or 200, and three upper division units in religious studies.
Systematic study of a selected theme or problem basic to the teachings of one of the major religious traditions. May be repeated with new content. Maximum credit six units.

GRADUATE COURSES IN ASIAN STUDIES

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

690. Seminar in Asian Studies (3)
Intensive study of an aspect of Asian studies. Maximum credit six units.

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

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

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

Anthropology Courses

600. (200.) Seminar (3)**

630. (222.) Historical Linguistics (3)**

Art Course

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

Business Administration Courses

654. (228.) Seminar in International Finance (3)**

765. (252.) Seminar in Marketing Channels and Physical Distribution (3)**

789. (255.) Seminar in International Marketing (3)**
Economics Courses
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.) Seminar in Development Planning (3)**

Education Course
663. (204.) Comparative Education (3)**

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

History Courses
601. (201.) 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 Course
795. (295.) Seminar in Linguistics (3)**

Philosophy Courses
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 Courses
655. (280.) Seminar in General Comparative Political Systems (3)**
656. (284.) Seminar in Communist Political Systems (3)**
681. (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 Course
770. (270.) Seminar in Population and Demography (3)**

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

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

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Astronomy

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

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.

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

This degree is designed to augment the student's undergraduate training with three or four semesters of more advanced study in the field of astronomy and the associated fields of mathematics and physics. San Diego State University has excellent facilities. A 24-inch reflecting telescope and two 16-inch reflecting telescopes, equipped with photometric 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 catalog. 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 catalog. 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 catalog, 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.
Courses Acceptable on Master's Degree Programs in Astronomy

UPPER DIVISION COURSES

520. Solar System Astronomy (3)
Prerequisites: Astronomy 101 and Physics 197, 197L.
Study of the structures of the planets, their atmospheres and satellite systems, asteroids, comets, and meteoroids, and the interplanetary medium, including the sun's influence in the system.

596. Advanced Topics in Astronomy (2 or 3) I, II
Prerequisite: Consent of instructor.
Selected topics in theoretical astronomy or astrophysics. May be repeated with new content upon approval of instructor. Maximum credit six units.

GRADUATE COURSES

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

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

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

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

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

650. Stellar Atmospheres (3)
Prerequisite: Astronomy 312A.
Emission and absorption of radiation, continuous spectra, spectral lines, model stellar atmosphere calculations, and non-L.T.E. problems.

660. Extragalactic Structure (3)
Prerequisite: Astronomy 312B.
The individual and collective properties of normal and peculiar galaxies. Topics include classification, spectra, masses, luminosity distributions, distance indicators, clustering, and redshifts.

670. Astrophysical Spectroscopy (3)
Prerequisites: Mathematics 152 and credit or concurrent registration in Astronomy 312A.
Theory of atomic spectra and atomic structure leading to interpretation of astronomical spectra, and line profile analysis.

797. 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.
## Biological Sciences

### (Biology, Botany, Zoology Courses)

#### 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. L. Wedberg
  - Ecology: W. Huthen
  - Genetics: D. Futch
  - Invertebrate Zoology: N. McLean, Jr.
  - Physiology: S. Krisans
  - Vertebrate Zoology: R. Estes
- Graduate Adviser: D. Hunter
- Professors: Akins, Baer, Bohnsack, Brandt, Carpenier, Chen, Clark, Cohn, Collier, D.O., Coller, G., Cooper, C.F., Cox, Duxer, Estes, Etheridge, Farns, Ford, Gallup, Hazen, Huffman, Hunsaker, Johnson, A.W., Krisans, Kummerow, McBane, McLean, Miller, Monroe, Neel, Olson, Paolini, Parsons, Ratty, Rayle, Rinehart, Schapiro, Shepard, Stoen, Taylor, Wedberg, Wilson
- Associate Professors: Alexander, Axbrey, Cooper, R.W., Daugherty, Diehl, Futch, Hurbert, Johnson, K.D., Krekorian, Pymale, Steinbergen, Thwaites, Zedler, P.H.
- Assistant Professors: Avila, Barnett, Carmichael, Davis, Dukepoo, Maurelio, Zedler, J.B.

#### 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.

#### General Information
- The departments of Biology, Botany, and Zoology, in the College of Sciences, offer graduate study leading to the degree 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 Undersea Center, San Diego State University also has access to research sites in Descanso, Fortuna Mountain, and Temecula (Riverside County).

### Section I: Master's Degree Programs

The Master of Arts degree is considered to be essentially an academic degree which is planned to serve as a stepping stone to a higher degree, if the student so desires. The Master of Science degree programs. Study concentration for either of these degrees must be completed in one of the following areas: Botany, Ecology, Genetics and Developmental Biology, Invertebrate Zoology, 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 catalog, 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.

- 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 catalog, the student must complete a graduate program of at least 30 units of upper division and graduate courses selected, with the approval of the graduate adviser, from the biological sciences as listed below or from closely related fields. At least 15 of the units selected must be in 600- and 700-numbered courses including course 799A, Thesis. A maximum of six units of the required 30 units may be selected from acceptable courses offered in the School of Education. A reading knowledge of scientific French, German, Russian, or Spanish, and a final oral examination on the field of the thesis and its implications in the broad fields of biology are also required.

### Specific Requirements for the Master of 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 catalog, the student must complete a graduate program of at least 30 units of upper division and graduate courses selected, with the approval of the graduate adviser, from the biological sciences as listed below or from closely related fields. At least 15 of the units selected must be in 600- and 700-numbered courses including course 799A, Thesis. A maximum of six units of the required 30 units may be selected from acceptable courses offered in the 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.

### 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 catalog, the student must complete a graduate program of at least 30 units of upper division and graduate courses selected, with the approval of the graduate adviser, from the biological sciences as listed below or from closely related fields. At least 15 of the units selected must be in 600- and 700-numbered courses including course 799A, Thesis. A maximum of six units of the required 30 units may be selected from acceptable courses offered in the 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, physiology, 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, cyto genetics, 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 this physiology program area include comparative cellular physiology (especially osmoregulation, immunology, nitrogen metabolism, and sensory reception), radiation biology and radioisotope techniques, nerve and muscle physiology, and biochemistry of nucleic acids.

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

### Section II: Joint Doctoral Programs

#### Ecology

The ecologists 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 tundras.
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 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 catalog. The student will normally spend his first year in the program completing his year of residency. 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

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

**University of California, Berkeley:**

- Graduate Adviser: J. Fristrom
- Principals: Brown, Fogel, Fristrom, Libby, Jr., Palmour, St. Lawrence, Spieh

**San Diego State University:**

- Graduate Adviser: D. Futch
- Principals: Aubrey, Bej, Barnett, Daugherty, Davis, Diehl, Futch, Johnson, Kelly, Ratty, Rinehart, Taylor, Thrall, Wedberg

#### Courses Acceptable on Master's Degree Programs

**Upper Division Courses**

- **505. (161.) History of Biology (3) I, II**
  - Prerequisite: A college course in biology.
  - Lectures and reports tracing scientific development of biology with emphasis on the influence of personalities and trends of the times.

- **519. (175.) Statistical Methods in Biology (3) I**
  - Two lectures and three hours of laboratory.
  - Prerequisite: Biology 520, 540 or 560.
  - Application of statistical techniques to biological data. Not open to students with credit for another upper division course in statistics except with written approval of the chairman of the department offering the student's major to be filed with the Evaluations Office.

- **520. (110.) Ecology (4) I, II**
  - Two lectures and six hours of laboratory.
  - Prerequisites: Biology 215 and Chemistry 200, 200L, 201, 201L.
  - Relationships between organisms and the environment; field study in local marine, fresh water, mountain, chaparral, and desert habitats.

- **521. (114.) Advanced Ecology (3) I, II**
  - Two lectures and three hours of laboratory.
  - Prerequisite: Biology 520.
  - The ecology of individuals, populations, or communities. May be repeated with new content.
  - Maximum credit: six units applicable on a master's degree.

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The University is negotiating to transfer the joint doctoral program in ecology from the University of California at Riverside to the University of California at Davis.
525. **Agricultural Ecology** (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Biology 320 or 520.
Mechanisms controlling fertility, productivity and regulation in agricultural ecosystems. The ecological design and management of agroecosystems.

528. **Ecology of Renewable Resources** (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Biology 320, 420 or 520.
Ecological principles in exploitation and management of forest, range, watershed and recreation lands for sustained human benefit.

530. **Linology (4) I, II**
Two lectures and six hours of laboratory.
Prerequisites: Biology 520 and Chemistry 200, 200L, 201, 201L. Biological, chemical and physical considerations of inland waters.

531. **Biological Oceanography (4) I, II**
Two lectures and six hours of laboratory.
Prerequisite: Biology 520, Physics 124A, Zoology 150. Application for collecting permit must be made at least six weeks before class begins. Location at the Center for Marine Studies (AS-111). Ecological concepts as applied to pelagic and benthic marine organisms and their environment. Field and laboratory experience in oceanographic techniques, particularly the coastal environment.

532. **Fisheries Biology (3) II**
Two lectures and three hours of laboratory.
Prerequisite: Biology 520.
Fisheries of commercial importance. The dynamics of exploited populations.

535. **Systems Ecology (4) I, II**
Three lectures and three hours of laboratory.
Prerequisites: Calculus, Biology 520 and consent of instructor. Theory and techniques of systems analysis and mathematical modeling as applied to ecological problems.

536. **Environmental Measurement (3) I, II**
Two lectures and three hours of laboratory.
Prerequisites: Biology 520 and consent of instructor. The utilization of electronic equipment to record ecological data under field conditions, including field power supplies, effects of fluctuations in environmental conditions, types of sensors, amplifiers and data recorders, and the interfacing of components.

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

540. **Genetics (4) I, II**
Two lectures and six hours of laboratory.
Prerequisite: Biology 215.
Principles of plant and animal genetics with experiments and demonstrations illustrating the mechanisms of heredity.

541. **Developmental Biology (4) I, II**
Two lectures and six hours of laboratory.
Prerequisite: Biology 540 and Chemistry 230, 230L or 231, 231L. Recommended: Biology 560. Analysis of development with emphasis on embryonic differentiation.

544. **Human Genetics (4) I, II**
Two lectures and six hours of laboratory.
Prerequisite: Biology 540.
Genetics as related to human biology, with consideration of the applied fields of medical genetics, genetic counseling, and population studies.

545. **Cytogenetics (4) I**
Two lectures and six hours of laboratory.
Prerequisite: Biology 540.
The physical basis of heredity. Study of the chromosomes and chromosome behavior in relation to problems in heredity and evolution.

546. (171.) **Mutagenesis (3)**
Prerequisite: Biology 540.
Basic principles and applications of mutation induction, expression, and detection at all levels of biological organization. Emphasis on mutation induction by chemicals and ionizing radiations.

547. (163.) **Microbial Genetics (3) I, II**
Prerequisite: Biology 540.
Theory underlying microbial genetics.

548. (172.) **Behavioral Genetics (3) I, II**
Prerequisite: Biology 540.
The genetic involvement of single and multiple gene systems in animal behavior.

549. (160.) **Evolution and Population Genetics (3) I, II**
Prerequisite: Biology 540.
Theory of evolution and modeling of genetic systems.

550. (169.) **Ecological Genetics (3) I, II**
Prerequisites: Biology 520 and 540.
Theory of adaptations of natural populations to their environments.

559. (173.) **Advanced Genetics (3) I, II**
Prerequisite: Biology 540.
Current topics in molecular, organismal or population genetics. Maximum credit six units.

560. (101.) **Cellular Physiology (4) I, II**
Two lectures and six hours of laboratory.
Prerequisites: Biology 215, Chemistry 200, 200L, 201, 201L, and 230, 230L, or 231, 231L, or 232, 232L. Application for collecting permit must be made at least six weeks before class begins. Physiology processes at the cellular level.

561. (181.) **Advanced Cellular Physiology (3) I, II**
Prerequisite: Biology 560.
Current topics in cellular physiology.

562. (142A.) **Comparative Animal Physiology I (3)**
Prerequisite: Biology 560.
Feeding and digestion, blood and circulation, nutrition, respiration and metabolism, excretion and osmoregulation. Considerations of function from molecular to organismal levels. Major phyla are considered. (Formerly numbered Biology 562A.)

562L. (142A.) **Comparative Animal Physiology Laboratory I (2)**
Six hours of laboratory.
Prerequisites: Biology 560; credit or concurrent registration in Biology 562. Directed laboratory projects emphasizing the design of experiments in physiological research. Emphasis on topics presented in Biology 562. (Formerly numbered Biology 562A.)

563. (142B.) **Comparative Animal Physiology II (3) I, II**
Prerequisite: Biology 560.
Membrane excitability and transport processes, nerve conduction, muscle contraction, sensory reception and integration. Considerations of function from molecular to organismal levels. (Formerly numbered Biology 562B.)

563L. (142B.) **Comparative Animal Physiology Laboratory II (2)**
Six hours of laboratory.
Prerequisites: Biology 560; credit or concurrent registration in Biology 563. Directed laboratory projects stressing topics presented in Biology 563. (Formerly numbered Biology 562B.)

564. (144.) **Comparative Endocrinology (3) I, II**
Prerequisite: Biology 560, Botany 530, Microbiology 320, or Zoology 540. Recommended: Biology 563. Chemistry 361A-361B or 560A-560B. Endocrine mechanisms at cellular, organismic, and population levels in plants and animals.

564L. (144L.) **Comparative Endocrinology Laboratory (2)**
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Biology 564. Standard and recent experiments with endocrine systems in vertebrate and invertebrate animals; the analysis of mechanisms of hormone action; the role of pheromones in behavioral responses; the effects of auxins on plant growth.
501. (101.) **Phylogeny** (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 100 and 100L.
Morphology and phylogenetic relationships of the algae.

502. (102.) **Myology** (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 100 and 100L.
The structure, food relations, and classification of fungi.

503. (103.) **Vascular Plants** (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 100 and 100L.
Structure, development and phylogenic relationships of the bryophytes and vascular plants.

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

514. (114.) **Plant Taxonomy** (4) II
Two lectures and six hours of laboratory, field trips.
Prerequisite: Botany 540.
The study of variation, primarily in flowering plants; classification, identification, nomenclature, distribution.

526. (126.) **Plant Anatomy** (4) II
Two lectures and six hours of laboratory.
Prerequisites: Biology 100, 100L; Chemistry 200, 200L, 201, 201L, and Physics 250 or 251.
The arrangement of structural elements within plant organs, with emphasis on cell and tissue types.

532. (132.) **Plant Metabolism** (3)
Prerequisite: Botany 530 or Biology 560.
An examination of metabolic pathways in plants and their regulation and control.

533. (133.) **Experimental Plant Metabolism** (2)
Six hours of laboratory.
Prerequisites: Credit or concurrent registration in Botany 532 and consent of instructor.
Experimental approaches to the study of plant metabolism and development.

540. (140.) **Plant Anatomy** (4) II
Two lectures and six hours of laboratory.
Prerequisites: Biology 100 and 100L. Recommended: Botany 500.
The arrangement of structural elements within plant organs, with emphasis on cell and tissue types.

562. (162.) **Agricultural Botany** (2)
Field trips to be arranged.
Prerequisites: Biology 100 and 100L. Recommended: Botany 500 or Zoology 521.
California crop plants, their general identification, cultural methods, and regional distribution.

572. (172.) **Palynology** (3) I
One lecture and six hours of laboratory.
Principles and methods of pollen and spore diagnosis, with reference to use in taxonomy, paleontology, anthropology, and medicine.
Zoology Courses

503. (103.) Embryology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 150 and 160, or 506.
Studies in comparative gametogenesis, morphogenesis, and reproductive physiology.

506. (106.) Comparative Anatomy of the Vertebrates (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Biology 100 and 100L.
Distinction, study and comparison of organ systems of representative vertebrates.

508. (108.) Histology (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 100 and 100L. Recommended: Microbiology 310 or Zoology 108 or 160.
Descriptive microscopic anatomy of cells, tissues and organs of mammals with special emphasis on humans.

510. (112.) Marine Invertebrate Zoology (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 520 and Zoology 150.
Ecology, morphology, behavior and physiology of marine invertebrates. Frequent field trips to local marine environments.

515. (115.) Ichthyology (4)
Two lectures and six hours of laboratory.
Prerequisites: Zoology 160 or 506.
Identification, systematic, evolution, structure, physiology, behavior and ecology of fishes.

516. (116.) Herpetology (4)
Two lectures and six hours of laboratory.
Prerequisite: Consent of instructor.
The origin, evolution, distribution and systematic of amphibians and reptiles of the world.

517. (117.) Ornithology (4)
Two lectures, six hours of laboratory or field excursions, and a field project.
Prerequisites: Biology 100 and 100L, and consent of instructor.
The study and identification of birds, especially those of the Pacific Coast and the San Diego region.

518. (118.) Mammalogy (4) II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 160 or 506.
The evolution, systematic, distribution and ecology of mammals of the world.

521. (121.) General Entomology (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Biology 100 and 100L.
Structure, physiology, natural history and classification of insects.

522. (122.) Special Topics in Entomology (3)
Two lectures and three hours of laboratory.
Prerequisite: Zoology 521.
Treatment of some aspect of entomology, such as biological control, microbial control or forest entomology, not covered in regularly scheduled courses. Maximum credit nine units. Maximum credit six units applicable on a master's degree.

523. (123.) Immature Insects (3)
Two lectures and three hours of laboratory.
Prerequisite: Zoology 521.
Collection, preservation, identification and biological study of immature stages of the different insect orders. Course designed to meet the needs of students specializing in invertebrate zoology.

524. (124.) Insect Ecology (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 520, and Botany 500 or 503. Recommended: Zoology 150 or 521.
Ecological principles as applied to insects, including consideration of crop ecosystems in relation to insect and mite outbreaks.

525. (125.) Economic Entomology (4) II
Two lectures and six hours of laboratory.
Prerequisites: Zoology 150 or 521 (preferred), and Botany 503. Recommended. This course be followed by Zoology 527.
Course designed for students of agriculture and horticulture. Emphasis is placed on determination and control of insects affecting plants. Quarantine measures are also studied.

526. (126.) Medical Entomology (4) I
Two lectures and six hours of laboratory.
Prerequisite: Zoology 150 or 521 (preferred), or Microbiology 310.
The role of insects and other arthropods in the transmission and causation of human diseases and the important diseases of domesticated animals.

527. (127.) Insect Control (2)
Prerequisites: Zoology 521, Botany 500 or 503. Recommended: Zoology 525 or 526.
A review of methods of reducing insect populations, including chemical, cultural, biological and legislative control.

528. (131.) Insect Physiology (4) I
Two lectures and six hours of laboratory.
Prerequisites: Zoology 521 or an upper division course in physiology, and Chemistry 230, 230L or 231, 231L.
Description, theory and experimental analysis of all major physiological processes in insects.

529. (129.) Principles of Pest Management (3)
Two lectures and three hours of laboratory.
Prerequisites: Botany 500 or 503 or 562; Zoology 521 and 524. Recommended: Zoology 525.
Systematic analysis and synthesis of all suitable techniques known to reduce and maintain pest populations at levels below economically important injury in forestry and agriculture, based on firm ecological principles.

530. (130.) Advanced Invertebrate Zoology (3)
One lecture and six hours of laboratory.
Prerequisite: Zoology 150.
Selected topics in advanced invertebrate zoology. May be repeated with new content. Maximum credit six units.

535. (128.) Parasitology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Zoology 150 or Microbiology 310.
Study of animal parasites with special reference to those of man. Laboratory including identification of important parasites of man, and collection and preservation of local forms.

540. (140.) Physiological Zoology (4) I, II
Three lectures and three hours of laboratory.
Prerequisites: Zoology 160 or 506, and Chemistry 231, 231L.
A comparative and evolutionary study of the functions of organ systems and their environmental significance.

555. (155.) Principles of Taxonomy, Systematics and Phylogeny (4)
Two lectures and six hours of laboratory.
Prerequisite: Any one of the following: Zoology 150, 160, 506, Botany 501, 502, 503.
Basis for the classification of organisms. Modern concepts and their application in zoology.

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

561. (161.) Mammalian Paleontology (4)
Two lectures and six hours of laboratory.
Prerequisite: Zoology 506.
Advanced studies in the evolution of mammals, including relations to earth history and topics in paleoecology and functional morphology. Field and laboratory techniques and exercises in identification are included. Zoology 561 need not follow in sequence with Zoology 560.
570. (170.) Animal Behavior (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Zoology 150 and 160 or Psychology 210 and 260 and consent of instructor.
Biological bases of animal behavior with emphasis on the ethological approach, including the evolution and adaptive significance of behavior.

571. Hormonal Aspects of Behavior (3)
Prerequisites: Biology 560 or Zoology 540.
Chemoregulatory mechanisms operating within multicellular organisms will be discussed; the structural and chemical components of regulatory systems will be examined in terms of their behavioral effects on the organism.

580. Aquaculture (3)
Prerequisites: Consent of instructor, Biology 520, and any one of the following: Zoology 150, 160, or 506.
Principles and practices of the farming of aquatic organisms.

GRADUATE COURSES IN 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 781.)
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.
The comparative physiological characteristics of natural plant and animal populations in relation to their habitats and environments.

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 520.
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.

628. (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.
796. (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.

GRADUATE COURSES IN BOTANY

600. (200.) Seminar (2-3) Cr/NC
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.

614. (214.) Seminar in Systematic Botany (2)
Prerequisite: Botany 514. Current problems in the systematics of 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 four 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.
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
Prerequisite: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree.

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

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**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: A. R. Bailey
- 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, R. A. Samuelson
- Finance: R. Hutchins, B. M. Neuberger, W. W. Reints
- Information Systems: M. L. Crawford, W. E. Spaulding
- International Business: G. K. Sharkey
- Management: T. J. Atchison, L. H. Peters
- Management Science: W. R. Sherrard
- Marketing: J. Vidal, T. R. Wotruba
- Production and Operations Management: A. L. Srbich
- Real Estate: E. Cowan, J. Short


Associate Professors: Beatty, Beck, H. Fisher, Hesse, Meigs, Settle, Short, Smith, Spaulding, Vanier

Assistant Professors: Belch, Boschen, Cowan, Feeney, R. Fisher, Hatch, Lane, Mitry, Sachdeva, Samuelson, Stimson, Toole, Vidal, Whittenberg, Wilbur

**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.

**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 curricula 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: (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 catalog. 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 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:

<table>
<thead>
<tr>
<th>Undergraduate GPA</th>
<th>GMAT Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 or above</td>
<td>450</td>
</tr>
<tr>
<td>2.75</td>
<td>475</td>
</tr>
<tr>
<td>2.50</td>
<td>500</td>
</tr>
<tr>
<td>2.25</td>
<td>525</td>
</tr>
<tr>
<td>2.00</td>
<td>550</td>
</tr>
</tbody>
</table>

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 catalog. For admission to the curriculum for the Master of Business Administration degree there are no specific prerequisites courses.

Advancement to Candidacy

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

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 the catalog, 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 administration or related fields and the time required for completion. Students with no previous course work in business administration must complete 60 units. Students with an expected to complete 30 units. Up to nine units of course work may be accepted for transfer.

At least 21 of the total units required must be completed in residence at San Diego State University, and at least nine units of program courses must be completed after advancement to candidacy. The requirements for the degree are as follows:

1. Complete each of the following twelve courses for which an equivalent has not been satisfactorily completed:
   - 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 Seminar in Policy Formulation (3)

3. Complete 18 units in the following two categories of concentration and electives:
   - a. Concentration: No more than 18 units in one of the concentrations listed below, three units of which must include Business Administration 790, 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).
   - b. Electives: At least three units in course work outside the concentration.

Concentrations available:
- Accounting
- Finance
- Human Resources Administration
- Information Systems
- International Business
- Management
- Management Science
- Marketing
- Production and Operations Management
- Real Estate

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.

For regulations concerning basic requirements for the award of the degree, and diplomas, see the section entitled "Basic Requirements for the Master's Degree," in Part Three of this catalog.
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 catalog, 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. 212, Principles of Accounting (4)
- B.A. 140, Business Law (3)
- B.A. 180, Information Processing and Computer Programming (3)
- Econ. 101-102, Principles of Economics (6)
- Econ. 201, Statistical Methods, or
- Math 118, Elementary Statistics (3)
- Math 120, Mathematics for Business Analysis (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, Management and Organization (3)
- B.A. 370, Marketing Principles (3)

The following additional courses or their equivalents must have been satisfactorily completed for an Accounting Concentration before enrolling in 600- and 700-numbered courses listed on the official master's degree program:

- B.A. 310, Intermediate Accounting (4)
- B.A. 311, Financial Accounting Theory (4)
- B.A. 312, Managerial Cost Accounting (4)
- Econ. 201, Statistical Methods, or
- Math 118, Elementary Statistics (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 or her graduate program in Business Administration. 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 catalog.

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 catalog, the student must complete a program of 30 approved units including at least 21 units in 600- and 700-numbered Business Administration 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
2. Finance
3. Human Resources Administration
4. Information Systems
5. International Business
6. Management
7. Management Science
8. Marketing
9. Production and Operations Management
10. Real Estate

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

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)
- 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 X² tests. Simple and multiple correlation.

604. (204.) Law for Business Executives (5)
- 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 theories 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 computer, problem-oriented computer language, flow-charting logic and techniques, analysis of the synthesis of computer-based systems.

610. (206.) Managerial Accounting (3)
- Prerequisite: Business Administration 600.
- Accounting in relation to the decision-making process; various cost concepts; direct costing, flexible 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.

515. (205.) Financial Principles and Policies (3)
- Prerequisite: Business Administration 600.
- Executive understanding of the financial markets and the national and world economy, focus on the implications of interest rates, inflation, and the financial environment for the business firm.

516. (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.

520. (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.
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, liabilities and income in accordance with generally accepted accounting principles.

631. **Concepts and Problems of Financial Reporting** (3)
Prerequisite: Business Administration 630.
Special problem areas in the reporting of corporate assets and equities; emphasis upon pronouncements of regulatory bodies such as the Financial Accounting Standards Board and the Securities and Exchange Commission.

632. (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 630.
Provisions of the federal tax law, including preparation of returns for individuals, partnerships, corporations, estates, trusts; procedures for reporting deficiencies, 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 profession.

635. **Seminar in Taxation** (3)
Prerequisite: Business Administration 633.
Theoretical and accounting treatment of selected topics in taxation.

637. (214) **Seminar in Accounting Information Systems** (3)
Prerequisites: Business Administration 610 and 612.
Systems design and related control. 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. (220) **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.

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 659.
Computer architecture, programming languages, programming systems, and operating systems.

681. (274) **Seminar in Information Theory** (3)
Prerequisite: Business Administration 659.
Data structures, data communications, computer-centered information networks, and addressing and indexing schemes.

682. (275) **Seminar in Measurement and Control of Information Systems** (3)
Prerequisite: Business Administration 680 and 681.
Information systems models, information utility, performance measurement, applications and information systems evaluation, and computer-based 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.

684. (278) **Seminar in Management of Information Systems** (3)
Prerequisite: Business Administration 681.
Advanced information systems. Emphasis on current management 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.
705. Seminar in Estate Planning (3) 
Prerequisite: Business Administration 615.
The scope and nature of estate planning, identification and analysis of the environmental factors and
those aspects of federal and state law affecting estate planning and taxation. Estate taxation and
social policy.

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

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

728. (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. (238.) Seminar in 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.

Prerequisites: Business Administration 609 and 612.
Use of probability and statistical decision theory for decision making under conditions of

742. (238.) Seminar in 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.
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. Seminar in Sales Management (3)
Prerequisite: Business Administration 605.
Sales management and personal selling decisions and strategies in business organizations.

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

765. Seminar in Marketing Channels and Physical Distribution (3)
Prerequisite: Business Administration 605.
Analysis of marketing channels and physical distribution systems in domestic and international trade.

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

768. 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. 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. 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.

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

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

773. Seminar in Real Property Valuation (3)
Prerequisite: Business Administration 780.

774. Seminar in Urban Land Policy (3)
Prerequisite: Business Administration 780 or City Planning 610 or Economics 758 or Geography 570.
Relationship between private and public role players in urban land allocation and utilization. Problems arising from private market land use decisions. Current and future policy alternatives such as land use controls, urban growth policies and housing programs.
Chemistry

Faculty
Chairman, Department of Chemistry: W. D. Jones
Graduate Adviser: R. W. Isensee
Credentia! Adviser: J. G. Malik
Professors: Abbott, Bennett, Cobble, Grubbs, Heilberg, Jensen, Jones, Malley, Mathewson, O’Neal, Richardson, Ring, Roeder, Sharts, Stewart, Wadsworth, Walba, Woodson
Associate Professors: Coffey, Dahms, Leberherz

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

General Information
The Department of Chemistry, in the College of Science, 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: JEOL Model JNM-PS-100NMR Spectrometer with Fourier Transform Spectrophotometers, Girdford Spectrophotometers, Microwave Spectrometer, Perkin-Elmer Spectrophotometer, Varian E-3 ESR Spectrometer, Jarrel-Ash Laser Raman Spectrometer, Perkin-Elmer Fluorescence Spectrophotometer, Perkin-Elmer Atomic Absorption Spectrophotometer, high-temperature calorimeters, high-voltage electrophoresis apparatus, pulsed Nd:glass laser system, and optical multichannel analyzer, ultra and refrigerated centrifuges, Durum Stopped-flow Spectrophotometer System interfaced with a Varian 620 computer and a variety of radiation counters including a liquid scintillation counter. A variety of computing resources are available including programmable calculators, both local and remote time sharing systems, and large-scale batch-mode facilities. A high-temperature laboratory has just been completed.

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 catalog. 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 Chemical Society (statement available on request).

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

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

Specific Requirements for the Master of Science Degree
In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master’s degree as described in Part Three of this catalog. 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.

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, and inorganic chemistry. All applicants will be expected to present the equivalent of one year of physics and of mathematics at least through integral calculus. Students should be prepared to take placement examinations which will be administered by a joint committee and will cover the fields of inorganic, organic, and physical chemistry, and mathematics.

On admission to the program, the student is guided by Requirements for the Doctoral Degree program. The student will normally spend his first year in the Program given in Part Three of this catalog. The student is expected to complete his year of residency at the University of California, San Diego. If desirable for program completion, the student may take courses at San Diego State University. If advanced to candidacy.

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

University of California, San Diego:
Graduate Adviser: J. R. Arnold; Alternate: R. Linck
Staff: Arnold, Doohite, Kraut, Miller, Perrin, Schrauzer, Traylor, Vold, Zimm

San Diego State University:
Graduate Adviser: R. W. Isensee; Alternate: W. D. Jones
Staff: Abbott, Bennett, Cobble, Coffey, Dahms, Grubbs, Heilberg, Jensen, Jones, Leberherz, Malley, O’Neal, Richardson, Ring, Roeder, Sharts, Stewart, Wadsworth, Walba, Woodson.
Courses Acceptable on Advanced Degree Programs in Chemistry

UPPER DIVISION COURSES

500A-500B. (160A-160B.) Principles of Chemical Engineering (3-3)
(Same course as Mechanical Engineering 584A-584B.)
Prerequisite: Credit or concurrent registration in Mechanical Engineering 350 or Chemistry 310A or 410A.
Industrial stoichiometry, fluid flow and heat transfer as applied to unit operations such as evaporation, distillation, extraction, filtration, gas-phase mass transfer, drying, and others. Problems, reports, and field trips.

501. (180.) Chemical Oceanography (3) II
Three lectures and occasional field trips.
Prerequisite: Credit or concurrent registration in Chemistry 310B or 410B.
The application of the fundamentals of chemistry to the study of oceans.

502. (191.) Chemical Literature (1)
An introduction to the availability, scope and use of the chemical literature.

510. (118.) Advanced Physical Chemistry (3) I
Prerequisite: Chemistry 410B.
Mathematical tools essential to solving problems in chemical thermodynamics, statistical mechanics, chemical kinetics, quantum chemistry and molecular structure and spectroscopy, with applications.

520A. (127A.) Inorganic Chemistry (3) I, II
Prerequisite: Credit or concurrent registration in Chemistry 310B or 410B.
The physical basis of the periodic system, complex inorganic compounds, and the nature of the chemical bond.

520B. (127B.) Inorganic Chemistry (3) I, II
Prerequisite: Chemistry 520A.
An advanced systematic study of representative and transition elements and their compounds.

530. (131.) Theoretical Organic Chemistry (3) I, II
Prerequisites: Chemistry 310A or 410A, and 431 and 431L.
The theory of chemical bonding, molecular structure, spectroscopy, and applications.

531. (132.) Advanced Instrumental Methods (2) I, II
Prerequisites: Chemistry 431 and 431L and credit or concurrent registration in Chemistry 310A or 410A.
Principles and techniques of radioactivity applied to the various fields and problems of chemistry. Instrumentation, tracer application, activation analysis, nuclear reactions and radioisotopes.

537. (164.) Organic Qualitative Analysis (3) I
One lecture and six hours of laboratory.
Prerequisites: Chemistry 431 and 431L and credit or concurrent registration in Chemistry 310A or 410A.
The identification of organic compounds and mixtures.

550. (155.) Advanced Instrumental Methods (2) I, II
Prerequisites: Chemistry 431 and 431L and credit or concurrent registration in Chemistry 410B.
Advanced theory of chemical instrumentation.

Prerequisites: Chemistry 310B or 410B, and 431 and 431L.
The structure, function, metabolism, and thermodynamic relationships of chemical entities in living systems. Not open to students with credit in Chemistry 361A-361B.

577. (170.) Radiochemical Analysis (4) II
Two lectures and six hours of laboratory.
Prerequisite: Chemistry 310A or 410A.
Principles and techniques of radioactivity applied to the various fields and problems of chemistry. Instrumentation, tracer application, activation analysis, nuclear reactions and radioisotopes.

GRADUATE COURSES

710. (121.) 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. (121.) Chemical Thermodynamics (3)
Prerequisite: Chemistry 410B.
Chemical thermodynamics and an introduction to statistical thermodynamics.

712. (121.) Chemical Kinetics (3)
Prerequisite: Chemistry 410B.
The theory and techniques of chemical kinetics. Applications of kinetics to the study of reaction mechanisms.

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

714. (124.) Molecular Structure (3)
Prerequisite: Chemistry 410B.
The theory and techniques 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)
Prerequisites: Chemistry 431 and 431L.
Selected topics in organic chemistry. Maximum credit six units applicable on a master's degree.

731. (231.) Mechanisms of Organic Reaction (3)
Prerequisites: Chemistry 431B, 431 and 431L.
Reactivity and mechanism in organic reactions.

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

750. (250.) Advanced Topics in Analytical Chemistry (1-3)
Prerequisite: Chemistry 560B.
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. (261.) Advanced Biochemical Techniques (2)
Prerequisite: Chemistry 560A.
Six hours of laboratory. Theory and practice of current research techniques in biochemical research.

790. (260.) 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.
Communicative Disorders
(Speech Pathology and Audiology Courses)

Faculty

Chairman, Department of Communicative Disorders: H. G. Kopp
Credential Adviser, Speech and Hearing Specialist: E. L. Thile
Credential Adviser, Deaf: H. G. Kopp
Professors: Kopp, Nichols, Riedman, Thile
Associate Professor: Allen
Assistant Professors: Ellis, Gould, Martin, Williams, Wood

General Information

The Department of Communicative Disorders, 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 experiences with out-patient children and adults are 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; Anderson and Lafayette Schools (deaf and severely hard of hearing); Head Start (disadvantaged); Rolando School; 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 catalog. Minimum requirements for admission as a classified graduate student in the Department of Communicative Disorders 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.

All transfer students planning a program to include clinical practica must enroll in the appropriate undergraduate practicum as specified for their field of interest (Speech Pathology 326, 345, 346, 353, 357, 528) prior to enrollment in graduate practica.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Three of this catalog. In addition, students seeking the Master of Arts degree in Speech Pathology and Audiology are required 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 catalog, 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 798A. Fifteen units of the 24 units must be in 600- and 700-numbered courses in speech pathology and audiology, including Speech Pathology and Audiology 600, 601, 602, 603, 604, 605, 606, 640, 644, 649, 654, 657, 658 or 798, 798F, or 798A. A student must complete Speech Pathology and Audiology 798A 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

Specialist Credential for the Communicatively Handicapped (Ryan Bill)

The Specialist Credential for the Communicatively Handicapped prepares students for an emphasis in one or more of the following areas of handicap: Deaf and Severely Hard of Hearing; Deaf-Blind; Severe Oral Language (including aphasia); Speech and Hearing.

The Specialist Credential for the Communicatively Handicapped specifies a sequence of speech pathology and audiology courses plus a sequence of education courses. This credential incorporates a standard classroom teaching credential for the communicatively handicapped and may be pursued in conjunction with the Multiple Subjects Teaching Credential or the Single Subject Teaching Credential. Students may choose to: (1) major in Liberal Studies (offered by the School of Education) in a specific area for the School of Education; or (2) pursue a departmental major prior to entering the School of Education curriculum. Consult the department office for further information.

Rehabilitative Services Credential (Ryan Bill)

Assembly Bill 3150 provides for Rehabilitative Services Credentials for the following areas: Language, Speech and Hearing, Audiology.

The Department is in the process of developing specific sequences for each of the above areas. This credential program will not require the professional course sequence from the School of Education.

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 supervised clinical experience, at least 150 hours of which must be completed at the graduate level, 300 clock hours of fellowship year, and a national examination. The academic and practica requirements must meet certain specifications. Consult an advisor in the area in which certification is desired for specific information.

Preparation Leading to the State Credential and the Professional Certificate from the Council on Education of the Deaf

Students may complete the academic and practica requirements leading to the State Credential and the Professional Certificate given by the Council on Education of the Deaf. The Professional classroom teaching following completion of the academic requirements. Consult an advisor in the

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

UPPER DIVISION COURSES

527. (127.) Diagnostic Methods in Speech Pathology (3) I, II
Prerequisites: Speech Pathology and Audiology 320, 323, and 340, and credit or concurrent registration in Speech Pathology and Audiology 526.

528. (128.) Diagnostic Practicum in Speech Pathology (3) I, II
     One lecture and six hours of laboratory.
     Prerequisite: Speech Pathology and Audiology 527 and passage of a competency examination.

529. (129.) Orientation to Public School Practicum (3) I, II
     Prerequisites: Speech Pathology and Audiology 324 and 527. Minimum of 50 hours of supervised clinical practicum. Prior to admission, applicants must receive departmental approval.
     Goals: materials and procedures for organizing and administering speech, language and hearing programs in the school. Fifteen hours of observation and fifteen hours of screening required. Should be taken the semester before Speech Pathology and Audiology 433 or Special Education 460C (severe oral language or speech and hearing emphasis) (formerly numbered Speech Pathology and Audiology 329).

530-S. (130-S.) Family Communication Dynamics (3) S
     Prerequisites: Speech Pathology and Audiology 322 and 326.
     The communication environment in the home. Parent-child interaction in relation to the origin and alleviation of functional and organic speech disorders.
     Systematic study of the design features of language as they relate to communication behavior. The primary focus is the role of language structure in disordered communication.

531. (151.) Language Structure (3)
     Prerequisite: Speech Pathology and Audiology 106.
     Systematic study of the design features of language as they relate to communication behavior. The primary focus is the role of language structure in disordered communication.

532. (132.) Assessment of Language Disorders (3) I, II
     Prerequisite: Speech Pathology and Audiology 531.
     Systematic study of the design features of language as they relate to communication behavior. The primary focus is the role of language structure in disordered communication.

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

543. (143.) Hearing Amplification (1 or 3) I
     Prerequisite: Module I: Speech Pathology and Audiology 340. Module II: Speech Pathology and Audiology 341.

547. (147.) Hearing Conservation (3) II
     Prerequisite: Speech Pathology and Audiology 341.
     The role of the school audiologist in the role of the school audiologist (formerly numbered Speech Pathology and Audiology 341).

550. Problems of Deafness (3) I
     Prerequisites: Speech Pathology and Audiology 341.
     Educational programs, services and resources for hearing impaired, historical background, philosophy, sociological and psychological problems.
551. (151.) Speech Reading and Auditory Training (3) I, II
Prerequisites: Speech Pathology and Audiology 320 and 340.
Theory and methods of speech reading, auditory rehabilitation methods including survey of amplification systems. Fifteen hours of observation in program for deaf, severely hard of hearing.

552. (152.) Articulation Disorders and Methods (3) I, II
Prerequisites: Speech Pathology and Audiology 321 and 551.
Significant theories and research in prevention and remediation of articulatory disorders. Includes emphasis on speech habilitation of hearing impaired, cognitive and motor processing.

553. (153.) Language Disorders and Methods (3) I, II
Prerequisites: Speech Pathology and Audiology 531 and 551.
Significant theories and research in language development and remediation. Includes emphasis on application to speech impaired individuals.

596. (198.) Selected Topics in Speech Pathology and Audiology (1-4) I, II
Prerequisite: Twelve units in speech pathophysiology. Specialized study of selected topics in the area of speech pathology and audiology. Maximum credit six units. Maximum credit three units applicable on a master's degree.

GRADUATE COURSES IN SPEECH PATHOLOGY AND AUDIOLOGY

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

601. (201.) Seminar in Voice Science (3)
Prerequisites: Speech Pathology and Audiology 320 and 321.
Relationship of basic principles of sound to speech and language. Analysis of speech sound production. Application of mechanical and electronic equipment to the measurement and control of speech and language units. Recommended.

602. (202.) Seminar in Aphasia (3)
Prerequisites: Speech Pathology and Audiology 323 and 539.
Review and analysis of research in diagnosis and therapy for persons with disorders of speech and language (adult and childhood aphasia). Concurrent enrollment in one unit of Speech Pathology and Audiology 626 recommended.

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

604. (204.) Seminar in Oro-Facial Anomalies (3)
Prerequisites: Speech Pathology and Audiology 321, 324, and 340; and 75 hours of supervised practicum.
Review and analysis of research in diagnosis and therapy for persons with cleft palate and other oro-facial anomalies. Concurrent enrollment in Speech Pathology and Audiology 626 recommended.

605. (205.) Seminar in Stuttering (3)
Prerequisite: Speech Pathology and Audiology 322.
Diagnostic work and research in stuttering. Individual and group therapy for children and adults with dysfluency problems: Concurrent enrollment in one unit of Speech Pathology and Audiology 626 recommended.

606. (206.) Seminar in Voice Pathology (3)
Prerequisites: Speech Pathology and Audiology 321 and 324.

628. (228.) Advanced Diagnosis Methods in Speech Pathology (3)
One lecture and six hours of laboratory.
Prerequisites: Speech Pathology and Audiology 326 and 526. Departmental approval.
Diagnosis of individuals with complicated speech problems such as brain injury, congenital aphasia, adult aphasia, cerebral palsy, hearing loss, laryngectomy, mental retardation, stuttering and voice problems.

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

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

645. (245.) Advanced Clinical Practice in Audiologic Assessment (1) Cr/NC
Prerequisites: Speech Pathology and Audiology 345.
Three hours of laboratory. Advanced casework in hearing evaluation. Maximum credit four units. Up to two units may be taken concurrently. Maximum credit four units of Speech Pathology and Audiology 626, 645, 646 and/or 656 applicable on a master's degree.

646. (246.) Advanced Clinical Practice with Hard of Hearing (1) Cr/NC
Three hours of laboratory.
Supervised practice with problem hearing cases. Maximum credit four units. Up to two units may be taken concurrently. Maximum credit four units of Speech Pathology and Audiology 626, 645, 646 and/or 656 applicable on a master's degree.

649. (249.) Seminar in Major Research in Diagnostic Audiology (3)
Prerequisites: Speech Pathology and Audiology 342, and credit or concurrent registration in Speech Pathology and Audiology 600. Consideration of research in clinical audiology. Maximum credit six units.

654. (254.) Seminar in Physiological Phonetics (3)
Prerequisite: Speech Pathology and Audiology 552.
Practicum in the production of continuous speech, including transitional movements, phonology, underlying the production of continuous speech, including transitional movements, based on a syllabic concept.
656. (256.) Advanced Clinical Practice with the Deaf (1) Cr/NC
Three hours of laboratory.
Prerequisites: Speech Pathology and Audiology 552 and 553.
Supervised clinic practicum at an advanced level with representative deaf cases. Maximum credit four units. Maximum credit four units of Speech Pathology and Audiology 646 and 656 applicable on a master's degree with emphasis in the Hearing Impaired.

657. (257.) Differential Diagnosis of the Hearing Impaired (3)
Prerequisites: Speech Pathology and Audiology 551, and Speech Pathology and Audiology 628, 646, or 656.
Diagnosis of multiple-handicapped, hearing impaired children, including clinical teaching, critical overview of assessment methods, materials and equipment, prognosis, current philosophies and trends. Suggested concurrent enrollment in Speech Pathology and Audiology 656.

658. (258.) Seminar in Problems of Deafness (3)
Prerequisites: Speech Pathology and Audiology 346 or 356.
Problems of deafness, evaluation of research, interdisciplinary approach to aural habilitation.

659. Seminar in Problems of Deaf-Blind (3)
Prerequisite: Speech Pathology and Audiology 356.
Problems of the Deaf-Blind: study of techniques and methodology, 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.
MASTER OF FINE ARTS DEGREE IN DRAMA

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 catalog, the student must complete the departmental diagnostic examination which is administered each semester on the second Saturday following the beginning of classes. Candidates must possess a baccalaureate degree in drama with a grade point average in drama of at least 3.0. Additionally, the candidate must have completed requirements commensurate with his proposed emphasis in the M.F.A. program, completed a minimum of six units of theatre history, and demonstrated outstanding abilities in a particular area of dramatic arts by the submission of a portfolio and resume, and by presentation of acceptable recommendations regarding the candidate's academic, professional and personal qualifications from responsible academic or professional theatre figures.

If the student has met certain criteria or demonstrates deficiencies in his undergraduate preparation, he may be granted conditional admission with the understanding that he will complete prescribed coursework in addition to the 60-unit program and prior to advancement of the student to classified standing.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Three of this catalog. Candidates for the M.F.A. must have completed 45 units included in the official program. They must also have successfully completed Drama 600 and any deficiencies noted by the faculty upon the completion of the departmental diagnostic examination. The appointment of a major adviser from the student's major area of specialization must be made and a thesis topic which the candidate has received the approval of the departmental graduate committee review. There must be a positive demonstration of the student's performance in terms of professional standards, such as the ability to work with other members of the theatrical family, an outline of a thesis, a demonstration of the skills commensurate with the specific emphasis area, and a schedule.

Specific Requirements for the Master of Fine Arts Degree

Candidates for the M.F.A., in addition to meeting the requirements for classified graduate standing, must complete a 60-unit graduate program which includes a core of courses totaling 21 departmental graduate elective units to be selected from Drama 644, 647A, 648, and 798. The Drama 746A, 746B, 796, and 798A. Twelve elective units are to be selected from the areas of drama. Those acceptable courses are Art 694, 760, 769, 771, 775, or 779. A major adviser with the approval of the departmental graduate adviser must have the candidate pass a written thesis examination (799A) with emphasis on analysis or application of the Dramatic arts. Candidates must pass a final oral examination by the faculty, which will include his official recommendations for the degree.

Courses Acceptable on Master's Degree Programs in Drama

UPPER DIVISION COURSES

511. (111.) Styles in Creative Dramatics (3) I, II
Prerequisite: Drama 310.
Advanced techniques and procedures in the teaching of creative dramatics. Lectures and reading on the application of creative dramatics with emphasis on the different styles of creative dramatics available to the practitioner. Practical experience through work with children.

515. (115.) Directing for Children's Theatre (3) II
Prerequisite: Drama 256.
Staging and technical problems related to the production of plays for children, costuming, blocking and characterization principles, rehearsal and scenic techniques. Practical experience through university-sponsored productions. (Formerly numbered Drama 315.)

521. (121.) Theatre Criticism (3) I
Prerequisite: Drama 420.
A consideration of the problems and practices of dramatic criticism as applied to theatrical production in the past and present.

523. (123.) Playwriting (3) II
Prerequisite: Consent of instructor.
The writing and critiquing of original dramatic works.

526. (126.) Playwriting (3) II
Prerequisite: Consent of instructor.

533. Style in Acting and Directing (3)
Prerequisite: Drama 231.
Acting and directing problems related to the production of plays from the great periods in theatre history. Special attention to characterization, style, dramatic values, creative directing, and production approaches.

534. History of Acting Theory (3)
Prerequisite: Drama 231.
The major acting theories and theoreticians from Diderot, through Delaunay and Stanislavski, to Grotowski, and analysis of major actors who practiced these theories.

545A-545B. (145A-145B.) Stage Lighting (3-3) I, II
Two lectures and three hours of laboratory.
Light, color, lighting instruments, and control equipment, including the design and planning of lighting for plays.

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

552. (152B.) Costume History and Design for the Theatre (3)
Two lectures and three hours of laboratory.
Prerequisites: Drama 250 and 452.
Chronological study of costumes and theatrical dress from the Restoration period to 1930, with practical applications in terms of contemporary costume design for the theatre.

554. (154.) Costume Construction Techniques (3) I
Two lecture-demonstrations and three hours of laboratory.
Prerequisites: Drama 440A and 552.
Period pattern drafting, draping, cutting, construction, Wig, millinery, armour, mask, accessory construction, Costume paint and dye techniques.

598. (198.) Selected Topics in Drama (1-3) I, II
Prerequisite: Twelve units in drama.
A specialized study of selected topics from the areas of drama. May be repeated with new content. Maximum credit six units.
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 prerequisites to advancement to candidacy.

621. Seminar in Theories of the Theatre (3)
Prerequisites: Drama 420, 600.
Critical determinants in the theatre which have led to the major stylistic movements: Aristotle, Wagner, Brecht, Strindberg, Appia, Craig, Jones, Brunotere, Archer, Simonson and Grotowsky.

635. (235.) Seminar in Children's Dramatics (3)
Prerequisites: Drama 310 and 515.
Modern developments and trends in children's theatre and creative dramatics in educational, civic and professional programs in the United States and England.

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 457.
Research projects in the aesthetic principles and practices of stage direction with an emphasis on theory, technique and historical development.

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 452 or 552.
B. Scenery Design
Prerequisite: Drama 440 or 448.

647. (247.) Seminar in History of Theatre and Drama (3)
Prerequisites: Drama 420, 460A and 460B.
A. British and Continental Theatre
B. American Theatre

648. (248.) Seminar in Producing the European Play (3)
Prerequisites: Drama 420, 460A, 460B, and 600.
Problems in producing works of such playwrights as Ibsen, Strindberg, Chekhov, Shaw. Maximum credit six units applicable on a master's degree.

746A. Theatre Practicum Skills (3)
Prerequisite: Admission to the M.F.A. program.
Twelve hours per week in laboratory and workshop experience in three design areas (lighting, scene design, costume). Investigation and application of those skills necessary to the function of a theatrical design artist in theatrical scene design, lighting design or costume design. Experience and instruction in drafting, painting, color mixing, costume and pattern cutting, lighting and projection techniques, slide preparation, construction and use of equipment and materials.

746B. Theatre Practicum Internship (6)
Prerequisite: Advancement to Candidacy in the M.F.A. program.
Twenty-four hours per week in laboratory and workshop field experience in one of three design areas (lighting, scene design, costume) at an approved professional theatre.

795. Practicum in Theatre Arts (1-4)
Prerequisites: Drama 600 and 647.
Faculty supervised projects in scene design, costume design, lighting design or direction leading to public performance of a full-length play.
Economics

Faculty
Chairman, Department of Economics: F. D. Sebold
Coordinator Graduate Program: Douglas B. Steward
Graduate Advisers: Anderson, Madhavan, Parti, Poroy, Stewart, Venieris
Credential Adviser: Douglas B. Steward
Graduate Students: Anderson, Babiot, Beckley, Bridenstine, Clement, Flagg, Gifford, Jerens, Kartman, Leasure, Madhavan, Nam, Neuner, Poroy, Sebold, Venieris
Associate Professors: Hambleton, Hardesty, Pope, Steward
Assistant Professors: Holt, Parti, Vogt

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.

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 catalog 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
General requirements for admission to the University with classified graduate standing are described in Part Three of this catalog. In addition, students seeking the Master of Arts degree in Economics must have completed at least 16 units of upper division courses in economics including division courses in economics or related fields as approved by the graduate adviser. All persons applying for graduate study in economics must have three letters of recommendation sent to the Department of Economics.

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, or their equivalents, and six units of upper division courses in economics including division courses in economics or related fields as approved by the graduate adviser, is eligible for classification as a graduate student.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, which are described in Part Three of this catalog.

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 catalog, 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 24 units must be in 600- and 700-numbered courses offered by the Department of Economics.

Written comprehensive examinations in micro and macro theory are required, but a grade of B or better can be substituted for the comprehensive exams, on a graduate course-by-course basis.

Courses Acceptable on Master's Degree Programs in Economics

UPPER DIVISION COURSES

502. (122.) Public Economics (3)
Prerequisites: Economics 321 (325) or 401.
General equilibrium. Externals of consumption and production, their impact on allocative efficiency. Theory of social welfare and public goods supply. Theoretical treatment of individual and community preference ordering and decision making. Proposals for improving the allocation of resources.

505. (105.) Welfare Economics (3)
Prerequisites: Economics 102 or 304, and 321 (325).
Theories of individual and social well-being; economic and ethical bases of optimum welfare arrangements; individual values and social decision making; tests of improvement; interdependence and externalities; public and private sectors; properties of social welfare functions.

512. (109.) Advanced Economic Theory (3)
Prerequisites: Economics 320 (324) and 447.
Recent contributions to the advanced theory of the firm, consumer demand, employment and growth.

524. (194.) Capital and Growth Theory (3)
Prerequisites: Economics 320 and 321, or 324 and 325.
Factors affecting the capital supply and the rate of growth of a developed economy.

541. (141.) Econometrics (3)
Prerequisites: Economics 201 and 447 or Mathematics 142.
Measurement in economics. The construction and testing of simple economic hypotheses. Use of economic models involving multiple-regression analysis.

559. (139.) Location Theory (3)
Prerequisites: Economics 456.
The effects of spatial distribution of resources and markets on the locational equilibrium of the firm.

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

592. (192.) International Monetary Theory and Policy (3)
Prerequisites: Economics 320 (324) or 490.
Balance of payments, international capital movements and foreign exchange in relation to current theories and policies.

GRADUATE COURSES

603. (203.) Economic Analysis (3)
Prerequisites: Classified graduate standing.
The theory of the firm in a market economy. The role of the government in the 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)
Prerequisites: Economics 401 or Public Administration 550.
The role of public policy in shaping the economy. Determinants of the supply and demand for public goods; the social decision-making processes in determining the supply of public goods; supply, financing public goods; taxes and expenditures; planned program determination; public goods theory; 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. (200A.) 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.

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.) Seminar in Development Planning (3)
Prerequisite: Economics 365.

758. (238.) Seminar in Urban and Regional Economics (3)
Prerequisite: Economics 458.
Urban and regional economics; individual research and reports.

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

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
Prerequisites: 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

Faculty

Dean of the School of Education: T. A. Arciniega
Associate Dean for Academic Affairs: R. R. Nardelli
Assistant to the Dean for Student Affairs: J. Lujan
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:
Coordinator of Higher Education Programs: R. D. Smith, Jr.
Coordinator of Graduate Programs in Education: P. J. Hawley
Graduate Advisers:
Counseling (Master of Science): J. D. Chamley
Educational Research: P. J. Hawley
Educational Technology and Librarianship: P. J. Harrison
Elementary Administration and Supervision: H. B. Holt
Elementary Curriculum and Instruction: D. Gast
Multicultural Education: G. Gehner
Administration and Supervision: H. B. Holt
Secondary Curriculum and Instruction: S. Stautland
Special Education:
Associate Professors: Becker, Bobkin, Brooks, Clark, Curby, Dearing, Elliott, Ford, Howard, Jones, Kaatz, Leppaluoto, Mazon, McFarlane, Meno, Mooers, Moreno, Morris, J., Morris, W.P., Murphy, Peterson, Rael, Thompson, Treadway, Warburton, Yellesmen
Assistant Professors: Almam, Behm, Birch, Cochran, Diller, Gehner, Hill, P., Klann, McClur, Ochoa, Rodriguez, Savage, Seir

Scholarships

The following scholarships are available to graduate students in education:

SAN DIEGO TEACHERS ASSOCIATION. Awarded to two students preparing for teaching. $100 per year each.

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

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 education, educational research, and multicultural education. Some of these concentrations are offered toward the requirements for the correspondingly named advanced credentials. Graduate study is also offered leading to the Master of Science degree in Counseling and the Master of Science degree in Rehabilitation Counseling.

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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 catalog. 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 or she will be recommended by the school for classified graduate standing.

Advancement to Candidacy

A student desiring a Master of Arts degree in Education with a concentration in 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 Four of this catalog. A student desiring a concentration in administration, supervision, or multicultural education must, in addition to the above, meet specific requirements for admission to the program of teacher education or hold a valid California credential, other than an emergency or provisional credential, before he or she will be recommended by the school for classified graduate standing.

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 standing and the credential requirements for the master's degree described in Part Three of this catalog. In addition, the student must pass a comprehensive examination and satisfactorily complete either a thesis or a seminar. 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 a reservation, check with the Office of Graduate Programs, School of Education, Room Education 100B, or with the coordinator of the respective programs.

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. For information on exact dates, and for a reservation, at least one week in advance of the examination. For information on exact dates, and for a reservation, check with the Office of Graduate Programs, School of Education, Room Education 100B, or with the coordinator of the respective programs.

Selection of Plan A or Plan B

In general, applicants will be programed for Plan B, the seminar plan. After the student has completed approximately half of his program for the degree, he may request permission to transfer to Plan A or Plan B. The student must be in residence at the University at the time of the request. Requests for transfer to Plan A must be prepared as an official change in program for the student, including a letter of recommendation from the advisor. Requests for transfer to Plan B must be submitted to the Office of Graduate Programs, School of Education, Room Education 100B, or with the coordinator of the respective programs.

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 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. The seminars are required to verify successful teaching experience and to satisfy requirements for advanced credentials. See below for further information regarding each of the concentrations.

Both plans require the ability to formulate and define research problems, to develop investigation plans, and to present the study in acceptable written form. It is expected that the problem, to draw conclusions, and to present the study in acceptable written form. It is expected that the problem, to draw conclusions, and to present the study in acceptable written form. It is expected that the problem, to draw conclusions, and to present the study in acceptable written form. It is expected that the problem, to draw conclusions, and to present the study in acceptable written form.
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 program is intended for those teachers who wish to become superintendents, assistant superintendents, principals, vice principals, supervisors, department chairpersons or other administrative and supervisory personnel.

The Commission for Teacher Preparation and Licensing has approved the San Diego State University proposal for an Administrative Services Credential. The document submitted to and approved by the Commission followed guidelines established by the Commission. Students completing the program successfully will meet the requirements for the credential. The credential authorizes service in any administrative position in California public schools.

The requirements for the Administrative Services Credential are as follows:

1. Possession of a valid California teaching or pupil personnel credential which is based on a bachelor's degree.
2. Possession of a master's degree. (The degree does not need to be in educational administration.)
3. Development of specified competencies as evidenced by successful completion of coursework outlined below.
4. Possession of a valid California teaching or pupil personnel credential which is based on a master's degree.
5. Filling of an Application for Admission to the Department of Educational Administration.

It should be emphasized that students who already hold a master's degree may earn the credential without completion of a second master's degree in educational administration. Those students with special interests not requiring an administrative credential are invited to seek counseling from the Coordinator of the Department of Educational Administration concerning a program which can vary from the one listed below. Such students would be those who wish to become private school administrators, school business managers, team leaders, department chairpersons or who have other administrative interests associated with education.

Admission requirements for the master's degree and/or credential are as follows:

1. Possession of a master's degree or classified graduate standing for a master's degree based on the following:
   a. A grade point average of 2.5 in the last 60 semester units attempted;
   b. Graduate Record Examination Aptitude Test Score of at least 550.

Note: Exceptions to the above requirements may be granted following successful completion of the core courses listed below.

2. A teaching credential and teaching experience.
3. Filing of an Application for Admission to the Department of Educational Administration.
4. Completion of two counseling interviews with faculty members of the Department.
5. Following successful completion of the above steps, a "field check" will be done by the department in the district where the candidate is employed. At this time a recommendation will be sought from the school district.

Students who have teaching credentials will normally complete the necessary steps for full admission while they are enrolled in the "Core" courses listed below.

Courses required in the program:

Core (12 units)
- Educ. Admin. 600, Principles of School Administration (3 units)
- Educ. Admin. 610, Education Leadership (3 units)

or
- Educ. Admin. 630, Curriculum Development and Evaluation (3 units)
- Advanced Seminars and Field Work (9 units) (These courses are open only to students who have completed the core and who are fully admitted to the program.)

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). Additional Requirements for the Master's Degree (9 units)
   - Education 690, Procedures of Investigation and Report (3 units)
   - Core program (9 units): Education 661, Seminar in Educational Measurement, Secondary Education 564, Quantitative Methods in Educational Research; Education 691, Educational Research Design
   - Electives (15 units) selected with adviser's approval.
   - 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, supervision and administration of instructional materials design and production, and for the classroom teacher or administration of instructional materials design and production. For those interested in administration of training director interested in educational technology program is generally taken in conjunction with work towards school library media centers, the degree program is generally taken in conjunction with work towards school library media centers.

1. Prerequisite: Varies with the career goal of the student—see adviser.
2. Electives (9 units) selected with the approval of the advisor.
3. Core program (15 units): The core is composed of courses in education and related fields.
4. Electives (15 units) selected with the approval of the advisor.
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 generically or in selected areas of specialization. Specialist Credentials in Reading or Early Childhood Education may be earned concurrently with this degree. See Graduate Adviser, Elementary Education for further information. Course requirements are as follows:

1. Prerequisite: A basic background in education (minimum of 12 units) to include curriculum and methods, 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, goals, and needs. 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):
   a. Education 550, Philosophy of Cultural Pluralism in Education
   b. Education 553, Multicultural Oral Language Assessment Training
   c. Education 650, Bilingual/Cross-Cultural Curriculum Development
   d. 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 as the base for applicants to increase professional competence in any of the fields typically taught in secondary schools, and for obtaining those competencies and technical skills in curriculum and instruction either generically, or in selected areas of specialization. A Master of Arts degree in Education with a concentration in curriculum and instruction in the area of specialization typically taught in secondary schools, and for obtaining those competencies and technical skills in curriculum and instruction either generically, or in selected areas of specialization. A Master of Arts degree in Education with a concentration in curriculum and instruction in the area of specialization is offered in all of the community college occupational subject production, cosmetology and barbering, fire science, forestry, and law. With adviser's approval in the major occupational field:

1. Prerequisites: A basic background in education (12 units).

2. Education 690, Procedures of Investigation and Report (3 units).

3. Core program: (6 units) to include Secondary Education 610, Curricular Problems in Education (3 units) and 3 units from Secondary Education 613, Advanced Problems in Secondary School Instruction.

4. Electives (15 units):
   a. 9 units must be selected from the 600- and 700-numbered courses selected with the approval of the adviser on the basis of the student's interests, goals and needs.
   b. 6 units selected from cognate fields with approval of the adviser.

5. Education 798, Special Study (3-6 units); Education 795A-795B, Seminar, 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 their goal increased knowledge and skill in the areas of the gifted, learning disabled, emotionally disturbed, exceptional children, and mentally retarded. With the 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. Prerequisites: 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 610, Curricular Problems in Education (3 units) and 3 units from Special Education 613, Advanced Problems in Secondary School Instruction.

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 Degree in Counseling

Application for Admission

In seeking admission to the program leading to the Master of Science degree in Counseling, or work in rehabilitation counseling, the student should write directly to Dr. John D. Chamley, Chairman, Department of Counselor Education, requesting appropriate application materials. Detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms.

FULL-TIME STUDENTS ARE ADMITTED ONLY IN THE FALL SEMESTER OF EACH YEAR AND APPLICATIONS MUST BE RECEIVED BY THE DEPARTMENT OF COUNSELOR EDUCATION NOT LATER THAN MARCH 15. PART-TIME STUDENTS MAY APPLY BOTH SPRING AND FALL SEMESTERS. THE DEADLINE FOR APPLICATION IS OCTOBER 15 FOR THE FALL SEMESTER, AND MARCH 15 FOR THE SPRING SEMESTER. The student must file an application for admission to San Diego State University with the Office of Admissions and the Department of Counselor Education.

Admission to Graduate Study

A student seeking admission to the program leading to the Master of Science in Counseling, 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 catalog.

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 Counseling degree. Only students with a bachelor's degree admitted to this curriculum. In order to continue in the program the student must demonstrate on-going academic and personal growth.
Advancement to Candidacy

The student must satisfy the general requirements for advancement to candidacy as described in Part Three of this catalog. 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 is required. The student must demonstrate satisfactory performance on a comprehensive examination, in lieu of a thesis, prepared by the Department of Counselor Education.

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

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 catalog, 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 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: Education 690, Counselor Education 610A, 610B, 820
   - Second Level: Counselor Education 640, 650, 660, 670 (645 and 667)
3. Successful completion of a program consisting of at least 36 units of approved course work.

Master of Science Degree in Rehabilitation Counseling

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three of this catalog. Students seeking admission to the graduate program which leads to a Master of Science degree in Rehabilitation Counseling should address their inquiries to the director of the program. Detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms. A comprehensive examination is required. The student must demonstrate satisfactory performance on a comprehensive examination, in lieu of a thesis, prepared by the Rehabilitation Counseling Program NO LATER THAN MARCH 15.

Criteria for admission require that students submit evidence in written form and through interviews demonstrating personal, professional, and academic adequacy for the Master of Science degree in Rehabilitation Counseling. Only students who show reasonable promise of success in rehabilitation counseling as a career will be admitted to this curriculum. In order to continue in the program, the student must maintain continued good standing in the University admissions regulations of the Graduate Division as described in Part Three of this catalog.

Applications must be received by the Rehabilitation Counseling Program NO LATER THAN MARCH 15.

Specific Requirements for the Master of Science Degree in Rehabilitation Counseling

In addition to meeting the requirements for classified graduate standing, and the basic requirements for the master's degree, as described in Part Three of this catalog, the student must complete a minimum of 60 graduate units of 500-699 and 700-numbered courses, to include:

1. Counselor Education 610A-610B - Determinants of Human Behavior (3-3)
2. Counselor Education 645 - Appraisal and Vocational Choice (6)
5. Counselor Education 680A - Introduction to Rehabilitation Process (3)
6. Counselor Education 680B - Medical Aspects of Disability (3)
7. Counselor Education 683B - Psychological Aspects of Disability (3)
8. Counselor Education 686D - Placement of the Disabled (3)
9. Counselor Education 710A, 710B - Professional Seminar (3-3)
10. Counselor Education 720 - Internship (6) or (3-3) Cr/NC
11. Counselor Education 740 - Practicum: Individual Counseling (3) Cr/NC
12. Counselor Education 750 - Advanced Seminar and Practicum: Individual Counseling (3) Cr/NC
13. Education 690 - Procedures of Investigation and Report (3)
14. Counselor Education 506 - Guidance Conference (1)

The Comprehensive Examination

A comprehensive examination is required. The student must demonstrate satisfactory performance on a comprehensive examination, in lieu of a thesis, prepared by the Rehabilitation Counseling Program, in the Office of Graduate Programs, School of Education, Room 179.

Full-time Block Program

The two-year, full-time block program leads to a 60-unit Master of Science degree in Rehabilitation Counseling.

Part-Time Evening Block Program

The Part-Time Evening Block Program leads to a 60-unit Master of Science degree in Rehabilitation Counseling. This program is designed specifically for persons already working in one of the helping professions. It requires the same courses as the full-time block program, although the sequence is not taken in the same semester. The evening program provides courses during the summer quarter of the program, including the internship, for completion of the 60-unit program in a total of 33 months, beginning with the fall semester and ending with the following summer quarter. The internship is an essential part of the program. The student is expected to maintain continuous enrollment through the completion of the program. Eligibility for the program includes (1) persons who are unable to maintain continuous enrollment, and (2) students who do not register each semester and during the summer must wait one year until the next Part-Time Block Program begins.
Teaching Credentials
San Diego State University offers credential programs requiring at least one year of postbaccalaureate coursework at the upper division or graduate level for the following credentials:

- Multiple Subjects
- Single Subject
- Early Childhood Education Specialist
- Bilingual/Cross-cultural Specialist
- Special Education Specialist
- Reading Specialist
- Administrative Services
- Library Services
- Pupil Personnel Services
- Community College Instructor

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.

Community College Instructor Credential

Specific Requirements
1. An associate degree in which the student can establish four years of occupational experience in a subject matter area plus 12 units in designated courses on the community college.
2. A baccalaureate degree in which the student can establish two years of occupational experience and a major or minor in a subject matter area related to this occupational experience plus six units in designated courses on the community college.
3. A master's degree in a subject matter area designated in Title 5, Section 5, #52210 (subjects commonly taught at a community college).

Baccalaureate Degree Candidates
Education 360, 381, 382 and 565 are offered to students who have had occupational experience and have been recommended by the following departments: Industrial Studies, Recreation, Family Studies and Consumer Sciences, Criminal Justice Administration, Health Science and Safety, Telecommunications and Film, and the School of Business Administration. Students may also enroll in any of the Occupational Education in a California community college. Early consultation with the Higher Education Programs Coordinator is recommended.

Master's Degree Candidates
No formal courses in education are required under the current interpretation of the Education Code. The program is elective and selective. It is strongly suggested, however, that graduate students most community colleges require some professional preparation and/or experience. Students desiring Education Building Admission to Education 700 is based upon successful completion of Education Admission Committee.

Most departments on the San Diego State University campus have developed programs permitting graduate students to obtain the master's degree and enroll in the education courses during the summer session and after three o'clock in regular semesters. The courses in education are typically offered in the summer session and after three o'clock in regular semesters.

The following courses are suggested to enhance employment in the community college:
- Education 630 Seminar in Instructional Methods and Materials Community College (2)
- Education 666 Educational Psychology: Community College (2)
- Education 680 The Community College (3)
- Education 700 Directed Teaching (4)

NOTE: Directed teaching can be accomplished only in a community college day assignment and not in summer session.

Library Services Credential
San Diego State University offers curricula leading to the Library Services Credential. This credential authorizes the holder to serve as a school library/media specialist in grades kindergarten through 12. For information concerning the credential, the student is referred to the Department of Educational Technology and Librarianship.

Requirements for Admission
1. Formal application to the Department of Educational Technology and Librarianship.
2. Admission to a basic teaching credential program.
3. Possession of a basic teaching credential.
4. Interview(s) with a faculty member in the Department of Educational Technology and Librarianship.
5. An undergraduate grade point average of 2.5 or a graduate grade point average of 3.0.

Program
The following program elements are required of all library credential candidates (28 units):

- ETL 446 School Library Media Programs
- ETL 540 Educational Technology
- ETL 541 Production of Instructional Materials
- ETL 546 Basic Reference Materials
- ETL 547 Selection of Instructional Materials
- ETL 548 Cataloging and Classification
- ETL 675 Seminar in the Administration of Instructional Media Centers
- ETL 678 Literature for Children
- ETL 679 Literature for Adolescents
- ETL 483 Directed Teaching-Library Practice
- ETL 775 Directed Internship for the Instructional Media Specialist

All library credential candidates must, with the approval of an adviser, select three units of elective program elements from among the following: (3 units)

- ETL 549 Ethnic Materials for Children and Young People
- ETL 550 Workshop in Educational Technology and Librarianship
- ETL 641 Instructional Graphics Communication
- ETL 642 Multi-Media Message Design
- ETL 674 Seminar in Educational Technology
- ETL 677 Reference Materials in Subject Areas
- ETL 678 Literature for Children
- ETL 679 Literature for Adolescents

Total Units: 31

Pupil Personnel Services Credential
San Diego State University offers programs leading to the Pupil Personnel Services Credential. This credential authorizes the holder to function as a counselor or other pupil personnel specialist in grades K through 12.

Requirements
1. Admission to the University and the Department of Counselor Education. Formal application also must be made to the Department of Counselor Education early in the semester prior to anticipated enrollment.
2. There are 44 competencies which must be satisfied for this credential. These competencies are met in the following courses: Education 690, Counselor Education 610A, 610B, 620, 640, 645, 650, 660, 667, 670, 710A, 710B, 730, and 740. Students who have had comparable course work outside the Department of Counselor Education and who desire to apply for the P.P.S. Credential through this department are required to provide evidence, in each case to the satisfaction of the relevant faculty member, that the designated competencies have been met.

3. Included as part of the above competencies is a field work requirement which involves cross-cultural field experiences with pupils of divergent age levels. The specific nature of the field work will vary according to the background of each student.

4. A master's degree is not a requirement for this credential, however, courses in the program described above may be acceptable also for the Master of Science degree in Counseling for which satisfactory completion of the Comprehensive Examination in Counselor Education and a minimum of 30 acceptable graduate units in residence are required.

Bilingual/Cross-Cultural Specialist Credential

Candidates in the credential program must possess a valid California Teaching Credential and must successfully complete 24 units of credit as follows:

1. Education 690: Procedures of Investigation and Report
2. Multicultural Education Core Curriculum
3. Education 550: Philosophy of Cultural Pluralism in Education
4. Multicultural Oral Language Assessment Training
5. Education 650: Bilingual/Cross-Cultural Curriculum Development
6. Education 651: Bilingual/Cross-Cultural Teaching Strategies
7. Education courses: All students are required to enroll in special sections of Education 687, Workshop in Community Influences on Learning and Curriculum Planning
8. Electives: Selected from outside the School of Education, with approval of advisor

Candidates must notify the Credentials Office of their program of study.

Early Childhood Education Specialist Credential

This credential authorizes the holder to serve as an Early Childhood Education Specialist in one or more of the following capacities:

1. Teacher—lead teacher, demonstration teacher.
2. Coordinator of Early Childhood Education programs.
3. Instructor and/or coordinator of paraeducators.
4. Supervisor and/or director of Early Childhood Education programs.
5. Program developer.
6. Program evaluator.
7. Researcher.

Attainment of this credential requires the following:

1. A bachelor's degree (or higher).
2. Completion of requirements for the Multiple Subjects or other valid and appropriate California Teaching Credential.
3. Completion of an approved 30-unit graduate program for the Specialist Credential. Required courses are Elementary Education 502, 571, 710, 711, 712, 713.
4. Verification of two years of successful teaching experience at the preschool or primary grade levels.

Reading Specialist Credential

San Diego State University offers a program leading to a Reading Specialist Credential. This credential authorizes the holder to function as a reading specialist in grades Kindergarten through 12.

For information concerning this credential, the student is referred to the Clinical Training Center.

Requirements for Admission

1. Basic teaching credential.
2. Interview(s) with a faculty member in Reading.
3. Ryan Reading Methods Course or equivalent.

Special Education Specialist Credential

San Diego State University offers curricula for the Special Education Specialist Credential in the five areas: Communication Handicapped, Learning Handicapped, Severely Handicapped, Physically Handicapped, and Gifted. For information concerning the Communication Handicapped, the student must take Education 795A and 795B as two of the electives, thus completing the course requirements for that degree.

Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Units</th>
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<tbody>
<tr>
<td>Education 511 Reading Diagnosis</td>
<td>3</td>
</tr>
<tr>
<td>Education 621 Advanced Diagnosis in Reading</td>
<td>3</td>
</tr>
<tr>
<td>Education 631 Reading Clinic</td>
<td>3</td>
</tr>
<tr>
<td>Education 690 Procedures of Investigation and Report</td>
<td>3</td>
</tr>
<tr>
<td>Elementary Education 611 Seminar in Reading in Elementary Education</td>
<td>3</td>
</tr>
<tr>
<td>Secondary Education 681 Seminar in Secondary School Reading</td>
<td>3</td>
</tr>
<tr>
<td>Education 652 Topics in Reading</td>
<td>1-6</td>
</tr>
<tr>
<td>Education 701 Field Experience as a Reading Specialist</td>
<td>4</td>
</tr>
</tbody>
</table>

Requirements for Admission

1. Formal application to the Department of Special Education.
2. Admission to the program for the Single Subjects Credential (secondary) or Multiple Subjects Credential (elementary).
3. A basic teaching credential.
4. Interview(s) with a faculty member in the Department of Special Education or Communicative Disorders.

Program

Persons interested in the Special Education Specialist Credential shall:

1. Concurrently or prior to completion of the Specialist Credential, complete the Single Subjects Credential (preliminary or clear), or Multiple Subjects Credential (preliminary or clear) or the Multiple Subjects Credential.

2. Complete one year of study in Special Education, including:
   a. The generic course work: Special Education 500, 501, 502.
   b. Advanced work in area of specialization:
      (1) Special Education 510, 511, 512, 513 series.
      (2) Special Education 420 series, 421, 422 and 423, or 480 series.
   c. Electives—six units—on advice of advisor.

* Applies only to specialization in Learning Handicapped, Severely Handicapped, Physically Handicapped, and Gifted. Those interested in the Communication Handicapped specialization are referred to the Department of Communicative Disorders.
Courses Acceptable on Master's Degree Programs in Education

UPPER DIVISION COURSES IN EDUCATION

511. Reading Diagnosis (3)
Prerequisites: Education 550.
Examination of the process of change in education, analysis of recent major changes and study of techniques for effecting change.

512. Philosophy of Cultural Pluralism in Education (3)
Prerequisites: Valid teaching credential and consent of instructor.
Study of culture from a multidisciplinary and holistic perspective provides a thorough understanding of the interrelationship between education and culture patterns and the roots of cultural pluralism; emphasis on establishing a theoretical framework for appreciating cultural and linguistic diversity in children.

550. Multicultural Oral Language Assessment Training (3)
Prerequisite: Education 550.
Orientation to study of selected culture's linguistic characteristics; comparison with Standard American English for distinguishing problems of linguistic interference on oral language performance of pupils as a basis for prescribing individualized instruction; emphasis on home/ community context of child language.

565. Occupational Student (3) S
Prerequisite: Education 380 or 381.
The teaching process and individual differences, behavioral characteristics of youth, race and ethnic relations in the schools.

568. (1280.) Human Relations and Counseling in Adult Education (2)
Prerequisite: Possession of a valid teaching credential.
Principles, procedures and issues appropriate to human relations and counseling in adult education.

593. Workshop in Adult Education (1-3) II
Prerequisite: Possession of a valid teaching credential.
Designed to meet the needs of individuals or groups of adult educators who wish to study special problems in adult education.

GRADUATE COURSES IN EDUCATION

Students without classified graduate standing are not admitted to 600- and 700-numbered courses in Education.

511. Reading Diagnosis (3)
Prerequisites: Elementary Education 362 or Secondary Education 411.
Analysis of various instructional sequences, each focusing on a single topic or competency in reading instruction. Topics differ each semester to adjust to current trends, in-service needs and resource availability.

525. Comparative Education (3)
Prerequisite: Valid teaching credential or enrollment in a credential program.
Study of comparative educational systems of various countries of the world, their influences on present-day educational practices.

600. (220.) Advanced Educational Psychology (3)
Prerequisite: Education 383.
Advanced study of the research in educational psychology and its application to learning and human growth.

611. Seminar in Educational Measurement (3)
Prerequisite: Valid teaching credential.
Problems in educational testing. Emphasis on construction, administration and validation of teacher-made tests.

621. 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. (Formerly numbered Elementary Education 621.)

630. Seminar in Instructional Methods and Materials: Community College (2)
Prerequisites: Education 666 and concurrent registration in Education 700.
The teaching process at the community college level, including lesson planning, utilization of audiovisual and other instructional materials, and procedures of evaluation.

632. Change in Education (3)
Prerequisite: Valid teaching credential.
Examination of the process of change in education, analysis of recent major changes and study of techniques for effecting change.

650. Bilingual/Cross-Cultural Curriculum Development (3)
Prerequisite: Advanced to candidacy or teaching credential.
Study of competency-based education techniques; development of skills in devising performance criteria and criterion-referenced tests in bilingual/bi-dialectal/cross-cultural situations; development of individualized instruction and program planning strategies.

651. Bilingual/Cross-Cultural Teaching Strategies (3)
Prerequisite: Advanced 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.

652. Topics in Reading Education (1-6)
Prerequisite: Valid teaching credential.
A variety of instructional sequences, each focusing on a single topic or competency in reading instruction. Topics differ each semester to adjust to current trends, in-service needs and resource availability.

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.

670. Simulation and Games (3)
Prerequisite: Open to teachers and those enrolled in education credential programs. The use and construction of simulations and games for education. (Formerly numbered Secondary Education 618.)

672. Values Education (3)
Prerequisite: Valid teaching credential or enrollment in a credential program.
Analysis of various strategies that promote clarification of values and moral diemmas. Development of classroom strategies to measure values and implement value clarification.

674. Schools and Changing Sex Roles (3)
Prerequisite: Open to teachers and those enrolled in education credential programs.
Impact of society upon the role of males and females and the role the educational systems play in maintaining traditional roles. (Formerly numbered Secondary Education 685.)

680. (201.) The Community College (3)
Overview of philosophy, history, aims, scope, function, outcomes, principles and problems of the community college. Relation of the community college to secondary and higher education.

682. Social Foundations (2 or 3)
Prerequisite: Admission to teacher education.
Study of the social, economic, political and moral setting in which present-day American education functions.

683. Comparative Education (3)
The contemporary educational ideas and practices of various countries of the world and their impact on our culture and education.

685. Philosophy of Education (3)
Prerequisite: Education 383.
A study of the social, economic, political and moral setting in which present-day American education functions.

687. Workshop in Community Influences on Learning and Curriculum Planning (1-3)
Prerequisite: Teaching experience.
Study of community influences on learning and child growth and development. 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 college community faculty members with opportunities to explore ways to improve
curriculum and instruction in the community college.

689. (257) Workshop in Intercultural Education (3)
A cooperative workshop sponsored by the University and local school districts to study trends in
intercultural education in American schools, including the examination and construction of units,
curricula, and instructional materials and techniques.

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

700. (316) Directed Teaching: Community College (4) Cr/NC
Prerequisites: Education 666, not required for psychology majors, and 680, approval of the
Community College Admissions Committee, and concurrent registration in Education 630.
Systematic observation, participation, and teaching under supervision in a community college.
A weekly seminar or conference is required. Application to take this course must be made in the
preceding semester by pre-registration with the Higher Education Programs Coordinator.

701. Field Experience as a Reading Specialist (4)
Prerequisites: Education 511, 521, 631, 651 and consent of the instructor.
Supervised experience as a Reading Specialist. Approval of local school district required in the
semester prior to registration.

720. Internship in Community College Education (2-6) Cr/NC
Prerequisites: Education 666, 669 and teaching or administrative experience in a community
college.
Supervised internship experience in community college administration, curriculum design or other
appropriate emphases.

795A-795B. (225A-225B) 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.

796. (298) Special Study (1-6) Cr/NC
Individual study. Maximum credit six units.

796A. (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.

796B. 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.

UPPER DIVISION COURSES IN COUNSELOR EDUCATION

505-S. (191-S) Guidance Conference (1-3) S
Prerequisite: Consent of conference director.
A series of lecture and discussion sessions centering on current problems in counseling and
guidance. Designed to serve the needs of any person desiring to keep informed of developments in
this area.

GRADUATE COURSES IN COUNSELOR EDUCATION

601. Student Personnel Services in Higher Education (3)
Prerequisites: Goat and objectives of Student Personnel Services in Higher Education. Focus on
supportive services and their administration.

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.

615. Multicultural Dimensions in Counseling (3)
Issues, insights and techniques for improving effectiveness in working with culturally different
populations.

616. Counselors as Change Agents: Theory and Practice (4)
Three lectures and three hours of laboratory.
Organizational models, system analysis, power, and change theories and strategies as applied to
educational institutions. Laboratory emphasis on change techniques for counselors and student
personnel workers.

620. (226) Guidance Services in Public Education (3)
Introduction to application of principles and procedures of counseling in a variety of organizational patterns.

624. (257) Workshop in Intercultural Education (3)
History, philosophical and legal bases of public personnel services; staff roles and relationships
in educational institutions. Laboratory emphasis on change techniques for counselors and student
personnel workers.

630. (229) Workshop in Counseling (3)
Prerequisite: Consent of instructor.
Application of principles and procedures of counseling to specific situations for improving of counseling
services. Individual problems emphasized. May be repeated with new content. Maximum credit six
units applicable on a master's degree.

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 645. Offered during summer sessions only in combination with
Counselor Education 650 as 645.

641A-641B. Individualized Appraisal of Learning Characteristics (4-4)
Three lectures and three hours of laboratory.
Prerequisite: Counselor Education 640.
Individualized Appraisal of Learning Characteristics. Specialized techniques for assessing learning
characteristics of children from multicultural settings. 641A: Scholastic status. 641B: Individualized
intellectual assessment of school-aged children.

645. (237-S) Appraisal and Vocational Choice (6)
Five lectures and three hours of laboratory.
Prerequisites: Counselor Education 640. Application to interpret test results, vocational choice theory, occupational and
measurement theory, and principles of vocational guidance. Not open to students with credit in Counselor Education
educational information in career planning. Not open to students with credit in Counselor Education
645. Offered during summer sessions only in combination with Counselor Education 640 as 645.

650. (223) Theory and Process of Vocational Choice (4)
Three lectures and three hours of laboratory.
Prerequisites: Counselor Education 640. Application to interpret test results, vocational choice theory, occupational and
measurement theory, and principles of vocational guidance. Not open to students with credit in Counselor Education
educational information in career planning. Not open to students with credit in Counselor Education
645. Offered during summer sessions only in combination with Counselor Education 640 as 645.

651. Counseling Women in Transition (3)
Prerequisites: Consent of instructor.
Development of counseling skills in career development, educational, psychological and social
services. Staff roles and relationships in a variety of organizational patterns.

670. (211) Seminar in Psychological Research Design (3)
Prerequisites: Psychology majors.
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.

671. (212) Seminar in Educational Research Design (3)
Prerequisites: Psychology majors.
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.
660. (233.) Theory and Process of Counseling (4)
Three lectures and three hours of laboratory.
Prerequisite: Counselor Education 610A.
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 667 or Psychology 452 or 650. Offered during summer sessions only in combination with Counselor Education 670 as 667.

667. (238-S.) Counseling: Individual and Group (6)
Five lectures and three hours of laboratory.
Counseling theory and techniques, individual and group. Not open to students with credit in Counselor Education 660 or 670. Application to take the course must be made early during the preceding semester.

670. (234.) Theory and Process of Group Counseling (4)
Three lectures and three hours of laboratory.
Prerequisites: Counselor Education 610A and 610B. Group process and individual growth, theories of group interaction, sensitivity training and group leadership techniques. Not open to students with credit in Counselor Education 667. Offered during summer sessions only in combination with Counselor Education 660 as 667.

680A. (233A.) Introduction to the Rehabilitation Process (3)
Two lectures and three hours of laboratory.
Prerequisite: Admission to Rehabilitation Counselor Program.
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: Admission to Rehabilitation Counselor Program, 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: Admission to Rehabilitation Counselor Program.
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: Admission to Rehabilitation Counselor Program.
Determination of employment needs of disabled clients, case study method. Follow-through to placement. Continuous survey of employment needs and opportunities in the wider community.

710A-710B. (239A-239B.) Professional Seminar (3-3)
Prerequisites: Education 645; 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 or school psychology activities. Application to take the course must be made early during the preceding semester. May be repeated with new content. Maximum credit six units applicable on a master's degree. May be repeated with new content. Maximum credit six units applicable on a master's degree in counseling; maximum credit nine units applicable on master's degree in Rehabilitation Counseling.

730. (331.) Field Work in Counseling (2-6) Cr/NC
Prerequisite: Counselor Education 660.
Application of concepts and procedures of counseling or school psychology services in appropriate school or agency setting. Daily observation and practice. Weekly seminar sessions with university staff. Application to take the course must be made early during the preceding semester. May be repeated with new content. Maximum credit six units applicable on a master's degree in counseling; maximum credit nine units applicable on master's degree in Rehabilitation Counseling.

740. (332.) Practicum: Individual Counseling (3) Cr/NC
Prerequisite: Counselor Education 660.
Supervised experience in individual counseling and career planning. Maximum credit six units applicable on a master's degree in counseling; maximum credit nine units applicable on master's degree in Rehabilitation Counseling.

751. Practicum: Group Counseling (3) Cr/NC
Prerequisite: Counselor Education 670.
Supervised experience in group counseling and career planning. Maximum credit six units applicable on a master's degree.

760. Advanced Seminar in School Psychology (3)
Prerequisite: Counselor Education 621.
Study of selected areas in school psychology which culminates in a written project with emphasis on research, problems, and issues. Topic to be announced in class schedule.

GRADUATE COURSES IN EDUCATIONAL ADMINISTRATION

600. (260.) Principles of School Administration (3)
Prerequisite: Teaching credential.
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 (a) the community; (b) the teaching staff; (c) the 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.
Study of the relationship of the school district to attendance units. The legal basis and policy formation in the selection and retention of certified personnel, in the administration 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 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 of and practices in the administration and supervision of the elementary school.

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.
**UPPER DIVISION COURSES IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP**

### 540. (140.) Educational Technology (3) I, II, S
Two lectures and three hours of laboratory. Applications of educational technology to instruction and learning. Individualization through the use of media. Includes film, TV, simulation, programmed instruction, computers and multi-media.

### 541. (141.) Production of Instructional Materials (3) I, II, S
Six hours of activity.
Planning and preparing instructional materials for classroom use. Independent study centers, transparencies, film, charts, lettering aids, learning games.

### 542. Advanced Production Techniques (3)
Six hours of activity.
Prerequisite: Educational Technology and Librarianship 541.
Application of communication principles, skills and techniques pertaining to the design and production of light and heat sensitive instructional materials to problems of educational communication and instructional development.

### 544. (144.) Instructional Materials Design (3) I, II

### 546. (145.) Basic Reference Materials (3) I, II
General reference books, bibliographies and source materials with emphasis on their use in the school library media center.

### 547. (147.) Selection of Instructional Materials (3) I, II
Prerequisite: Educational Technology and Librarianship 544.
Selection criteria and development of written policy statements. Annotations, reviewing media, standard catalogs and bibliographies.

### 548. (148.) Cataloging and Classification (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Educational Technology and Librarianship 544.
A practical approach to organizing instructional materials in school library media centers. Descriptive cataloging, classification, and choice of subject headings. Basic knowledge of typing helpful.

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

### 550. (150.) Workshop in Educational Technology and Librarianship (1-3)
Selected problems in educational technology and librarianship. Maximum credit six units.

### 553-S. (143-S.) Workshop in Educational Television (6) S
(Same course as Telecommunications and Film 320-S.)
Open to teachers and students interested in instruction by television. The procedures and theories of television production as it pertains to closed circuit and instructional use of television. The selection and utilization of program content and the method of presenting material through the television medium will be discussed and demonstrated.

### GRADUATE COURSES IN EDUCATIONAL TECHNOLOGY AND LIBRARIANSHIP

### 641. Instructional Graphic Communication (3)
Six hours of activity.
Prerequisite: Educational Technology and Librarianship 541.
Application of communication principles and learning theory to the design and production of instructional graphic materials. Emphasis on design, production and evaluation of opaque and transparent visual imagery.

### 642. Multimedia Message Design (3)
Six hours of activity.
Prerequisite: Educational Technology and Librarianship 541.
Application of communication principles and learning theories to the design, development and integration of audio and visual media into instructional packages.

### 674. (274.) Seminar in Educational Technology (3) I
Prerequisite: Educational Technology and Librarianship 540.
Practical approach to organizing Instructional Subject Headings. Basic knowledge of typing helpful.
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.
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.
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.

UPPER DIVISION COURSES IN ELEMENTARY EDUCATION

502. Field Experience in Early Childhood Education (1-6) I, II, S
Prerequisite: Elementary student teaching or approved full-time teaching experience.
Supervised field experience in pre-school or primary grades. Assignments made on an individual basis to fit the candidate's background, experience and career goals. Maximum credit six units.
512. (123.) Children's Literature in Elementary Education (3) I, II
A survey of children's literature, the selection and use of material in the elementary classroom.
514. (1388.) Social Studies Unit Construction in Elementary Education (3) Irregular
Prerequisite: Elementary Education 414 or 418.
Selecting and organizing content, analyzing materials, and developing instructional units in elementary social studies for classroom use.
523. Classroom Diagnosis and Remediation of Underachievers in Mathematics (3) I, II
Six hours of activity.
Prerequisite: Teaching credential or teaching experience.
The assessment and remediation of underachievers in mathematics. Techniques in determining difficulties in mathematics and prescribing remedial work; for use by elementary and secondary classroom teachers and mathematics education specialists.
562. (151.) Measurement and Evaluation in Elementary Education (3) Irregular
The use of intelligence and achievement tests in the diagnosis and improvement of learning; construction of objective examinations; problems of evaluation in education, the elements of statistical techniques.
571. (114-S.) Seminar in Child Development (3) I, II, S
Prerequisite: One course in child development.
Patterns in human development, especially in children ages eight and younger. Interpreting child development to differentiated staff, paraprofessionals, parents and community members. Planning for continuous progress. Reporting progress to parents.

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

GRADUATE COURSES IN 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.
Advanced study of 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.
624. (248B.) Seminar in Elementary Social Studies Curriculum Development (3)
Prerequisite: Elementary Education 414 or 418, and credit or concurrent registration in Education 690.
Current theories of instruction pertaining directly to elementary social studies teaching and curriculum development; critique of current social studies courses of study and guides; experience in elementary social studies curriculum planning at the classroom, school and district levels.
710. Curriculum Development and Evaluation for Early Childhood Education (3)
Prerequisite: Nine units of elementary education.
Philosophy of Early Childhood curriculum development. Analysis, evaluation and development of curriculum materials for children; age eight and younger.
711. Diagnostic and Prescriptive Teaching of Young Children (3)
Prerequisite: One course in educational psychology.
712. Community Involvement in Early Childhood Education (3)
Prerequisite: Parent and community involvement in goal-setting, policy formulation and instruction. Cultural and community involvement in early childhood education programs.
713. Organization and Supervision of Early Childhood Education Programs (3)
Planning, organizing and implementing various E.C.E. programs (e.g., nursery schools, day care centers, kindergarten-primary programs). Coordination and supervision of programs for cognitive, motor and social development, health, nutrition, psychological services and staff development.

UPPER DIVISION COURSES IN SECONDARY EDUCATION

563. (153.) Measurement and Evaluation in Secondary Education (3) Irregular
Problems of evaluation in secondary education; construction of examinations; elements of statistics; selection and interpretation of standardized measures.

564. (153.) Quantitative Methods in Educational Research (3) I, II
Basic tests of statistical significance with special reference to the interpretation of educational data.

596. (128.) Workshop in Secondary Education (1-3 or 6) I, II
Designed to meet the needs of individuals or groups of teachers who wish to develop or continue the study of some problem with the consultation of the university staff and the San Diego County Curriculum staff. May be repeated with new content for more than six units. Maximum credit six units applicable on a master’s degree.

GRADUATE COURSES IN SECONDARY EDUCATION

610. (250.) Curricular Problems in Secondary Education (3)
Prerequisite: Student teaching or teaching experience.
1. 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.
2. Advanced Problems in Secondary School Instruction (3)
Prerequisite: Teaching experience and consent of instructor.
An analysis of the scientific research and philosophical principles in secondary school instruction.
3. Seminar in Advanced Curriculum and Instruction in Mathematics (3)
Factors directing the changing mathematics curriculum; recent trends and current research in the teaching of secondary mathematics.

615. Innovations in Instruction (3)
Prerequisite: Teaching experience or enrollment in the Secondary Credential Program.
An exploration of innovative instructional practice in the public and private schools, with emphasis on innovative teaching strategies. An evaluation of the motivational effect and instructional validity of promising instructional practices.

616. (255.) Recent Trends in Secondary Curriculum (3)
Prerequisite: 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.) Seminar in Research in Curricular Problems (1-3)
Prerequisite: Consent of the Coordinator of Secondary Education and instructor.
Individual study by graduate students who have demonstrated exceptional ability.

667. (230.) Guidance Problems in Secondary Education (3)
The theory and practice of guidance, emphasizing advanced mental hygiene concepts needed by teachers and counselors.

765. Seminar in Curriculum and Instruction in the Social Sciences (3)
Prerequisite: Valid teaching credential and appropriate teaching experience.
Theories of content selection, social pressures which affect curriculum design of the secondary school; current research in curriculum development; trends in teaching techniques and materials. Field trips to be arranged.

681. (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.

790. Seminar in Secondary Education (3)
Prerequisite: Advancement to Candidacy.
Intensive consideration of selected topics of current importance in Secondary Education. May be repeated with new content. Maximum credit six units applicable on a master's degree.

500. Exceptional Individuals (3) I, II, S
Two lectures and two hours of activity.
Behavioral commonalities among exceptional pupils, knowledge of principles, procedures, techniques and tests in identifying the learning and behavioral patterns of exceptional pupils, characteristics of exceptional pupils in terms of program and developmental needs. (Formerly numbered Special Education 597.)

501. Instructional Programs for Exceptional Individuals (2) I, II, S
Prerequisite: Credit or concurrent registration in Special Education 500.
Assessment of instructional needs, planning an effective individualized school program and developing procedures for evaluating pupil progress. Identify current programs and trends for planning effective individualized and group programs for exceptional individuals.

502. Interaction and Interpersonal Processes (2) I, II, S
Prerequisite: Consent of the Coordinator of Secondary Education and instructor.
Theories and processes of communication technology as they pertain to the functioning, individually and collectively, of parent, professionals, and community agencies in promoting personal, social, and vocational growth of individuals with exceptional needs.

510. Assessment and Evaluation of Exceptional Individuals (3) I, II
Prerequisites: Special Education 501 and 502; and concurrent registration in Special Education 420.
Tests and procedures for assessing, evaluating and monitoring progress of exceptional individuals to meet their physical, intellectual, social, and emotional needs. Problems in the psychoeducational diagnosis and appraisal. Utilization of assessment procedures for the educational and rehabilitation program. (Formerly numbered Special Education 561)
May be taken in each of the four areas of specialization.

511. Curriculum and Instruction for Exceptional Individuals (3) I, II
Prerequisites: Special Education 501 and 502; concurrent registration in Special Education 421.
An overview of the theory and practice of educational planning and the development of instructional programs for exceptional individuals. Emphasis given to the development of instructional programs for the achievement of educational and social goals. (Formerly numbered Special Education 563, 568 and 573.)
May be taken in each of the four areas of specialization.

512. Personal Adjustment of the Exceptional Individual (3) I, II
Prerequisites: Special Education 501 and 502; concurrent registration in Special Education 422.
An overview of the theory and practice of educational planning and the development of instructional programs for exceptional individuals. Emphasis given to the development of instructional programs for the achievement of educational and social goals. (Formerly numbered Special Education 572.)
May be taken in each of the four areas of specialization.

A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted
513. Dynamics of Behavior Change and the Exceptional Individual (3) I, II
Prerequisites: Special Education 501 and 502; concurrent registration in Special Education 423.
Management and treatment of individuals with exceptional needs. Current theories and programs in behavioral change studies analyzed with reference to their applications for the educational environment.
May be taken in each of the four areas of specialization:
A. Learning Handicapped
B. Severely Handicapped
C. Physically Handicapped
D. Gifted

550. (170) Workshop in Special Education (2-4) I, II
Curriculum and methods of teaching in an area of exceptionality; observation of demonstration class; development of materials of instruction. May be repeated once in a second area of exceptionality. Maximum credit six units applicable on any degree.

GRADUATE COURSES IN 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 500.
Principles, trends and research in the education of exceptional children.

671. (271.) Seminar in Emotionally Disturbed Children and Youth (3)
Prerequisite: Special Education 670.
Advanced study of the theories, principles and practices in working with the emotionally handicapped.

672. (272.) Seminar in Education of the Gifted (3)
Prerequisite: Special Education 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)
Prerequisite: Special Education 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.
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 catalog. With the approval of the appropriate department the student working toward the master of science degree may elect either Plan A, requiring a thesis, or Plan B, requiring a comprehensive written examination. In either case, a final oral examination will be required.

The student shall arrange his course pattern, in conference with his graduate adviser, according to the following requirements for the specific degree:

**Aerospace Engineering**

Specific requirements for the degree: The student's program, prepared in conference with and approved by the graduate adviser, must satisfy the following requirements:

1. Eighteen units of 600- and 700-numbered courses in aerospace engineering and/or engineering mechanics including EM542, EM601, EM621, and at least nine units in one area of concentration (designated as Group A, Group B, and Group C below) and excluding AE600, AE716, AE600.
2. At least six additional units of 500-, 600- and 700-numbered courses in the School of Engineering or in the Departments of Mathematical Sciences, Physics, or Astronomy, including Aerospace Engineering 799A (Plan A), if elected.
3. Six elective units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

**Civil Engineering**

Specific requirements for the degree: The student's program, prepared in conference with and approved by the graduate adviser, must satisfy the following requirements:

1. Eighteen units of 600- and 700-numbered courses in civil engineering, excluding Civil Engineering 979, 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 Civil Engineering 799A, (Plan A), if elected.
3. Six elective units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

**Electrical Engineering**

Specific requirements for the degree: The student's program, prepared in conference with and approved by the graduate adviser, must satisfy the following requirements:

1. Eighteen units of 600- and 700-numbered courses in electrical engineering (excluding Electrical Engineering 979, 798, and 799A).
2. At least six additional units of 500-, 600- or 700-numbered courses in the School of Engineering or, with the approval of the graduate adviser, in the College of Sciences.
3. Six elective units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

**Mechanical Engineering**

Specific requirements for the degree: The student's program, prepared in conference with and approved by the graduate adviser, must satisfy the following requirements:

1. Fifteen units of 600- and 700-numbered courses in mechanical engineering excluding Mechanical Engineering 797, 798, 799A.
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- and 700-numbered courses approved by the graduate adviser.

Courses Acceptable on Master's Degree Programs

**Upper Division Courses in Engineering**

**General**

598. (1998.) Advanced Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the School of Engineering.
Modern developments in engineering. Maximum credit six units for any combination of Engineering 496, 499 and 596. (Formerly numbered Engineering 503.)

510. (1878.) Methods of Analysis (3) I, II
Prerequisite: Engineering 310.
Selected topics from vector calculus, partial differential equations, and complex analysis, with engineering applications. (Formerly numbered Engineering 501.)

511. (1888.) Digital Solutions of Engineering Problems (3) I, II
Prerequisites: Engineering 120 or Mathematics 107, and Engineering 310.
Digital solution of classes of engineering problems. Application of numerical methods with consideration of limitations imposed by computer and programming language characteristics. (Formerly numbered Engineering 502.)

510. (155.) Matrix Methods in Aerospace Structures (3)
Prerequisite: Aerospace Engineering 310B.
Static and dynamic analysis of aerospace structures utilizing matrix methods. (Formerly numbered Engineering 567.)

520. (1538.) Intermediate Aerospace Flight Mechanics (3) I
Prerequisite: Aerospace Engineering 320.
A continuation of Aerospace Engineering 320 to include orbit determination techniques, general and special perturbations, artificial satellites, rocket dynamics and transfer orbits, earth/moon trajectories, and interplanetary trajectories. (Formerly numbered Engineering 590.)

530. (152.) Aircraft Propulsion Systems (3)
Prerequisite: Aerospace Engineering 301 or Mechanical Engineering 460.
Theory and performance characteristics of aircraft propulsion systems including reciprocating engines, turbojets, ramjets, etc. (Formerly numbered Engineering 584.)

598. (1968.) Advanced Aerospace Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the School of Engineering.
Modern developments in engineering. Maximum credit six units for any combination of Aerospace Engineering 496, 499 and 596. (Formerly numbered Engineering 503.)

**Graduate Courses in Aerospace Engineering**

600. (200.) Seminar (1-3)
Prerequisite: Consent of the graduate adviser and instructor.
Intensive study of one of the following topics: Aeroelasticity, aerodynamic noise, aerothermal structural analysis, hydrodynamic stability, hypersonic flow theory, magnetofluid mechanics, rarified gas flows, electromagnetic propulsion, boundary layers, and other areas of aerospace engineering. Topic to be announced in class schedule.
612. (243.) Compressible Fluid Flow (3)
Prerequisite: Aerospace Engineering 302 or concurrent registration in Engineering 510.
Theory of flow at supersonic speeds. Linearized theory, two-dimensional wings in steady flight, slender-body theory, methods of characteristics.

671. (205.) Flight Dynamics—Theory of Flight Paths (3)
Prerequisite: Aerospace Engineering 302.
Analysis of trajectories of aircraft, missiles, satellites, and spacecraft subjected to uniform or central gravitational forces, aerodynamic forces, and thrust.

716. (242.) Aerodynamics of Flight (3)
Prerequisite: Aerospace Engineering 612.
Transonic flight, VSTOL, and related topics.

771. (204.) Flight Dynamics—Stability and Control (3)
Prerequisite: Credit or concurrent registration in Engineering Mechanics 601.

796. (295.) 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 advisor.
Research in engineering. 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 three units.

799A. (299.) Thesis or Project (3) Cr/NC
Prerequisite: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree. Maximum credit six units applicable on 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.

UPPER DIVISION COURSES IN CIVIL ENGINEERING

518. (128B.) Advanced Surveying and Photogrammetry (3) I
Two lectures and three hours of laboratory.
Prerequisite: Civil Engineering 218 with minimum grade of C.
Theory and application of precise control surveys; specialized survey operations. Principles of metrical photogrammetry as applied to engineering. Map compilation from aerial photographs.

521. (120B.) Structural Analysis II (3) I
Prerequisite: Civil Engineering 321 with minimum grade of C.
Analysis of statically indeterminate structures by virtual work. Advanced treatment of slope deflection, moment distribution. Arch analysis, secondary stresses in trusses. Advanced treatment of influence lines. (Formerly numbered Engineering 510.)

523. Timber Design (3) I
Prerequisite: Engineering 310.
Structure and characteristics of wood; strength properties; loads and stresses; fasteners; working stress design of structural connections and members.

525. (190A.) Design of Steel Structures (3) II
One lecture and six hours of laboratory.
Prerequisite: Civil Engineering 321.
Behavior of structural steel components under load. Design of steel beams, girders, columns, rigid frames and industrial building. Design of various types of connections of steel structures. (Formerly numbered and entitled Civil Engineering 425, Civil Engineering Structural Design.)

555. Water and Wastewater Engineering (2) I
Prerequisite: Civil Engineering 455 with minimum grade of C.

562. (124.) Applied Soil Mechanics and Foundation Engineering (3) II
Prerequisite: Civil Engineering 462.
Soil mechanics theories applied to the design of shallow and deep foundations, lateral pressure of soils, design of retaining walls. (Formerly numbered Civil Engineering 464.)

579. (129.) Highway Materials (3) II
Two lectures and three hours of laboratory.
Prerequisite: Credit or concurrent registration in Civil Engineering 462 or 482.
Selection, design, and control of mixes of various materials used in highway construction practice. Emphasis on strength and properties of plain concrete and asphalt. (Formerly numbered Engineering 521.)

596. (198B.) Advanced Civil Engineering Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the School of Engineering.
Modern developments in civil engineering. Maximum credit six units for any combination of Civil Engineering 496, 498 and 596. (Formerly numbered Engineering 503.)

GRADUATE COURSES IN CIVIL ENGINEERING

600. (200.) Seminar (2 or 3)
Prerequisite: Consent of the graduate advisor 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.

605. (205.) Prestressed Concrete Structures (3)
Prerequisite: Civil Engineering 321 with minimum grade of C.
Fundamental concepts of prestressed concrete theory. Design applications to various types of structures.

606. (206.) Matrix Analysis of Structures (3)
Prerequisite: Civil Engineering 421 with minimum grade of C.

607. (207.) Dynamics of Structures (3)
Prerequisite: Civil Engineering 321 with minimum grade of C.
Dynamic disturbances, structures with variable degrees of freedom, free vibrations of slender elastic beams; continuous beams, rigid frames, floor systems. Energy methods in structural dynamics.

610. (210.) Finite Element Analysis of Structures (3)
Prerequisites: Engineering 120 and Civil Engineering 321 with minimum grade of C.
General procedure, various types of finite and engineering; 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: Civil Engineering 482 with minimum grade of C.
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: Civil Engineering 481 with minimum grade of C.
Preliminary studies. Evaluation of transit systems, economic problems of mass transportation. Case studies of urban transit and land use, characteristics of urban travel patterns, estimation of transit demand, financial aspects, and regulation of street and highway traffic. Parking facilities, mass transportation, traffic engineering administration.

630. (230.) Open Channel Hydraulics (3)
Prerequisite: Civil Engineering 444 with minimum grade of C.
Open channel flow theory, 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.

635. (235.) Water Quality Engineering (3)
Prerequisite: Civil Engineering 555 with minimum grade of C.
### Water Quality Processes (3)
- **Prerequisite:** Civil Engineering 555 with minimum grade of C.

### Advanced Soil Mechanics (3)
- **Prerequisite:** Civil Engineering 462 with minimum grade of C.
- **Advanced theories of soil mechanics and their applications to design, including: physicochemical behavior of soils, theories of compaction, consolidation, stress distribution, shear strength, settlement analyses, lateral pressures, and bearing capacity of soils.**

### Advanced Foundation Engineering (3)
- **Prerequisites:** Civil Engineering 464 and 462 with minimum grade of C.

### Seeage and Earth Dams (3)
- **Prerequisite:** Civil Engineering 462 with minimum grade of C.
- **Principles governing the flow of water through soils and their application in the design of earth and rock fill dams. Stabili ty analysis and design of earth dams.**

### Seminar in Structural Engineering (2 or 3)
- **Prerequisite:** Consent of the graduate adviser and instructor.

### Seminar in Transportation Engineering (2 or 3)
- **Prerequisite:** Consent of the graduate adviser and instructor.

### Seminar in Soil Mechanics and Foundation Engineering (2 or 3)
- **Prerequisite:** Consent of the graduate adviser and instructor.

### Seminar in Construction Engineering (2 or 3)
- **Prerequisite:** Consent of the graduate adviser and instructor.

### 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.**

### Research (1-3) Cr/NC
- **Research in engineering. Maximum credit six units applicable on a master's degree.**

### Special Study (1-3) Cr/NC
- **Prerequisite:** Consent of staff; to be arranged with department chairman and instructor. Individual study. Three units maximum credit.

### 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.

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

### Upper Division Courses in Electrical Engineering

#### 520. (168) Feedback Control Systems (3) I
- **Prerequisites:** Electrical Engineering 420.
- **Analysis of regulatory systems including servomechanisms by the Laplace transform method. Nyquist, Bode, and root-locus diagrams; elementary synthesis techniques. Practical components and examples of typical designs. (Formerly numbered Engineering 568.)**

#### 521. (169) Advanced Feedback Control Systems (3) II
- **Prerequisite:** Electrical Engineering 520.
- **A continuation of Electrical Engineering 520 to include feedback compensation, advanced compensation techniques, sensitivity functions, feedback amplifiers, audio amplifiers, video amplifiers; power supplies and oscillators; linear sampled-data control systems. (Formerly numbered Engineering 569.)**

#### 530. (162) Transistor Circuit Analysis (3) I, II
- **Prerequisite:** Electrical Engineering 430.
- **Analysis and design of transistor voltage and power amplifier circuits by use of duality and matrix methods. Feedback amplifiers, audio amplifiers, video amplifiers, power supplies and oscillators.**

#### 534. (164) Solid-State Devices (3) I
- **Prerequisite:** Electrical Engineering 430.
- **Conduction theory of solids. Characteristics of tunnel, backward, breakdown, multilayer and compound modulation.**

#### 540. (139) Microwave Communications (3) II
- **Prerequisites:** Electrical Engineering 430 and 450.
- **Applications of Maxwell's equations to wave propagation: skin effect, circuit impedance elements, semiconductors, and dielectric materials.**

#### 540L. (139L) Microwave Measurements Laboratory (1) II
- **Three hours of laboratory.**

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

#### 554. (134) Communication Principles and Circuits (3) I, II
- **Prerequisite:** Electrical Engineering 430.
- **Signal transmission in linear networks; modulators and detectors; wide band and narrow-band circuits; and noise performance of carrier systems.**

#### 554L. (134L) Communication Circuits Laboratory (1) I
- **Three hours of laboratory.**

#### 555. (135) Modulation Theory (3) I
- **Prerequisite:** Electrical Engineering 410.
- **Theory and performance characteristics of modulation and demodulation; spectral characteristics of compound modulation.**

#### 570. (175) Advanced Pulse and Digital Circuits (3) II
- **Prerequisite:** Electrical Engineering 470.
- **Digital system design using linear elements. Microcircuit amplifiers, sweep circuits, IF modulators and systems.**

#### 636. (238) Water Quality Processes (3)
- **Prerequisite:** Civil Engineering 555 with minimum grade of C.
- **Two lectures and three hours of laboratory. Theoretical and laboratory study of the chemical and microbiological processes which govern modern water and wastewater treatment.**

#### 640. (240) Advanced Soil Mechanics (3)
- **Prerequisite:** Civil Engineering 462 with minimum grade of C.
- **Advanced theories of soil mechanics and their applications to design, including: physicochemical behavior of soils, theories of compaction, consolidation, stress distribution, shear strength, settlement analyses, lateral pressures, and bearing capacity of soils.**

#### 641. (241) Advanced Foundation Engineering (3)
- **Prerequisite:** Civil Engineering 464 with minimum grade of C.
- **Principles governing the flow of water through soils and their application in the design of earth and rock fill dams. Stability analysis and design of earth dams.**

#### 642. (242) Seeage and Earth Dams (3)
- **Prerequisite:** Civil Engineering 462 with minimum grade of C.
- **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.**
517. (177.) Advanced Logic Design and Switching Circuits (3) I, II
Prerequisite: Electrical Engineering 370.
An intensive study of advanced electrical engineering, topics to be announced in the class schedule. Maximum credit six units applicable on a master's degree.

504. (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. (Formerly numbered Electrical Engineering 601.)

505. (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.

506. (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.

507. (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. (Formerly numbered Electrical Engineering 603.)

610. (210.) Linear System Analysis (3)
Prerequisite: Electrical Engineering 310 and credit or concurrent registration in Engineering 510 or Mathematics 340B.
An intensive study of mathematical techniques 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.

620. (220.) Feedback Control Systems (3)
Prerequisite: Electrical Engineering 520.
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: Electrical Engineering 520.
Analysis and synthesis of sampled-data and digital control systems; techniques for the design of optimal sampled-data control systems; transform calculus and difference equation synthesis techniques for determining stability and system response.

625. (225.) State Space Analysis of Control Systems (3)
Prerequisite: Electrical Engineering 520.
State space representation of control systems, state transition flow graphs, methods of solution of the state equation, controllability and observability, and introduction to optimal control systems.

630. (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. (Formerly numbered Electrical Engineering 611.)

631. (231.) Integrated Circuits (3)
Prerequisite: Electrical Engineering 470.
Fabrication methods, logic gates, medium- and large-scale integration techniques, and design of hybrid and monolithic integrated circuits. Emphasis on the application of these devices through knowledge of circuit operation and interpretation of manufacturers' specification sheets.

632. (232.) Linear Semiconductor Circuit Design (3)
Prerequisite: Electrical Engineering 530.
Field effect transistors and circuits: Quantitative variable nature of transistor parameters; differential mode characteristics and matching techniques, harmonic oscillators, VHF power amplifiers, and semiconductor microwave oscillators. Capacitative and inductive elements, and the effects of noise on system stability. (Formerly numbered Electrical Engineering 616.)

634. (234.) Semiconductor RF Circuit Design (3)
Prerequisite: Electrical Engineering 554.
Wide band amplifiers, low level RF amplifiers and mixers, RF amplifiers, AGC, tuning and stability techniques, frequency doubler, and crystal oscillator design. (Formerly numbered Electrical Engineering 616.)

636. (216.) Noise in Electrical Devices (3)
Prerequisite: Electrical Engineering 530.
A course concerned with the effects of noise on system behavior. Emphasis on practical aspects of electrical noise and the effects of noise on system behavior, and the design of circuits to minimize the effects of noise. (Formerly numbered Electrical Engineering 616.)

640. (250.) Quantum Electronics (3)
Prerequisite: Electrical Engineering 534.
Quantum mechanics for engineers concerned with its application to solid-state devices. Basic principles and engineering applications of lasers. (Formerly numbered Electrical Engineering 650.)

642. (252.) Optical Communications (3)
Prerequisite: Electrical Engineering 540.
Characteristics of optical fibers and waveguides in fiber optics, optical properties of materials, and the applications of optical fibers in telecommunications. (Formerly numbered Electrical Engineering 652.)

645. (240.) Antennas and Propagation (3)
Prerequisite: Electrical Engineering 540.
A course concerning the design of antennas, including the development of the system of linear antenna elements, field intensity and system power. (Formerly numbered Electrical Engineering 655.)

647. (246.) Radar Systems (3)
Prerequisite: Electrical Engineering 540.
The radar equation: characteristics of CW, FM, MTI, pulse doppler and tracking radar system, propagation effects, system engineering and design. (Formerly numbered Electrical Engineering 657.)
650. (260.) Modern Communication Theory I (3)
Prerequisite: Electrical Engineering 553 or Mathematics 550.
Probability theory, random variables, random processes, Gaussr process, random signals through linear systems, noise considerations, optimum receiver design, applications to digital and wave-form communication. (Formerly numbered Electrical Engineering 660.)

651. (261.) Modern Communication Theory II (3)
Prerequisite: Electrical Engineering 650.
Estimation of signal parameters in noise. Estimation of spectral densities and correlation functions. Intersymbol interference. Adaptive and feedback systems. (Formerly numbered Electrical Engineering 661.)

653. (263.) Coding Theory (3)
Prerequisite: Electrical Engineering 653.
The theory of coding to combat noise over communication channels. Redundancy added to messages to assure arbitrarily small error rates at a given information rate. Discussion of channels and capacity. Block codes, cyclic codes, BCH codes, convolutional code.

658. (268.) Digital Processing of Signals (3)
Prerequisite: Electrical Engineering 655.

670. (270.) Microprogramming (3)
Prerequisite: Electrical 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: Electrical 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: Electrical Engineering 573.
Design of minicomputer architectures. CPU-oriented and universal bus-oriented machines.

676. (276.) Fault Tolerant Computing (3)
Prerequisite: Electrical 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: Electrical Engineering 571.
Review of current technical, periodic literature in logic design and digital systems. Stress on specialized synthesis techniques and recent theoretical developments.

678. (278.) Electronic Digital Systems (3)
Prerequisite: Electrical Engineering 573.
Design of arithmetic, control and memory units. Detailed comparative analysis of the system organization and operation of several digital computers, with special attention to the independence of design decisions and their dependence upon the intended system application.

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.

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
Prerequisite: An officially appointed thesis committee and advancement to candidacy.
Preparation of the thesis or project for the master's degree.

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

**UPPER DIVISION COURSES IN ENGINEERING MECHANICS**

520. (156.) Intermediate Dynamics (3)
Kinetrics and kinetics of systems of particles and rigid bodies. Dynamic analysis procedures for studying mechanical, electrical, and electromechanical systems. Variational methods. (Formerly numbered Engineering 668.)

540. (157.) Intermediate Fluid Mechanics (3)
Prerequisites: Credit or concurrent registration in Engineering Mechanics 340, and Engineering 510 or Mathematics 340B.
Kinematics of fluid motion. Conservation of mass, momentum, and energy. Ideal and viscous flows and applications. Boundary layer approximations. (Formerly numbered Engineering 583.)

541. (181.) Hydrodynamics (3)
Prerequisites: Engineering Mechanics 220, and Engineering 310 or Mathematics 340A or 530 or 533.
Kinematics, equations of continuity, and momentum of perfect fluids. Introduction to conformal transformations. Three-dimensional and two-dimensional rotational motion, with applications to physical problems. Vector notation will be used. (Formerly numbered Engineering 585.)

596. (1968.) Advanced Engineering Mechanics Topics (1-3) I, II
Prerequisites: Minimum grade point average of 2.0 in engineering or approval of the Academic and Ethical Standards Committee of the School of Engineering.
Modern developments in engineering mechanics. Maximum credit six units for any combination of Engineering Mechanics 498, 499 and 596. (Formerly numbered Engineering 903.)

**GRADUATE COURSES IN ENGINEERING MECHANICS**

500. (200.) Seminar (1-3)
Prerequisite: Consent of the graduate adviser and instructor.
Critical and up-to-date study of a selected topic. Intensive study of one of the following topics: Nonlinear vibrations, random vibrations, continuum mechanics, anisotropic elasticity, energy methods, plasticity, and other areas of engineering mechanics. Topic to be announced in class schedule. Maximum credit six units applicable on a master's degree.

601. (201.) Advanced Dynamics (3)
Prerequisites: Engineering Mechanics 220, and Engineering 310 or Mathematics 340A.
Kinematics and kinetics of systems of particles and rigid bodies with special reference to Lagrangian equations. Hamilton's principle and variational methods.

621. (221.) Theory of Elasticity (3)
Prerequisites: Engineering Mechanics 301 and credit or concurrent registration in Engineering 510 or Mathematics 340B.
Analysis of stress and strain: stress-strain relations; the equations of elasticity; uniqueness theorems; compatibility conditions; flexure and torsion. Vector and tensor notation will be used.

643. (243.) Advanced Fluid Mechanics I (3)
Prerequisites: Engineering Mechanics 340 and credit or concurrent registration in Engineering 510 or Mathematics 340B.
Fluid kinematics and kinetics. Conservation of mass, energy, and momentum, applied to Newtonian fluids. Navier-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 510 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.
725. (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.  

744. (244.) Advanced Fluid Mechanics II (3)  
Prerequisite: Engineering Mechanics 643.  

796. (296.) Advanced Topics in Mechanical Engineering Mechanics I (2 or 3)  
Advanced study in the field of mechanical 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.

**UPPER DIVISION COURSES IN MECHANICAL ENGINEERING**

510. (1468.) Advanced Machine Design (3)  
Prerequisite: Mechanical Engineering 314.  
Advanced topics in strength of materials including energy methods, stress concentrations, curved beams, and thick-walled cylinders. Applications to design of machine elements. (Formerly numbered Engineering 532.)

512. (183.) Simulation of Engineering Systems (3) I, II  
Two lectures and three hours of laboratory.  
Prerequisites: Engineering 120 and 310.  
Analysis and design of engineering systems using modern analog and digital computers.  
Simulation of dynamic systems. Application to problems in mechanics, heat transfer, thermodynamics, and control systems. (Formerly numbered Engineering 541.)

514. Experimental Stress Analysis (3)  
Prerequisite: Mechanical Engineering 314.  
Advanced study of resistance of materials, fatigue theories and experimental stress analysis.  
Methods will include photoelasticity, brittle lacquers, strain gauges, grid methods, and analogs for determining static and dynamic stress distributions. Laboratory demonstrations. (Formerly numbered Mechanical Engineering 533.)

520. (147A.) Introduction to Mechanical Vibrations (3)  
Prerequisite: Engineering Mechanics 301.  
Analysis of mechanical vibration; single- and multi-degree of freedom systems; free and forced vibrations; vibration isolation; vibration absorbers. Theory of vibration measuring instruments. (Formerly numbered Engineering 533.)

521. (147B.) Vibration, Shock and Noise Measurements (3)  
Prerequisite: Mechanical Engineering 512.  
Experimental problems utilizing vibration excitation equipment, recording systems, transducers, sound analysis systems and analog computers. (Formerly numbered Engineering 534.)

530. (198.) Automatic Control Systems (3)  
Prerequisites: Engineering 310, Electrical Engineering 303 and Engineering Mechanics 220.  
Not open to students filing an electrical engineering master plan.  
Analysis of the input-output characteristics of linear, mechanical, electrical, hydraulic, and pneumatic control systems. (Formerly numbered Engineering 536.)

540. (109.) Nonmetallic Materials (3)  
Two lectures and three hours of laboratory.  
Prerequisite: Mechanical Engineering 340.  
Fundamentals of plastics, reinforced plastics, and ceramics. Analysis of effect of physical properties upon selection of a material for use in design. (Formerly numbered Engineering 530.)

560. (143.) Gas Dynamics (3)  
Thermodynamics of high velocity compressible fluid flow; shock waves; isentropic and diabatic flow. Applications to the propulsive duct and discharge nozzles. (Formerly numbered Engineering 538.)

580. (142.) Elements of Energy Conversion (3)  
Prerequisite: Mechanical Engineering 350.  
Principles of physics and chemistry applied to the analysis of a broad spectrum of energy conversion devices from an engineering point of view. (Formerly numbered Engineering 537.)

582. (144.) Thermal Environmental Engineering (3)  
Prerequisite: Mechanical Engineering 470.  

584A-584B. (160A-160B) Principles of Chemical Engineering (3-3)  
(Same course as Chemistry 500A-500B.)  
Prerequisite: Credit or concurrent registration in Mechanical Engineering 350 or Chemistry 310A or 410A.  
Industrial stoichiometry; fluid flow and heat transfer as applied to unit operations such as evaporation, distillation, extraction, filtration, gas-phase mass transfer, drying, and others. Problems, projects, and field trips. (Formerly numbered Engineering 540A-540B.)

596. (1969.) Advanced Mechanical Engineering Topics (1-3) I, II  
Prerequisites: Minimum grade point average of 3.0 in mechanical engineering or approval of the department chairman.  
Modern developments in mechanical engineering. Maximum credit six units for any combination of Mechanical Engineering 496, 499 and 596. (Formerly numbered Engineering 593.)

**GRADUATE COURSES IN MECHANICAL ENGINEERING**

613. Engineering Design: Advanced Mechanisms (3)  
Prerequisites: Engineering 510, Mechanical Engineering 512 and 513.  
A continuation of Mechanical Engineering 512. Problems from recent publications.

616. (276.) Bearing Design and Lubrication (3)  
Prerequisite: Engineering 510.  
Fiction and wear of materials. Boundary and thin film lubrication. Design of incompressible and compressible fluid bearings; rolling-element bearings.

621A-621B. (220A-220B) Mechanical Vibrations (3-3)  
Prerequisites: Engineering 510, Mechanical Engineering 512 and 520.  
Topics in vibration relating to mechanical design such as nonlinear vibrations, distributed mass systems, random vibrations, mobility analysis, isolator design.

631. (224.) Fluid Power and Control Systems (3)  
Prerequisite: Mechanical Engineering 530.  
Analysis of dynamic performance of physical systems such as pneumatic, hydraulic and hot-gas.  
Transient forces and valve instability. Servo characteristics.

632. (246.) Advanced Topics in Automatic Controls (3)  
Prerequisite: Mechanical Engineering 530.  
Synthesis of linear control systems. Analysis of nonlinear systems by describing function and phase plane methods. Sampled data systems analysis; statistical design techniques and adaptive control.

645. (233.) Mechanical Metallurgy for Engineers (3)  
Prerequisites: Mechanical Engineering 340 and 350.  
Fundamental of plastic deformation of crystalline solids; elementary theory of statics and dynamics of dislocations, deformation, fracture and metallurgical variables on mechanical properties; environment-failure interactions.

651. (250.) Analytical Thermodynamics (3)  
Prerequisite: Engineering 310.  
Advanced concepts of macroscopic thermodynamics. Application of thermodynamics to special systems.
Family Studies and Consumer Sciences

Faculty

Director, Family Studies and Consumer Sciences: D. M. Fulcomer
Graduate Adviser: D. W. Hewes
Candidacy Adviser: K. J. Martin
Professors: Cannon, Fulcomer, Guille, Price, Schupp
Associate Professors: Josephson, Mhte, Price, Stoll
Assistant Professors: Dickerson, Hewes, Kvaleek, Martin, Ross, Schupp

Assistantships

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

General Information

Family Studies and Consumer Sciences, in the College of Professional Studies, 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 bachelor's degree in home economics or a related field, and satisfy the prerequisites of the courses of study leading to the master's degree in home economics. The student must have a grade point average of 3.0 in the last 90 units of undergraduate study. The student must be approved for admission by graduate faculty of Family Studies and Consumer Sciences.

Advancement to Candidacy

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

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 catalog, the student must have a grade point average of 3.0 in the last 90 units of undergraduate study. The student must submit a letter stating reasons for choosing graduate work in Family Studies and Consumer Sciences. The student must be approved for admission by graduate faculty of Family Studies and Consumer Sciences.

Women's studies and Consumer Sciences
Courses Acceptable on Master's Degree Programs in Home Economics

UPPER DIVISION COURSES

507. Processing Food and Nutrition Data (3) II
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 402A and 403.
Application of computer logic to food service management, diet planning and analysis.

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

510. Nutrition and Community Health (3) Irregular
Two lectures and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 402A and 402B.
Exploration of nutrition problems in the community with consideration of current and potential means of resolving them.

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

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

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

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

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

536. Family Study (3) I, II
Prerequisites: Family Studies and Consumer Sciences 135 and Sociology 101.
Dynamics of family living: attitudes, practices, social and psychological interaction and family life patterns in different cultures, social classes and ethnic groups.

539. Family Relationships in Literature (3) I, II
Insights through creative literature into the variations in relationships between the sexes and between generations in various cultures and subcultures. Fiction viewed as social documents which record changing expectations and ways of coping with stress.

541. Consumer Interest (3) II
Prerequisite: Family Studies and Consumer Sciences 240 or 440.
Analysis of consumer legislation, consumer information and consumer protection programs.

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

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

553. Supervised Field Work in Home Management (3) I, II
One lecture and six hours of laboratory.
Prerequisites: Family Studies and Consumer Sciences 371, 451, 536.
Management and social problems as they relate to the home and family. Supervised field work with various community agencies and selected families.

556. Human Development: Infancy (3) I, II
Two lectures and three hours laboratory.
Prerequisites: Family Studies and Consumer Sciences 270 or Psychology 330; Psychology 326. Biology 350 recommended.
Physiological, psychological, social and cultural development of the human organism from birth through age two with directed observation and laboratory demonstration with infants.

575. The Nursery School Program (3) I, II
Prerequisites: Family Studies and Consumer Sciences 371; concurrent registration in Family Studies and Consumer Sciences 575L for one unit only.
Methods, materials, program development, and evaluation of current trends in working with young children.

575L. Laboratory Experiences in Nursery School (1-4) I, II
Three hours of laboratory for each unit of credit.
Prerequisites: Family Studies and Consumer Sciences 371; first unit requires concurrent registration in Family Studies and Consumer Sciences 575. Application to take additional units requires prior consent of instructor. Directed experiences in working with children in child development laboratory and other preschool situations. May be repeated with consent of instructor. Maximum credit four units.

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

577. Administration and Supervision in Nursery Schools (3) Irregular
Prerequisite: Family Studies and Consumer Sciences 575 and 575L or teaching experience in a nursery school.
Problems of organization in conducting schools for young children; interrelationships of staff, personnel practices; communication with teaching staff, parents, and community; records and personnel reports.

579. Advanced Child Study (3) I, II
Prerequisite: Nine units in child development courses.
Directed experiences in various community settings. Emphasis on application of child development principles in working with young children. May be repeated with new content. Maximum credit six units.

584. Occupational Home Economics Programs (3) I
Prerequisite: Twelve upper division units in Family Studies and Consumer Sciences.
Vocational education legislation: development and administration of occupational and career programs in all areas of home economics.

590. Advanced Studies in Family and Consumer Sciences (1-6) Irregular
Prerequisite: Twelve upper division units in Family Studies and Consumer Sciences.
Advanced study of selected topics. Maximum credit nine units. No more than six units may be applied toward either the bachelor's or master's degree.

GRADUATE COURSES

600. Seminar: Foods and Nutrition (3)
Prerequisites: Family Studies and Consumer Sciences 401 and 402A.
Introductory seminar of research and research publications in foods and nutrition.
603. (203.) Seminar in Food Science (3)
Prerequisite: Family Studies and Consumer Sciences 600.
Reading and analysis of basic and applied research in food science.

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 402A-402B.
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 402A-402B.
Nutrition, health, and biochemical growth in children. Conditions leading to malnutrition, the prevention and correction of same.

615. (215.) Seminar: Clothing (3)
Prerequisite: Nine units in the area of clothing.
Selected problems in the field of clothing.

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.) Seminar in Advanced Readings in Human Development (3)
Prerequisites: Family Studies and Consumer Sciences 270 and 579.
Analysis of selected research in human development.

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.

700. (204.) Seminar in Nutrition (3)
Prerequisite: Family Studies and Consumer Sciences 600.
Reading and analysis of basic and applied research in nutrition.

709. (209.) 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.

711. Research Seminar: Foods and Nutrition (1)
Prerequisite: Consent of Foods and Nutrition Graduate Faculty. Discussion of current research by students, faculty and visiting scientists. Each student will participate and presentations will be based on current literature and research projects. Maximum credit three units applicable on a master's degree.
French

Faculty
Chairperson, Department of French and Italian Languages and Literatures: E. R. Jackson
Credential Adviser: T. Cox
Graduate Adviser: H. Nelson
Professors: Jackson, Max, Messer, Nelson, Piffard
Associate Professors: Branen, Glasgow, Woodle
Assistant Professors: Ghibert, Palmer

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.

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 catalog. 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 catalog.

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 catalog, the student must complete a graduate program of at least 30 units which includes a major consisting of at least 24 units in French 799A, Thesis, for those following Plan A.

Students, with the consent of the graduate staff, may elect Plan B, which includes French 798A, Thesis, or Plan C, which includes a comprehensive examination in lieu of the thesis.

Courses Acceptable on Master's Degree Programs in French

UPPER DIVISION COURSES

Prerequisites: French 301 and 302.
The French poetic tradition and its development from the Middle Ages to the present.

511. (117.) Renaissance and Baroque Literature (3)
Prerequisites: French 301 and 302.
Readings from the major writers of the Renaissance and Baroque periods.

GRADUATE COURSES

521A-521B. (111A-111B.) Seventeenth Century French Literature (3-3)
Prerequisites: French 301 and 302.
Semester I: Major seventeenth century dramatists with emphasis on Corneille, Moliere, and Racine. Semester II: Major works of seventeenth century poets and prose writers.

531A-531B. (107A-107B.) Eighteenth Century French Literature (3-3)
Prerequisites: French 301 and 302.
The works of Montesquieu, Voltaire, Rousseau, the Encyclopedistes, as well as the theatre and novel of the period. Outside reading and reports.

541. (110A.) Nineteenth Century French Novel (3)
Prerequisites: French 301 and 302.
Major novelists of the nineteenth century.

543. (105.) Nineteenth Century French Theatre (3)
Prerequisites: French 301 and 302.
Intensive study of nineteenth century plays.

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

552. (115.) Twentieth Century French Theatre (3)
Prerequisites: French 301 and 302.
Major dramatists of twentieth century France.

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.
Seminar in Twentieth Century French Literature (3)
Prerequisite: Eighteen units of upper division 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.

Seminar in Topics in French Literature (3)
Prerequisite: Eighteen upper division units in French.
Study of movement, genre, theme, myth or individual author. May be repeated with new content.
Maximum credit six units applicable on a master's degree.

Seminar in Topics in French Literature (3)
Prerequisite: Eighteen upper division units in French.
Study of movement, genre, theme, myth or individual author. May be repeated with new content.
Maximum credit six units applicable on a master's degree.

Seminar in Topics in French Literature (3)
Prerequisite: Eighteen upper division units in French.
Study of movement, genre, theme, myth or individual author. May be repeated with new content.
Maximum credit six units applicable on a master's degree.

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.

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.

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

Geography

Faculty
Chairman, Department of Geography: W. A. Johnson
Graduate Advisor: N. H. Greenwood
Professors: Eidemiller, Finch, Greenwood, Johnson, Keen, Kiewiet de Jonge, O'Brien, Pryde, Stutz, Taylor, Wright, Yahr
Associate Professors: Blick, Ford, Griffin, Heiges, Quastler
Assistant Professors: Colombo, Fredich, McArthur

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.

General Information
The Department of Geography, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Geography. In addition to the standard program, it is possible to pursue an emphasis in either conservation of environmental quality or transportation. The Master of Arts degree is designed to provide advanced training for (a) students who plan to terminate their graduate studies at the master's level, and (b) those who anticipate additional work leading to the doctoral degree in geography or related fields.

Research and instructional facilities provided by the Department of Geography include an excellent map library, a research center, laboratories for physical geography, soils, cartography, 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 catalog. 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 catalog. In addition, the student must pass a comprehensive oral examination administered by the Department of Geography covering the basic elements of the discipline and the student's 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 catalog, 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.

Standard Program
Students electing the standard geography program must complete at least 24 units selected from courses in geography listed below as acceptable on master's degree programs. The student's program must include a minimum of 21 units in 600- and 700-numbered geography courses including Geography 600 and 610.

Students in the program may elect one of two plans, A or B, to complete the requirements for the degree. Plan A requires the writing of a thesis under Geography 799A as part of the outlined course degree. Plan B requires the writing of a thesis under Geography 799A as part of the outlined course degree. 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 21 units of 600- and 700-numbered courses.
2. Geography 600 (205), Seminar in Geographic Research and Techniques of Presentation (3).
3. Geography 670 (228), Seminar in Environment and Resource Conservation Theory (3).
4. At least nine units taken from the courses listed below:
   - Geography 500-level courses with approval of Graduate Advising Committee
   - Geography 650 (250), Seminar in Systematic Geography (3)*
   - Geography 654 (255), Seminar in Urban and Settlement Geography (3)*
   - Geography 659 (258), Seminar in Urban Transportation (3)
   - Geography 671 (270), Seminar in Problems of Environment and Resource Conservation (3)
   - Geography 675 (275), Seminar in Recreational Geography (3)
   - Geography 687 (288), Seminar in Remote Sensing of the Environment (3)
   - *Topic is approved by student's adviser.

5. At least nine units taken from any of the following:
   - Anthropology 528 (159), Cultural Ecology (3)
   - Biology 520 (110), Ecology (4)
   - Biology 521 (114), Advanced Ecology (3)
   - Biology 526 (170), Regional Field Studies in Biology (1-3)
   - Biology 615 (250), Biogeography (3)
   - Biology 621 (243), Physiological Ecology (3)
   - Biology 622 (246), Behavioral Ecology (3)
   - Biology 625 (244), Physical Aspects of Ecology (3)
   - Biology 630 (240), Seminar in Terrestrial Ecology (2)
   - Biology 631 (241), Seminar in Aquatic Ecology (2)
   - Biology 683 (261), Seminar in Environmental Radiation (2)
   - Economics 755 (238), Seminar in Urban and Regional Economics (3)
   - Economics 777 (222), Seminar in Utilities and Energy Resources (3)
   - History 540 (185), Environmental History of the United States (3)
   - History 635 (251), Seminar in United States History (3)
   - Public Administration 512 (148), The Metropolitan Area (3)
   - Public Administration 620 (260), Seminar in Management of Urban Governments (3)
   - Public Administration 660 (260), Administration and Public Policy Development (3)
   - City Planning 610 (CP 265A), Seminar in Urban Planning (3)
   - City Planning 620 (CP 265B), Seminar in Urban Planning Methodologies (3)
   - City Planning 630 (CP 265C), Seminar in Urban Planning Implementation (3)
   - City Planning 640 (CP 266D), Seminar in Urban Planning Theory (3)
   - City Planning 650 (CP 260), Seminar in Urban Theory (3)
   - City Planning 660 (CP 265), Seminar in Planning Administration (3)
   - City Planning 670 (CP 262), History of Urban Planning (3)
   - City Planning 670 (CP 261), Urban Design and Land Use Planning Studio (6)
   - City Planning 720, Seminar in Environmental Planning and Management (3)
   - City Planning 730, Seminar in Urban Transportation Planning (3)
   - Sociology 550 (150), Population Problems (3)
   - Sociology 557 (157), Urban Sociology (3)
   - Sociology 730 (250), Seminar in the Community (3)
   - Sociology 770 (270), Seminar in Population and Demography (3)

Graduate 500-level courses in other departments that are not listed above may be taken if approved by the geography graduate advisory committee.

6. Three units selected from:
   - Geography 795 (296), Geographic Internship (3)
   - Geography 798 (298), Special Study (1-3) Cr/NC
   - Biology 798 (298), Special Study (1-3) Cr/NC
   - Economics 798 (298), Special Study (1-3) Cr/NC
   - History 798 (298), Special Study (1-3) Cr/NC
   - City Planning 798 (CP 298), Special Study (1-3) Cr/NC
   - Sociology 798 (298), Special Study (1-3) Cr/NC

7. Three units in:
   - Geography 799A (299), Thesis (3) Cr/NC
   - Geography 797 (297), Research (1-3) Cr/NC

Emphasis in Transportation

The requirements for students electing an emphasis in transportation are as follows:

1. A minimum of 30 units, including 21 units of 600- and 700-numbered courses.
2. Geography 600 (205), Seminar in Geographic Research and Techniques of Presentation (3).
3. At least 12 units, none of which will be 699- or 799-numbered to be taken from courses listed below:
   - Geography 558 (160), Advanced Transportation Geography (3)
   - Geography 559 (159), Urban Transportation Geography (3)
   - Geography 658 (258), Seminar in Geography of Transportation (3)
   - Geography 659 (259), Seminar in Urban Transportation (3)
   - Geography 660 (260), Seminar in Spatial Structure of Transport Systems (3)
   - Geography 665 (254), Seminar in Urban and Settlement Geography (3)*
   - Geography 665 (256), Seminar in Location of Urban Activities (3)*
   - *May be taken only if topical offering is approved by the student's adviser.

4. At least nine units to be taken from the courses listed below:
   - Civil Engineering 620 (220), Traffic Engineering (3)
   - Civil Engineering 622 (222), Mass Transit Engineering (3)
   - Civil Engineering 761 (281), Seminar in Transportation Engineering (2 or 3)
   - City Planning 730, Seminar in Urban Transportation Planning (3)
   - Sociology 798 (298), Seminar in Transportation Planning (3)
   - Geography 798 (298), Special Study (3) Cr/NC - Regulated Industries (USD Law Course)
   - Geography 799A (299), Thesis (3) Cr/NC

5. Geography 796 (296), Geographic Internship (3)
   - (Must be in approved transportation activity)

6. Three units in:
   - Geography 799A Thesis (3) Cr/NC (Plan A)
   - Geography 797 (297), Research (1-3) Cr/NC (Plan B)

7. A student should have completed a qualitative methods course prior to initiating the program, or take Geography 585, Quantitative Methods in Geographic Research (3) concurrently.

Courses Acceptable on Master’s Degree Programs in Geography

UPPER DIVISION COURSES

501. (101.) Climatic Physiography (3)
   - Prerequisite: Geography 400
   - Emphasis: Origin and morphology of landforms with emphasis on the external forces. Occasional field trips may be arranged.

502. (102.) Structural Physiography (3)
   - Prerequisite: Geography 400
   - Emphasis: Origin and morphology of landforms with emphasis on internal forces. Occasional field trips may be arranged.

503. (103.) Fluvial and Eolian Physiography (3)
   - Prerequisite: Geography 400
   - Emphasis: Flowing water and the wind as agents in shaping the land. Transportation of material by water and wind. Occasional field trips may be arranged.
504. (104.) Coastal and Submarine Physiography (3)
Prerequisite: Geography 400.
Analysis of marine waves, of their modification in shallow waters, of coastal currents and tides. Interpretation of coastal and submarine relief in relation to environmental processes and their modification by man. Occasional field trips may be arranged.

505. (105.) Geography of Soils (3) II
Prerequisite: Geography 101.
The nature, properties and distribution of soils and their relationships to the influence of climates, landforms, and human activity. Occasional field trips may be arranged.

506. (106.) Geography of Soils Laboratory (1)
Three hours of laboratory. Prerequisite: Credit or concurrent registration in Geography 505. Theories of soil genesis, edaphology and structure related to empirical phenomena through laboratory experimentation and observation. Best suited to concurrent enrollment in Geography 505. Occasional field trips may be arranged.

507. (107.) Geography of Natural Vegetation (3) I, II
Prerequisite: Geography 101.
The natural vegetation associations of the world, their distribution, classification and development, including relationship to human activities.
A. Lecture course (occasional field trips may be arranged)
B. Fieldwork course

508. (100A.) Physical Climatology (3) I
Prerequisite: Geography 103.
Effects of latitude, altitude, mountains, ocean currents, wind systems, and various surfaces on the distribution of solar radiation, temperature, precipitation, and other climatic elements. Statistical reduction and interpretation of climatic data.

509. (100B.) Regional Climatology (3) II
Prerequisite: Geography 103.
The causes of climatic types as they occur throughout the world. Principles of several climatic classifications.

521. Urbanization and Modernization in Latin America (3)
Prerequisite: Geography 102, 323 or 324.
Analysis of specific aspects of urbanization and modernization processes in Latin America. Emphasis on changing spatial relationships resulting from rapid urban growth and culture change. Occasional field trips.

522. Historical Geography of Latin America (3)
Prerequisite: Geography 102, 323 or 324.
Changes in the Latin American cultural landscape over time. The peopling, exploration, settlement and changing geographical patterns of all or a part of the region. Origin and diffusion studies will be stressed.

554. (157.) Quantitative Methods of Urban Analysis (3)
Prerequisites: Geography 555 or 556, and 585.
Spatial models of urban activities and land use, population distribution and allocation, and computer applications in urban analysis, including computer methods of mapping and graphing.

555. (155.) Urban Location and Settlement Geography (3)
Prerequisite: Geography 154 or 354.
Analysis of urban and other agglomerated settlements in terms of their spatial arrangement, principal functions, economic base, and supporting areas. Occasional field trips may be arranged.

556. (156.) Internal Spatial Structure of Cities (3)
Prerequisite: Geography 154 or 354.
Geographic principles and characteristics concerning the internal structure and functioning of urban centers, including discussions of internal problems of our cities today. Field reconnaissance in urban centers. Occasional field trips may be arranged.

558. (159.) Advanced Transportation Geography (3)
Prerequisite: Geography 358 or 559.
Topics in the spatial analysis of transportation, e.g., spatial interaction patterns, diffusion process, models in spatial analysis. Occasional field trips may be arranged.
Geography 170 or 370 and approval of departmental graduate advisory committee are recommended.

Prerequisite: Approval of departmental graduate advisory committee.

Emphasis on man-land relationship in natural environmental quality. May be repeated once for credit with different content.

Prerequisites: Geography 575 and approval of departmental graduate advisory committee.

Investigation of specific problem areas in natural resources conservation or in the maintenance of environmental quality. May be repeated once for credit with different content.

Prerequisites: Geography 556 and approval of departmental graduate advisory committee.

Directed study and research on selected topics in transportation geography. Occasional field trips may be arranged.

Prerequisites: Geography 575 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.

Prerequisites: Geography 575 or 556 and approval of departmental graduate advisory committee.

Research in one of the fields of geography. Preparation of a project or thesis for the master's degree.

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

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.

Prerequisites: Prior registration in Thesis 799A with an assigned grade symbol of SP. Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis is granted final approval.
Geological Sciences

Faculty
Chairman, Department of Geological Sciences: R. W. Berry
Graduate Adviser: M. J. Walawender
Professors: Berry, Gastl, Krummenacher, McEuen, Peterson, Roberts, Treeet
Associate Professors: Abbott, Kern, Placzek
Assistant Professors: Bertine, Dorman, Walawender

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

General Information
The Department of Geological Sciences, in the College of Sciences, offers graduate study leading to the Master of Science degree in 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 catalog. 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 catalog, students must pass the Graduate Record Examination in Geology (Advanced Test) 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 catalog. Students will be required to attend an examination in the graduate course of their major field. This examination will be taken at the conclusion of the last semester of graduate work. A grade of B or better must be earned in this examination. In addition, the candidate 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.

Courses Acceptable on Master's Degree Programs in Geological Sciences

UPPER DIVISION COURSES

502. (102.) Geology of North America (3) I
Prerequisite: Geological Sciences 106.
A regional analysis of North American geology, its structural, stratigraphic, and tectonic patterns and hypotheses concerning their origin and evolution.

505. (105.) Photogeology (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 305 and 314.
Geologic interpretation of aerial photographs, elementary stereoscopy and stereometry applied to structural and stratigraphic problems, and compilation of geologic maps from annotated aerial photographs.

506. (106.) Paleontology (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and Biology 100 and 100L.
Principles and methods exemplified by a study of the morphology, classification, habit, and geologic significance of fossil invertebrates.

Vertebrate Paleontology, see Zoology 560.

507. (107.) Stratigraphy (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and 224.
Stratigraphic principles and practices. Consideration of the North American stratigraphic record.

508. (108B.) Field Geology (4) I, II
One lecture and three hours of laboratory and twelve Saturday field sessions.
Prerequisite: Geological Sciences 308.
Geologic investigation of an assigned area with preparation of an individual report and a geologic map.

510. (110.) Petroleum Geophysics (3) I
Two lectures and three hours of laboratory. Occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques as presently used in oil exploration.

512. (112.) Mining Geophysics (3) II
Two lectures and three hours of laboratory or occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques used for delineation of ore bodies.

516. (116.) Micropaleontology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 506.
The morphology, classification, and geologic significance of the various microfossils.

520. (120.) Ore Deposits (3) I
Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.
Geologic relations, origin, distribution, and economics of metallic and nonmetallic mineral deposits.

521. (121.) Petroleum Geology (3) II
Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.
Geologic occurrence of petroleum and the application of geologic principles in exploration and production.

524. (124.) Optical Mineralogy (3) I
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 221.
Theory and use of the polarizing microscope for determining optical properties of minerals as an aid to their identification.

Associate Professors: Bertine, Dorman, Walawender

Graduate Adviser: M. J. Walawender

Chairman, Department of Geological Sciences: R. W. Berry

Assistant Professors: Bertine, Dorman, Walawender

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

General Information
The Department of Geological Sciences, in the College of Sciences, offers graduate study leading to the Master of Science degree in 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 catalog. 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 catalog, students must pass the Graduate Record Examination in Geology (Advanced Test) 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 catalog. Students will be required to attend an examination in the graduate course of their major field. This examination will be taken at the conclusion of the last semester of graduate work. A grade of B or better must be earned in this examination. In addition, the candidate 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.

Courses Acceptable on Master's Degree Programs in Geological Sciences

UPPER DIVISION COURSES

502. (102.) Geology of North America (3) I
Prerequisite: Geological Sciences 106.
A regional analysis of North American geology, its structural, stratigraphic, and tectonic patterns and hypotheses concerning their origin and evolution.

505. (105.) Photogeology (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 305 and 314.
Geologic interpretation of aerial photographs, elementary stereoscopy and stereometry applied to structural and stratigraphic problems, and compilation of geologic maps from annotated aerial photographs.

506. (106.) Paleontology (3) I, II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and Biology 100 and 100L.
Principles and methods exemplified by a study of the morphology, classification, habit, and geologic significance of fossil invertebrates.

Vertebrate Paleontology, see Zoology 560.

507. (107.) Stratigraphy (3) II
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 105 and 224.
Stratigraphic principles and practices. Consideration of the North American stratigraphic record.

508. (108B.) Field Geology (4) I, II
One lecture and three hours of laboratory and twelve Saturday field sessions.
Prerequisite: Geological Sciences 308.
Geologic investigation of an assigned area with preparation of an individual report and a geologic map.

510. (110.) Petroleum Geophysics (3) I
Two lectures and three hours of laboratory. Occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques as presently used in oil exploration.

512. (112.) Mining Geophysics (3) II
Two lectures and three hours of laboratory or occasional field trips.
Prerequisites: Geological Sciences 305, Mathematics 152, Physics 195, 195L, 196, 196L, 197, 197L.
Airborne, surface, and bore-hole geophysical techniques used for delineation of ore bodies.

516. (116.) Micropaleontology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 506.
The morphology, classification, and geologic significance of the various microfossils.

520. (120.) Ore Deposits (3) I
Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.
Geologic relations, origin, distribution, and economics of metallic and nonmetallic mineral deposits.

521. (121.) Petroleum Geology (3) II
Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.
Geologic occurrence of petroleum and the application of geologic principles in exploration and production.

524. (124.) Optical Mineralogy (3) I
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 221.
Theory and use of the polarizing microscope for determining optical properties of minerals as an aid to their identification.
525. (120) Petrography (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 524.
A study of rocks with the polarizing microscope; identification of mineral constituents; interpretation of textures; classification of rocks; problems of genesis.

526. (120) Sedimentology (3) I
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 105 and 224.
Origin, description, and classification of sedimentary rocks and structures.

530. (130) Geochemistry (3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 105.
The relationship of basic chemical principles to geologic phenomena and environments, including applications to geologic exploration problems.

531. (131) Advanced Geochemistry (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 530.
Application of physical-chemical methods and principles to the solution of geologic problems. Emphasis on genesis of ore deposits and pollution geochemistry.

540. (140) Marine Geology (3) I
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 105, and either Geological Sciences 224, 314, 502, or 506.
The morphology, composition, structure, history, and geologic processes of the earth beneath the sea.

545. Descriptive Physical Oceanography (3) I, II
Prerequisites: Mathematics 121 and 122 or 150; Physics 124A or 195, 195L.
Physical environment of oceans including heat, water, and salt budgets; physical properties of seawater, sea ice, air-sea relationships; effects of light and sound, distribution of temperature, salinity, density, surface currents, deep circulation, water mass formation, instruments and methods of study.

546. Theoretical Physical Oceanography (4) I
Prerequisites: Mathematics 121 and 122 or 150; Physics 124A or 195, 195L.
Physical principles behind the dynamics of oceans, covers physical principles behind surface waves, internal waves, seiches, tsunamis, storm surges, wind wave generation and forecasting, tides, currents, air-sea interaction, heat and light transmission.

548. Coastal and Estuarine Physical Oceanography (3) II
Prerequisites: Mathematics 121 and 122 or 150; Physics 124A or 195, 195L.
Physical processes of marine coastal areas and estuaries; includes longshore currents, rip currents, real waves in shallow water, wave refraction and diffraction, mechanics of sediment transport, forces and dynamics of estuarine circulations and tides.

550. (150) Engineering Geology (3) I
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 224.
Case histories selected to demonstrate the application of geology to the location, design, and maintenance of engineering projects.

551. (151) Groundwater Geology (3) II
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 224.
Geologic factors controlling the occurrence, movement and development of groundwater.

560. (160) X-Ray Diffraction (2) II
One lecture and three hours of laboratory.
Prerequisites: Chemistry 200, 200L, 201, 201L; Mathematics 150; Physics 124A-124B and 125A-125B, or 195, 196, 196L, 197, 197L; and credit or concurrent registration in either Chemistry 310A or 410A, Engineering Mechanics 260, Geological Sciences 221, or Physics 354A.
Theory and application of x-ray diffraction to the study of materials.

573. (173) Advanced Palynology (3) II
One lecture and six hours of laboratory.
Prerequisite: Botany 572.
Investigating problems in anthropology, botany and geology using spores, pollen grains and inoculants.

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: Geological Sciences 508.
Experience in one or more specialized aspects of field mapping.

609. (209.) Igneous Petrology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 525.
Investigation of problems in igneous petrology, using petrography, geochemistry, and experimental methods.

611. (211.) Metamorphic Petrology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 525.
Investigation of problems in metamorphic petrology using petrography, geochemistry, and experimental methods.

612. (212.) Petrology of Carbonates (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 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: Geological Sciences 507.
Development of concepts and practices in stratigraphic and geochronologic synthesis critically reviewed in context of current knowledge of the fossil record.

625. (225.) Paleoecology (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 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: Geological Sciences 507.
Regional stratigraphic patterns in North America and their historical implications.

633. (235.) Petrology of Terrigenous Rocks (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 524 and 526.
Thin-section and hand-specimen description and classification of sandstones and mud-rocks, and their historical implications.

Emphasis on mineralogy, modern depositional processes, environmental interpretation, and paleoecologic reconstruction.
Geological Sciences

640. (240.) Geotectonics (3)
Prerequisite: Geological Sciences 305.
A consideration of topics on continental genesis and evolution, orogeny, plate tectonics theory, and a survey of classic geologic provinces.

645. (245.) Advanced Structural Geology (3)
Prerequisite: Geological Sciences 305.
Topics in advanced structural geology in the light of petrographic, geophysical, and experimental data, combined with classic field observations.

650. (250.) Seminar: Physical Properties of Earth Materials (3)
Prerequisite: Geological Sciences 510 or 512.
Theoretical principles and instrumental techniques used to remotely determine the physical properties of earth materials.

660. (260.) Isotope Geology (3)
Two lectures and three hours of laboratory.
A survey of isotopic and geochronologic topics with individual projects in isotope analysis.

680. (280.) Sedimentary Geochemistry (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 530.
Problems in low temperature geochemistry, including clay mineralogy and diagenesis.

685. (285.) Genesis of Ore Deposits (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 520, 525; and Geological Sciences 530 or four units of physical chemistry.
Application of mineralogy, petrography, and chemistry to an understanding of the origin of ore deposits.

797. (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

Faculty
Chairman, Department of Germanic and Slavic Languages and Literatures: L. A. Kozlik
Graduate Adviser: Julian Wulbern
Credential Adviser: H. W. Paulin
Professors: Boney, Kozlik, Paulin, Schaber, Tanaka, Westervelt, Wulbern
Associate Professor: Dunn

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.

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, are extensive.

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 catalog. An undergraduate major in German must have 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 catalog, 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 catalog, the student must complete a graduate program of at least 30 units which includes a major consisting of at least 24 units of coursework in German of which at least 15 units must be in 600- and 700-numbered courses including German in Germanic of which at least 15 units must be in 600- and 700-numbered courses including German in Germanic.
Courses Acceptable on Master’s Degree
Programs in German

UPPER DIVISION COURSES

505. (148) Applied German Linguistics (3)
Prerequisite: German 301 and 302.
Linguistic study of modern German; integration of modern linguistic theory with the language classroom.

510. (150) German Phonetics (3)
Prerequisites: German 202 and 212.
Sounds and intonation of German.

515. Germanic Linguistics (3)
Prerequisites: German 202 and 212.
Structural and comparative Germanic linguistics.

540. (107) German Literature from its Beginning to the Reformation (3)
Prerequisites: German 202 and 212.
Literature from the eighth century to about 1500.

545A-545B. (103A-103B.) German Literature of the Eighteenth Century (3-3)
Prerequisites: German 202 and 212.
The literature of the German Enlightenment, the "Storm and Stress," the Classical Age. Outside readings and reports.

549. (115) Goethe's Faust (3)
Prerequisites: German 202 and 212.
Goethe's Faust, Parts 1 and 2; its philosophical content and its position in German and European literature; lectures, reading, reports.

555A-555B. (105A-105B.) German Literature of the Nineteenth Century (3-3)
Prerequisites: German 202 and 212.
The literature of German Romanticism, Young Germany, Realism, and Naturalism. Outside readings and reports.

561A-561B. (110A-110B.) Contemporary German Literature (3-3)
Prerequisites: German 202 and 212.
The main developments in German literature from Neo-Romanticism to the present. Outside readings and reports.

563. (111) Contemporary German Drama (3)
Prerequisites: German 202 and 212.
German drama from Hauptmann to the present.

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) Seminar in Renaissance and Baroque Literature (3)
Prerequisite: Twelve upper division units in German.
German literature of the sixteenth and seventeenth centuries.

655. (208) Seminar in Goethe (3)
Prerequisite: Twelve upper division units in German.
Goethe's lyric, epic, and dramatic poetry excluding Faust.

665. (206) Seminar in 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) Seminar in 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.

690. (204) Seminar in 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 units in German or six upper division units in linguistics. 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.

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 registration required in any semester or term following assignment of SP in Course 799A in which registration is granted. Student must expect to use the facilities and resources of the university and must have been registered in the course when the completed thesis is granted final approval.
Health Science and Safety

Faculty
Chairman, Department of Health Science and Safety: R. Grawunder
Credential Adviser: W. D. Sorochan
Graduate Adviser: L. A. Harper
Professors: Bender, Burgess, Grawunder, Harper, McTaggart, Sorochan
Associate Professors: Barnes, Boskin, Fellers, Kessler, Noto
Assistant Professor: Seele

Assistantships
Graduate teaching assistantships and graduate nonteaching assistantships in health sciences 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.

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 catalog.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy which are described in Part Three of this catalog.

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 catalog. The minimum 30-unit program consists of at least 24 units in health science and safety selected from those courses listed as applicable on a master's degree program, 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 797. 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. The examination may be repeated only once.

Courses Acceptable on Master's Degree Programs in Health Science

UPPER DIVISION COURSES

510. (160.) Workshop in Health Science and Safety (3) I, II
Selected problems in health science and safety are used as a basis for workshop experiences. Maximum credit, six units; maximum credit three units applicable on a master's degree.

520. (153.) Administration of the School Health Program (3) I, II
Administrative responsibilities of the school health program. Principles, policies, and practices relationships.

552. (181.) Safety Administration (3) I
Prerequisite: Health Science and Safety 341.
Designed to acquaint the student with the basic administrative elements of a modern safety program. (Formerly numbered Health Science and Safety 352.)

560. (160.) Introduction to Public Health (3) I, II
Prerequisite: Health Science and Safety 102 and 400.
Prerequisites: Philosophy, development, organization, administration, and legal aspects of public health in the United States. Disease prevention and control, health education, and the other functions and activities of official health departments, voluntary agencies, private physicians and others engaged in professional health work.

561. (176.) Health and Medical Care (3) I, II
Prerequisite: Senior or graduate standing with a major or minor in health education or a closely related area.
Health values, concepts, and attitudes; health products and facilities; hospital care and hospitalization plans; governmental health controls; economic and cultural influences on health and medical care; professional contributions, relationships, and careers; national and international health programs. Not open to students with credit in Sociology 526.

562. (169.) International Health (3) I, II
Prerequisite: Health Science and Safety 102.
Population dynamics, vital statistics, global disease patterns, and analysis of variations among nations and cultures with respect to health problems and health care services.

573. (175.) Health in Later Maturity (3) I, II
An approach to the conservation of human resources, with emphasis on understandings, attitudes, and practices related to health in later maturity. Designed for those with a personal or professional interest in the field.

574. (172.) Habit-Forming Substances (3) I, II, S
Prerequisite: Health Science and Safety 101 or 301.
Tobacco, alcohol, and other drugs; their use, misuse and abuse.

575. (155.) Sex Education (3) I, II, S
Prerequisite: Health Science and Safety 475.
Philosophy, current procedures, and materials needed for development of healthy attitudes and scientific knowledge appropriate for the understanding of human sexuality.

579. (197.) Supervised Field Experience (1-6) I, II, S
Prerequisite: Community Health Education students: Health Science and Safety 401, 402 and 475. Selected problems in health education. Maximum credit six units. Supervised practical experience in local health agencies and/or schools. Maximum credit six units applicable on a master's degree.

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.) Seminar in 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.

615. (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)
Prerequisite: Health Science and Safety 341 and 347.
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 341.
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.
Problems in Disease Control (3)
Prerequisite: Health Science and Safety 470.
New concepts in the community management of disease. Individual investigation and discussion.

Drug Abuse Education (3)
Prerequisite: Health Science and Safety 574.
Drug abuse education in the school and community.

Health Science and Safety Research (3)
Prerequisites: Health Science and Safety 480 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.

Seminar in 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.

Evaluation Instruments (3)
Prerequisite: Health Science and Safety 490.
Construction, selection and analysis of evaluation instruments in health science and safety.

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. Limited to students following Plan B for the Master of Arts degree in Health Science.

Thesis Extension (0) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Individual study. Maximum credit six units.

Thesis (3) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Preparation of a project or thesis for the master's degree.

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.

Problems in Disease Control (3)
Prerequisite: Health Science and Safety 470.
New concepts in the community management of disease. Individual investigation and discussion.

Drug Abuse Education (3)
Prerequisite: Health Science and Safety 574.
Drug abuse education in the school and community.

Health Science and Safety Research (3)
Prerequisites: Health Science and Safety 480 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.

Seminar in 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.

Evaluation Instruments (3)
Prerequisite: Health Science and Safety 490.
Construction, selection and analysis of evaluation instruments in health science and safety.

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. Limited to students following Plan B for the Master of Arts degree in Health Science.

Thesis Extension (0) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Individual study. Maximum credit six units.

Thesis (3) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Preparation of a project or thesis for the master's degree.

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.

Problems in Disease Control (3)
Prerequisite: Health Science and Safety 470.
New concepts in the community management of disease. Individual investigation and discussion.

Drug Abuse Education (3)
Prerequisite: Health Science and Safety 574.
Drug abuse education in the school and community.

Health Science and Safety Research (3)
Prerequisites: Health Science and Safety 480 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.

Seminar in 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.

Evaluation Instruments (3)
Prerequisite: Health Science and Safety 490.
Construction, selection and analysis of evaluation instruments in health science and safety.

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. Limited to students following Plan B for the Master of Arts degree in Health Science.

Thesis Extension (0) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Individual study. Maximum credit six units.

Thesis (3) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Preparation of a project or thesis for the master's degree.

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.

Problems in Disease Control (3)
Prerequisite: Health Science and Safety 470.
New concepts in the community management of disease. Individual investigation and discussion.

Drug Abuse Education (3)
Prerequisite: Health Science and Safety 574.
Drug abuse education in the school and community.

Health Science and Safety Research (3)
Prerequisites: Health Science and Safety 480 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.

Seminar in 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.

Evaluation Instruments (3)
Prerequisite: Health Science and Safety 490.
Construction, selection and analysis of evaluation instruments in health science and safety.

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. Limited to students following Plan B for the Master of Arts degree in Health Science.

Thesis Extension (0) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Individual study. Maximum credit six units.

Thesis (3) Cr/NC
Prerequisite: Consent of staff, to be arranged with department special study adviser and instructor.
Preparation of a project or thesis for the master's degree.

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.
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 catalog, 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; 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 in the College of Arts and Letters, or in any other accredited college or university, toward a higher degree or credential. In this degree option.

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 approval of the Committee on Scholarships.

**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)
Semester I: Greece to the Roman Conquest. Semester II: Rome to the 5th Century A.D.

503A-503B. (121A-121B) Europe in the Middle Ages (3-3)
European social, cultural, and political developments from the fall of Rome to the Renaissance.

505. (123) The Byzantine Empire (3)
The social, political, cultural, and economic development of the Eastern Roman Empire from the crisis of the third century to the fall of Constantinople in 1453.

508. (131) The Renaissance (3)
The intellectual, artistic, and social transformation of Europe from the 14th through the early 17th century.

509A-509B. (132A-132B) Early Modern Europe (3-3)
Continental Europe in the 17th and 18th centuries: the religious revolt and religious wars, rise of monarchy, baroque culture, the revolutions in commerce and science. Semester I: The 17th century.

510A-510B. (133A-133B) Europe in the 18th Century (3-3)
The "Old Regime" and the influence of the Enlightenment and the Enlightened Despots are emphasized. Semester I: The 18th century to 1763. Semester II: Intellectual and social changes in the quarter century before the French Revolution.

511A-511B. (135A-135B) Europe in the 19th Century (3-3)
Social, political, and economic developments of 19th century Europe.

512A-512B. (137A-137B) Europe in the 20th Century (3-3)
Political and social developments from 1870 to the present.

513A-513B. (141A-141B) History of Scandinavia (3-3)
The major political, social and economic developments in Scandinavia from the Viking Age to the present. Semester I: From the Viking Age to the end of the Napoleonic Wars. Semester II: Modern Scandinavia, 1814 to the present.

514A. (142A) The French Revolution and Napoleonic Era (3) I
Prerequisite: History 105A-105B. France on the eve of the Revolution: the Great Revolution, 1789-1799, the Napoleonic Era.

514B. (142B) Modern France (3) II
Prerequisite: History 105A-105B. The development of France since 1815.

515A-515B. (143A-143B) The Iberian Peninsula (3-3)
Survey of Spain and Portugal and their empires, with emphasis on economic, social, and cultural developments. Semester I: From the beginnings to the early sixteenth century. Semester II: From the sixteenth century to the present.

517A-517B. (146A-146B) Germany and Central Europe (3-3)
A social and political history of Germany and Central Europe. Semester I: From the Reformation to 1814. Semester II: From 1814 to the present.

518A-518B. (147A-147B) Russia and the Soviet Union (3-3)
Semester I: Political, social and economic development of Russia in Europe and Asia from the earliest times to the close of the 19th century. Semester II: Emphasis on the 20th century.

519. (149) Modern Italy (3)
The development of Italy from 1815 to the present.

520A-520B. (151A-151B) England (3-3)
Prerequisite: History 520A is prerequisite to 520B. The evolution of the common law and the development of parliamentary institutions.

521A-521B. (152A-152B) Constitutional History of England (3-3)
Prerequisite: History 520A is prerequisite to 520B. The development of constitutional law and the development of parliamentary institutions.

522A-522B. (153A-153B) Tudor and Stuart England (3-3)

523A-523B. (154A-154B) Modern Britain (3-3)
Semester I: The development of constitutional and social patterns from the Glorious Revolution to the present. Semester II: The development of constitutional and social patterns from the Glorious Revolution to the present. Semester II: The development of constitutional and social patterns from the Glorious Revolution to the present. Semester II: The development of constitutional and social patterns from the Glorious Revolution to the present.

526A-526B. (136A-136B) Intellectual History of Modern Europe (3-3)
Semester I: Intellectual and social history of Europe beginning with the 17th century, with special attention to social and political thought.

527A-527B. (138A-138B) Diplomatic History of Modern Europe (3-3)
Prerequisite: History 520A-105B. Diplomatic relations of the various European states with European and non-European powers. Semester I: From the Concert of Europe (1815) to the Era of Realpolitik in the late 19th century. Semester II: The diplomatic backgrounds and results of two wars.

531A-531B. (171A-171B) Rise of the American Nation (3-3)
The settlement and development of the British colonies in North America and the American Revolution. Stresses the creation of the American nation through modification of Old World institutions in the new environment.
532A-532B. (172A-172B) Development of the Federal Union (3-3)
Prerequisite: History 532A is prerequisite to 532B.
Political, cultural, social, and intellectual aspects of the Confederation and early national period; the Convention of 1787 and establishment of the Constitution; the administrations of Washington through John Quincy Adams. This year course meets the graduation requirements in American history, institutions and ideals; 532A meets the requirement in U.S. Constitution, and 532B includes materials which meet the requirements in California state and local government.

533A-533B. (173A-173B) Jacksonian Democracy, Civil War and Reconstruction (3-3)
Semester I: Territorial expansion, democratic politics, revivalism, and the slavery controversy. Semester II: The Civil War and Reconstruction, emphasizing political affairs and the role of Lincoln.

534. (174) The Rise of Modern America, 1868-1900 (3)
Economic, social, political, and intellectual developments from the end of the Civil War to the close of the 19th century.

535A-535B. (175A-175B) The United States, 1901-1945 (3-3)
The age of reform and the United States as leader of the free world.

536. (175C) The United States in the Nuclear Age (3)
The United States since World War II.

537A-537B. (181A-181B) The Westward Movement (3-3)
The American frontier. Expansion, exploration, settlement and building of the new states, with emphasis on frontier problems of defense, communications, finance, etc.; the development of cultural institutions. The causes, effects and results of the frontier experiences of the American people. This year course meets the graduation requirement in American history, institutions and ideals.

538A-538B. (182A-182B) The American Southwest (3-3)
Semester I: Exploration, colonization and development of the Southwest under Spanish and Mexican rule. Emphasis on frontier institutions and Indian policy. Semester II: Anglo American penetration and acquisition of the Southwest. Themes such as boundary problems, mining, transportation, water, ranching and ethnic relations.

539A-539B. (183A-183B) Black American Civilization (3-3)
Semester I: The Black minority group and its contributions and challenges to American civilization. African backgrounds, slavery, the abolitionists, the free Black. Semester II: Ghetto life, leadership personalities, and protest movements.

540. (185) Environmental History of the United States (3)
The relationship of Americans to their environment from colonial times to the present with emphasis on how attitudes and values have affected personal behavior and public policy toward the land.

541A-541B. (189A-189B) California (3-3)
Political institutions; social, cultural, economic and intellectual development; international background. Semester I: To 1850; Spanish and Mexican heritage. Semester II: 1850 to the present. History 541B will fulfill the requirement in California state and local government.

544A-544B. (176A-176B) American Foreign Policy (3-3)
Semester I: The development of American foreign policy from the Colonial Period to the First World War. Semester II: Developments from the First World War to the present. This year course meets the graduation requirements in American history, institutions and ideals.

545A-545B. (177A-177B) Constitutional History of the United States (3-3)
American constitutional history since the establishment of the federal government. This year course meets the graduation requirement in U.S. Constitution and in American history, institutions and ideals.

546A-546B. (178A-178B) Development of American Capitalism (3-3)
The changes in agriculture, industry, labor, banking, transportation and commerce in a capitalist society with emphasis on the prominent personalities who made the changes possible.

547A-547B. (179A-179B) Intellectual History of the American People (3-3)
Survey of American thought from 1820 to the present, focusing on the ideas of individuals and groups and movements in religion, politics, society, the arts and reform. Emphasis on liberal and conservative thought.

548A-548B. Social History of the United States (3-3)
Historical survey of American society emphasizing demographic trends, the changing role of the family, social structure, immigration patterns, religious movements, developments in education, the economy and entertainment.

Field (d). Latin America

551A-551B. (161A-161B) Mexico (3-3)
Prerequisite: History 115A-115B or 315A-315B.

552A-552B. (162A-162B) History of Brazil (3-3)
Semester I: Colony and empire, 1500-1889, with focus on Portuguese heritage, plantation society. Semester II: The 20th African slavery and its abolition and development of classes and regions. Semester II: The 20th century, with focus on messianism and social banditry, creation of the industrial and military strong state, the federal republic and the economic and cultural development of Brazil.

553A-553B. (163A-163B) The Caribbean Area (3-3)
Development of the Caribbean area with emphasis on the 20th century.

554. (164) The West Coast Nations of South America (3)
The historical development of Chile, Bolivia, Peru and Ecuador with emphasis on race relations and social revolutions in the 20th century.

555. (165A) History of Latin American Popular Culture and Social Thought (3)
Examining the ways Latin Americans have historically viewed their cultures and societies from the dual perspective of elite and mass. Popular Culture—the Latin American self-image reflected in family relations, folklore, myths, legends, popular music and art and mass expression.

558A-558B. (167A-167B) Diplomatic History of Latin America (3-3)
Origins of Inter-American relations; the origins and development of the American States; Latin America in World Affairs.

Field (e). South, Southeast and East Asia

561A-561B. (191A-191B) The Far East (3-3)
Particular, but not exclusive, emphasis on Asian-Western relations. Semester I: Through the 19th century. Semester II: The 20th century.

562. (190A) Civilization of India: The Great Traditions (3)
From earliest times to the eighteenth century including Hindu, Buddhist, and Muslim contributions to Indian society, changing political ideas and institutions, and historic trends in art and literature. (Formerly numbered and entitled History 562A, India—Hindu, Muslim and Modern.)

563. (196B) The Modern Indian Subcontinent (3-3)
The British conquest and colonial policy, Hindu and Muslim nationalism, Gandhi's significance, and the Indian independence movement, and Muslim nationalism. Gandhi's significance, and the Indian independence movement, and Muslim nationalism.

564A-564B. (190A-190B) Southeast Asia (3-3)
Semester I: Cultural traditions of Southeast Asian peoples. Indigenous institutions and foreign stimulus and local response among the peoples of the area.

565. (192) Chinese Civilization (3-3)
China's internal history and institutions during the period of relative isolation; religions, philosophy, literature and the arts.

567A-567B. Modern and Contemporary Chinese History (3-3)
Field (h). Modern and Contemporary Chinese History (3-3)
Modern and contemporary Chinese history.

570. (195) Modern Japan (3)
Japan's development as a modern state, particularly in the 19th and 20th centuries.
571A-571B. (197A-197B) Intellectual History of Modern Asia (3-3)
Asian intellectual history during the 19th and 20th centuries, with special attention to social and political thought.
Field (I). Africa and Middle East

573A-573B. (156A-156B) History of the Near East from the 7th Century
to World War I (3-3)
Prerequisite: History 105A-105B.
Semester I: Medieval Islam from the 7th century A.D. to the rise of the Ottoman Turks. Semester II: The Ottoman Empire to 1914.

574. (157) The Near East in the Twentieth Century, 1914 to Present (3)
Prerequisite: History 105A-105B.
Analysis of sociopolitical and intellectual developments in the Near East during and after World War I.

575A-575B. (158A-158B) Africa (3-3)
Semester I: Civilization of precolonial Africa both north and south of the Sahara from the advent of Islam to 1880. Semester II: Colonial and postcolonial Africa.
Field (g). Topical Subjects

Trends and developments in the recent past which can contribute to an understanding of the problems of our age.

582A-582B. (105A-105B) War and Civilization (3-3)
The political and social implications of warfare, of the development of military technologies, and of changing concepts of military organization. Semester I: Through the eighteenth century. Semester II: Napoleonic Wars to the present.

583A-583B. (106A-106B) The Quest for Peace (3-3)
Prerequisite: Six units in history.
Historical analysis of man's efforts to achieve peace from the Greeks to the present.

584A-584B. (107A-107B) Science and Society (3-3)
The historical development of the interaction between science and other aspects of society, including politics, economics, philosophy, religion and technology. Semester I: The rise of modern science. Semester II: Revolutions in scientific thought and 20th century problems in science and society.

596. Selected Studies in History (3)
Topics in the various fields of history, such as biography, war, science, technology, urbanization, minority groups, immigration and capitalism. Maximum credit six units.

GRADUATE COURSES
All graduate courses in the Department of History have a prerequisite of 12 units of upper division courses in history, or consent of the instructor.

601. (201) Seminar in Historical Method (3)

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.

History / 203
Industrial Studies

Faculty
Chairman, Department of Industrial Studies: H. L. Marsters
Graduate Adviser: G. K. Hammer
Credential Adviser: D. A. Dirkse
Professors: Anderson, Bailey, Dirkse, Hammer, Irgang, McMullen, Thiel
Associate Professors: Guentzler, Lybarger, Masters, McEwen, Rasmussen
Assistant Professors: Ferree, Lawrence, Sorenson

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.

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 catalog. In addition, the student must have completed a bachelor's degree with an undergraduate major in industrial arts. Applicants who do not have an undergraduate major in industrial arts may be admitted to conditionally classified graduate standing on the recommendation of the department, but they will be held responsible for completing the minimum requirements for an undergraduate major in industrial arts.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as described in Part Three of this catalog.

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 catalog, the student must complete a graduate program of at least 30 units which includes a major consisting of a minimum of 24 units in industrial arts from courses listed below as acceptable on the master's degree program. The program must contain at least 24 units of 600- and 700-numbered courses, including Industrial Arts 720 and 790; nine units selected from Industrial Arts 721, 722, 723, and 724; and either Industrial Arts 799A (Plan A) or 795 (Plan B). Students electing Plan B must pass a comprehensive examination upon completion of Industrial Arts 795 and in lieu of the thesis.

Courses Acceptable on Master's Degree programs in Industrial Arts

UPPER DIVISION COURSES IN INDUSTRIAL ARTS

503. (103.) Advanced Industrial Crafts (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 402.
Advanced techniques of industrial crafts. Concentration on the design of craft projects with best utilization of materials. Development, in at least three areas specified by the instructor, of individual exhibits showing originality.

517. (117.) Thermoset Plastics (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 315.
Composition and selection of materials; evaluation of physical and mechanical properties of various thermoset plastics; special techniques for processing and production of thermoset plastics.

523. (123.) Industrial Arts Drawing (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 121; Practice in and analysis of modern industrial drafting techniques and theories.

533. (133.) Applied Metal Forming Operations (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 131.
Theory of conventional and high energy industrial forming processes augmented with laboratory forming experiences.

540. (140.) Photography for Teachers (3)
Six hours of laboratory.
Designed for more mature students to learn photographic skills useful in teaching. Not open to students with credit in Industrial Arts 140.

542. (142.) Advanced Photography (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 140 or 540.
A consideration of advanced negative control, projection-printing techniques, composition and editorial content, architectural and illustrative photography, and flood photoflash techniques.

553. (153.) Woodworking for Teachers (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 351.
Wood finishing, residential building construction techniques, and advanced machine operations.

563. (163.) Industrial Electronics (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 361.
Advanced problems in industrial electronics circuit development, analysis, theory and application.

573. (173.) Accessory Power Systems (3) I, II
Six hours of laboratory.
Prerequisite: Industrial Arts 371.
Study of accessory power systems and technological innovations in education and power related industries.

583. (183.) Industrial Arts Graphic Arts (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 381.
Advanced techniques in developing skills involved in graphic arts facilities.

594. (194.) Recent Trends in Industrial Arts Education (2)
Current trends and practices in the field of industrial arts in secondary education. There will be opportunity for individual work on related problems of interest to members of the class.

596. (196.) Experimental Industrial Arts (1 or 2)
Prerequisite: Consent of instructor.
Individual laboratory work on complex projects on an experimental basis. Maximum credit six units.

INDUSTRIAL TECHNOLOGY COURSES

591. (191.) Industrial Safety (3)
The integration of accident prevention into management functions. The organization of training and safety programs emphasizing the detection and control of hazards, analysis of data, investigations and environment modifications for safety effectiveness.

592. (192.) Industrial Materials (3)
A survey of various types of manufacturing materials used in industry. Evaluation of materials and safety programs emphasizing the detection and control of hazards, analysis of data, investigations and environment modifications for safety effectiveness.
GRADUATE COURSES IN INDUSTRIAL ARTS

600. (200) Seminar (3)
An intensive study in industrial arts, topic to be announced in the class schedule.

601. (201) Advanced Teaching Problems (3)
Prerequisite: 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-electronics; (e) transportation; (f) graphic arts; (g) photography; (h) industrial crafts; (i) plastics. Stress on project design and visual materials. Maximum credit six units applicable on a master's degree.

610. (210) Problems in Industrial Crafts (3)
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)
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)
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)
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)
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)
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)
Six hours of laboratory.
Prerequisite: Industrial Arts 563.
Recent developments in the electronics areas. Special research projects and resource materials.

670. (207) Research in Power Systems for Industrial Arts (3)
Six hours of laboratory.
Prerequisite: Industrial Arts 573.
Research in selected areas of the 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)
Emphasis on organizing and administering programs at all levels in industry and education.

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. (296) Field Work in Industrial Arts (3)
Prerequisites: Teaching experience in industrial arts and consent of instructor.
Preparation of a project or thesis in industrial arts for the master's degree.

799A. (299) Thesis Extension (0) Cr/NC
Prerequisite: Consent of staff; to be arranged with department chairman and instructor.

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

Faculty
Graduate Coordinator: P. F. Flemion

Graduate Advisers:
- Anthropology: J. W. Ball
- Economics: N. C. Clement
- Geography: E. C. Griffin
- History: R. L. Cunniff
- Political Science: B. E. Loveman

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

Committee on Latin American Studies

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. W. Ball</td>
<td>E. C. Griffin, Chairman</td>
</tr>
<tr>
<td>E. M. Berera</td>
<td>B. E. Loveman</td>
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<tr>
<td>J. D. Black</td>
<td>L. V. Podgitt</td>
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<tr>
<td>C. B. Christensen</td>
<td>W. D. Phillips</td>
</tr>
<tr>
<td>N. C. Clement</td>
<td>G. V. Segade</td>
</tr>
<tr>
<td>R. L. Cunniff</td>
<td>P. J. Vanderwood</td>
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<tr>
<td>T. M. Davies, Jr.</td>
<td>J. R. Weeks</td>
</tr>
<tr>
<td>D. M. Dexter</td>
<td>R. D. Weeter</td>
</tr>
</tbody>
</table>

General Information

The Master of Arts degree in Latin American Studies is an interdisciplinary degree offered by designated faculty members in the departments of Anthropology, Art, Economics, Geography, History, Political Science, 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 catalog, 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 catalog. In addition, students must demonstrate an oral and reading proficiency in examination, or (1) satisfactory completion of an oral and written examination administered by the Department of Spanish and Portuguese Languages and Literatures. Portuguese not part of the official program. Students are further encouraged to acquire a reading knowledge of the alternate language.

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Three of this catalog, 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:

<table>
<thead>
<tr>
<th>Department</th>
<th>600- and 700-numbered Courses</th>
<th>500- and 600-numbered Courses</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>6 units</td>
<td>6 units</td>
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<tr>
<td>B</td>
<td>3 units</td>
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<tr>
<td>C</td>
<td>3 units</td>
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</table>

The total program shall include a minimum of 18 units in 600- and 700-numbered courses. Students may select either Plan A or Plan B in consultation with the graduate adviser. In addition to meeting the distribution requirements given above, students electing Plan A must complete the 799A (Thesis) course offered by the department selected for the 12-unit concentration (Department A). Students electing Plan B must pass a comprehensive written and oral examination in lieu of the thesis.

All programs will be approved by the Latin American Studies Committee.

Courses Acceptable on Master’s Degree Programs in Latin American Studies

UPPER DIVISION COURSES

<table>
<thead>
<tr>
<th>Latin American Studies Course</th>
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<tbody>
<tr>
<td>580. Special Topics (1-4)</td>
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<tr>
<td>Prerequisite: Six upper division units in Latin American content courses.</td>
</tr>
</tbody>
</table>

Interdisciplinary study of selected Latin American topics. Credit will vary depending on the scope and nature of the topic. Whenever appropriate, the course will be taught by a team of instructors representing two or more disciplines. May be repeated with different content. Maximum credit eight units.

Anthropology Courses

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)  

Art Courses

561. (151A.) Arts of the Pre-Hispanic Americas (3)  
562. (151B.) Colonial Art of Latin America (3)  

History Courses

538A. (192A.) The American Southwest (3)  
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)  
557. (165.) History of Latin American Popular Culture and Social Thought (3)  
559A-559B. (167A-167B.) Diplomatic History of Latin America (3-3)  

Political Science Courses

566. (194.) Political Change in Latin America (3)  
567. (195.) Political Systems of Latin America (3)  
569. (184.) The Mexican Political System (3)  
582. (173.) International Relations of the Latin American States (3)  

Portuguese Course

535. (135.) Brazilian Literature (3)
### Spanish Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>504A-504B</td>
<td>(104A-104B) Spanish-American Literature (3-3)</td>
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<tr>
<td>515A-515B</td>
<td>(105A-105B) Mexican Literature (3-3)</td>
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<tr>
<td>520</td>
<td>(106) Caribbean Area Countries Literature (3)</td>
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<tr>
<td>522</td>
<td>(108) Latin American Countries Literature (3)</td>
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<tr>
<td>524</td>
<td>(109) River Plate Literature (3)</td>
<td></td>
</tr>
<tr>
<td>570</td>
<td>(170) Spanish-American Poetry (3)</td>
<td></td>
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<tr>
<td>571</td>
<td>(171) Spanish-American Short Story (3)</td>
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<tr>
<td>572</td>
<td>(172) Spanish-American Theatre (3)</td>
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</tr>
</tbody>
</table>

### Applicable Graduate Courses

Refer to graduate course descriptions in the sections of this catalog under the departments of Anthropology, Art, Economics, Geography, History, Political Science, and Spanish and Portuguese Languages and Literatures.

### Anthropology Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>600</td>
<td>(200) Seminar (3)*</td>
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<tr>
<td>634</td>
<td>(257) Classical Nahua (3)</td>
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<td>797</td>
<td>(297) Research (3)</td>
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<td>(298) Special Study (1-3)</td>
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<td>799A</td>
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### Art Courses

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<td>798</td>
<td>(298) Special Study (1-3)</td>
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<tr>
<td>799A</td>
<td>(299) Thesis (3)</td>
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### Economics Courses

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<tr>
<td>660</td>
<td>(292) Seminar in International Economics (3)*</td>
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<tr>
<td>665</td>
<td>(295) Seminar in the Economics of Underdeveloped Countries (3)</td>
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<tr>
<td>797</td>
<td>(297) Research (3)</td>
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<tr>
<td>798</td>
<td>(298) Special Study (1-3)</td>
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<tr>
<td>799A</td>
<td>(299) Thesis (3)</td>
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### Geography Courses

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>620</td>
<td>(220) Seminar in Regional Geography (3)*</td>
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</tr>
<tr>
<td>650</td>
<td>(250) Seminar in Systematic Geography (3)*</td>
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<tr>
<td>797</td>
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<tr>
<td>798</td>
<td>(298) Special Study (1-3)</td>
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<tr>
<td>799A</td>
<td>(299) Thesis (3)</td>
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<td>799B</td>
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### History Courses

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<td>640</td>
<td>(244) Directed Reading in Latin American History (3)</td>
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<tr>
<td>645</td>
<td>(254) Seminar in Latin American History (3)</td>
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<td>797</td>
<td>(297) Research (3)</td>
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<td>798</td>
<td>(298) Special Study (1-3)</td>
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### Political Science Courses

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<td>655</td>
<td>(260) Seminar in General Comparative Political Systems (3)*</td>
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<td>661</td>
<td>(265) Seminar in the Political Systems of the Developing Nations (3)*</td>
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<td>667</td>
<td>(283) Seminar in Latin American Political Systems (3)</td>
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<tr>
<td>795</td>
<td>(291) Problems Analysis (3)*</td>
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<tr>
<td>797</td>
<td>(297) Research in Political Science (3)</td>
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<td>799A</td>
<td>(299) Thesis (3)</td>
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<td>799B</td>
<td>Thesis Extension (0) Cr/NC</td>
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*Acceptable when of relevant content.
Linguistics

Faculty
Chairman, Department of Linguistics: G. F. Drake
Graduate Adviser: S. Elgin
Credential Adviser: S. Elgin
Professors: Frey, Tidwell
Associate Professors: Donahue, Drake, Seright
Assistant Professors: Egin, Underhill, Webb

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.

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 catalog, the student must present the Bachelor of Arts degree in Liberal Arts and Sciences at San Diego State University, or its equivalent with a grade point average of 3.0 in the last 60 semester units attempted. A student whose preparation is deemed insufficient by his graduate adviser will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

Advancement to Candidacy
All candidates must satisfy the general requirements for advancement to candidacy as described in Part Three of this catalog. 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 catalog, the student must complete at least 30 units of upper division and graduate course work to include the following required courses:

2. Three units of graduate seminar—Linguistics 795, Seminar in Linguistics.
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.
6. At least 15 units, including the thesis, must be from 600- and 700-numbered courses.

All programs will be approved by the graduate adviser.

Certificate in Applied Linguistics
The Linguistics Department offers a Basic and an Advanced Certificate in Applied Linguistics. The Advanced Certificate requires 12 units of study consisting of Linguistics 496, 621, 622, and 795. The prerequisite to the Advanced Certificate is the Basic Certificate or its equivalent. For information on the Basic Certificate, please see the General Catalog.

Courses Acceptable on Master's Degree Programs in Linguistics

UPPER DIVISION COURSES IN LINGUISTICS

500. General Linguistics (3)
Prerequisite: Linguistics 101, Introduction to the theoretical principles of transformational-generative phonology.

521. Phonology (3)
Prerequisite: Linguistics 101, Introduction to the theoretical principles of transformational-generative syntax.

522. Syntax (3)
Prerequisite: Linguistics 101, Introduction to the theoretical principles of transformational-generative syntax.

523. Phonemics and Morphemics (3)
The study of procedures for arriving at the phonetic inventory of languages and the structuring of sound units (both linear and intonational) into phonemic systems; the study of morphemic hierarchies and their arrangements in forming words.

524. American Dialectology (3)
The development of American English; regional and cultural differences in pronunciation, grammar and vocabulary.

550. Theory and Practice of English as a Second Language (3)
The nature of language learning; evaluation of techniques and materials for the teaching of English as a second language.

551. Sociolinguistics (3)
Prerequisite: Three units in linguistics or sociology. Investigation of the correlation of social structure and linguistic behavior.

552. Psycholinguistics (3)
Prerequisite: Three units in linguistics or psychology. Psychological aspects of linguistic behavior.

Anthropology Courses

510. Language in Culture (3)

511. Field Methods in Linguistics (3)

German Courses

505. Applied German Linguistics (3)

510. German Phonetics (3)

Philosophy Course

531. Philosophy of Language (3)

Russian Courses

560. Russian Syntax and Stylistics (3)

561. Russian Phonetics and Morphology (3)

Spanish Courses

548. Spanish Linguistics (3)

549. Phonetics and Phonemics (3)

GRADUATE COURSES IN LINGUISTICS

610. Indo-European (3)
Prerequisite: Anthropology 304 or Linguistics 622. 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 521.
Advanced study of linguistic theory and its application to the analysis of English.

640. Field Methods in Linguistics (3)
Prerequisites: Three units of linguistics, including some knowledge of phonetic transcription and consent of instructor.
Principles and techniques of linguistic analysis working directly with native informants, including phonemic, grammatical, and syntactic analysis and text collection and interpretation.

641. (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.

750. Directed Language Study (3)
Prerequisite: Consent of instructor.
Directed independent study of a foreign language not offered within the course structure at San Diego State University with the aim of applying the techniques of intensive linguistic analysis to the syntax, phonology, and semantic structure of that language. No instruction in speaking or understanding the spoken language is included in this course. Maximum credit six units.

795. (225.) 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. (228.) Special Study (1-3) Cr/NC
Prerequisite: Consent of staff, to be arranged with the department chairman and instructor.
Individual study. Maximum credit six units.

799A. (229.) Thesis (3) Cr/NC
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

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

Anthropology Courses
604. (204.) Seminar in Linguistics (3)
630. (222.) Historical Linguistics (3)

French Course
611. (201.) History of the French Language (3)

German Courses
601. (201.) History of the German Language (3)
610. (202.) Middle High German (3)
700. (265.) Seminar in Germanic Linguistics (3)
Literature

Faculty
Graduate faculty in Literature is selected each semester from the general faculty listed below and from visiting professors.

Director, Literature: F. S. Moramarco
Graduate Advisors: G. Sandstrom (Coordinator), J. Bumpus, G. Sanderlin, D. A. Shojaei, K. Widmer
Associate Professors: Adams, E., Borkat, Brown, Bumpus, Faber, Hendler, Kercher, Kehler, Kehler, McCoy, McLeod, Nelson, Nichols, Patterson, Redding, M., Redding, R., Rogers, Rother, Sheres, Taylor, Tranke, Turberg, Wall.
Assistant Professors: Aninger, Boe, Butler, Foster, Gervais, Karnath, Kehler, D., McCaffery, O'Reilly, Rush, Shojai, Sullivan, Wheeler.

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

The Dorothy Cranston Stott scholarship of $100 is awarded each June to an English major who is graduating from San Diego State University and who is continuing work toward a higher degree or credential.

General Information
The Literature faculty, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in English and to postbaccalaureate (nondegree) study.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three of this catalog. Students may be admitted to the graduate program in literature in one of three categories:

1. Unconditional Classified Graduate Standing
   For unconditional acceptance to the graduate program in English and literature students must meet the following requirements:
   a. 24 units of upper division work in English or literature
   b. 2.75 overall on a 4.0 Grade Point Scale
   c. 3.0 grade point average in the English or literature major
   d. 950 on the Graduate Record Examination

2. Conditional Classified Graduate Standing
   a. Conditional acceptance will be granted to a candidate who is below requirements in one of the above. A student may be granted conditional acceptance if there is a deficiency in two or more of the above requirements. A student accepted conditionally must achieve an average of 3.25 in nine units of English or comparative literature courses before proceeding to further study and is limited to 12 units. Any units taken above this quota will not count toward the 30 units for the master's degree in English.
   b. English major unit deficiencies. Students who lack 24 units of credit in upper division courses in English 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 subjects the student will then be given classified graduate standing if they meet the other requirements.

3. Postbaccalaureate Standing (Unclassified-No Degree Objective). See description in Part Three, Admission Section of this catalog.

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 catalog.

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 catalog, the student must complete a graduate program, approved by a graduate advisor and the Graduate Coordinator, 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.

In addition to the above requirements, the candidate must demonstrate a reading knowledge of a relevant foreign language; must pass an oral examination on his or her general knowledge of literature, enrol in English 799A, and write a thesis under departmental supervision. 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, and accepted as relevant by the Graduate Coordinator. (See additional comparative literature foreign language requirement.) 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 advisors. 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.

Students must choose one of the following areas of emphasis:

American Literature

English 600, Introduction to Graduate Study (American Topics) .................. 3
At least one 700-numbered course (American topic) .............................. 3
Any two courses in early English language and literature ...................... 6
(English 590, 610, Linguistics 510, 611, 612, if not previously taken)....... 6
English 799A, Thesis (American topic) ........................................... 9
English electives up to 24-unit minimum ........................................... 6
Other electives (which may be in English or other approved courses) to make up 30-unit master of arts requirement: ............................................. 24
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 700-numbered course (British topic) .................................. 3
Any two courses in early English language and literature (English 590, 610, Linguistics 510, 611, 612, if not previously taken) .................. 6
English 799A, Thesis (British topic) .................................................... 9
English electives up to 24-unit minimum ............................................. 6
Other electives (which may be in English or other approved courses) to make up 30-unit master of arts requirement: ............................................. 24
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 ........................................ 3
(comparative literature topics) ......................................................... 3
At least one 700-numbered course .................................................... 12
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) .............................. 9
Electives (which may be in English or comparative literature or other approved courses) to make up 30-unit master of arts requirement: ....................... 24
Total: ............................................................................................... 30
Courses Acceptable on the Master's Degree in English

UPPER DIVISION COURSES IN ENGLISH

General

All 500-level courses—Prerequisite: Six lower division units in English.

500. (175.) Advanced Composition (3) I, II
The theory and practice of expository writing, including the contributions of semantics, rhetoric, and logic.

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

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

508. (153.) Modern Criticism (3) II
The theory and practice of selected nineteenth and twentieth century critics, with emphasis on the distinctive features of their approaches to literature.

American Literature

521. Major and Minor Periods in American Literature (3) I, II
American literary history treated chronologically, such as a survey of early American literature, the literature of the American Renaissance, literature of the period of Realism and Naturalism, American literature of the first half of the century, or smaller, more specific historical units. May be repeated with new content. Maximum credit six units.

522. Individual American Author (3) I, II
In-depth study of a major American writer. May be repeated with new content. Maximum credit six units.

523. Individual Movement in American Literature (3) I, II
Literary facets of a movement important in American literary history, such as a study of Puritanism, Imagism, Transcendentalism, Southern Gothic, Realism, or Parafiction. May be repeated with new content. Maximum credit six units.

524. Individual Issues in American Literature (3) I, II
Study of a particular issue in American writing, such as American women writers, the erotic in American literature, transatlantic literary relations, the American writer in exile, a particular region, or friendship. May be repeated with new content. Maximum credit six units.

525. Studies in American Fiction (3) I, II
Courses in the history of American fiction from the beginning, in particular periods of fiction writing, in special groups of writers, and in contemporary American fiction. May be repeated with new content. Maximum credit six units.

526. Studies in American Poetry (3) I, II
Courses in the history of American poetry from the beginning, in particular periods of poetry writing, in special groups of poets, and in contemporary American poetry. May be repeated with new content. Maximum credit six units.

527. Studies in American Drama (3) I, II
Courses in the history of American drama from the beginning, in particular periods of drama writing, and in contemporary American drama. May be repeated with new content. Maximum credit six units.

528. History of American Literature (3) I, II
American literary history from the Colonial period to the present. Recommended for English majors.

British Literature

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

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

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

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

536. (112.) Seventeenth Century Literature (3) I
English poetry and prose from 1603 to 1680.

537. (104.) Milton (3) II
Milton's works, with emphasis on Paradise Lost.

538A-538B. (113A-113B.) Restoration and Eighteenth Century Literature (3-3) I, II

540A-540B. (121A-121B.) English Fiction (3-3) I, II

541A-541B. (122A-122B.) English Drama (3-3) I, II
The period of English dramatic literature from its beginnings to the nineteenth century. Semester I: The period from the beginning to 1842. Semester II: The period following reopening of the theatres in 1860.
542A-542B. Nineteenth Century British Poetry (3-3) I, II

543. Nineteenth Century British Prose (3) I, II
Nonfictional prose of the Romantic and Victorian periods.

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

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

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

547. Topics in English Literature (3) I, II

560A-560B. A History of English Literature (3-3) I, II
Survey of major English writers, with emphasis on reading of complete works. Semester I: From the beginning to the neo-classical period. Semester II: Begins with the Romantic writers. Especially appropriate for those students who have not satisfied the lower division survey requirements, for those who will teach English literature, and for those proceeding on to graduate study.

Creative Writing

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

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

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

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

580. The Writing of Poetry (3) I, II
Prerequisite: English 260.
A writing workshop in poetry. May be repeated with new content. Maximum credit six units.

581. The Writing of Fiction (3) I, II
Prerequisite: English 260.
A writing workshop in fiction. May be repeated with new content. Maximum credit six units.

582. The Writing of Nonfiction (3) I
Prerequisite: English 260.
A writing workshop in nonfictional prose. May be repeated with new content. Maximum credit six units.

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

UPPER DIVISION COURSES IN COMPARATIVE LITERATURE

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

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

511. (122.) Continental Renaissance (3)
Representative selections from authors of the Renaissance period in continental Europe.

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

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

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

525. (185.) Yiddish Literature (3) I, II
Selected works from the Jewish communities of Central Europe.

526. (186.) Modern Jewish Literature (3) I, II
Selected works by Jewish authors from the last half of the nineteenth century to the present, with emphasis on American Jews and Hebrew literature.

530. (170.) Asian Literature (3)
Selections from the literature of Asia: Chinese, Japanese, Indian, etc. Topic to be announced in class. May be repeated with new content. Maximum credit six units.

540. (180.) African Literature (3)
Comparative study of African literature as well as Black literature of North and South America and the Caribbean; intercontinental influences and the theme of Black identity.

545. (145.) Modern Latin American Literature (3) I, II
Reading selections from major Latin American authors.

550. (160.) Seminar (3)
An intensive study of a topic to be selected by the instructor. May be repeated with new content. Maximum credit six units applicable on a master’s degree.

556. (150.) The Epic (3)
Selected epic poems from world literature; emphasizes the Western epic tradition from Homer to the present.

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

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

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

570. (196.) Folk Literature (3)
Studies in the ballad, bardic poetry, oral and popular literature and folklore. May be repeated with new content. Maximum credit six units.

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

577. (192.) Major Individual Authors (3)
In-depth study of the works of a major author, such as Shakespeare, Dante, Cervantes, Goethe, Dostoevsky or Proust. May be repeated with new content. Maximum credit six units.

580. (194.) Concepts in Comparative Studies (3)
Basic concepts in comparative studies in literature (e.g., influence, movement, figure, genre, etc.); their validity, usefulness and limitations. May be repeated with new content. Maximum credit six units.

581. (195.) Literary Uses of Languages (3)
Study of the functions of language in literary writings. May take the form of translation workshops, stylistic studies, etc. May be repeated with new content. Maximum credit six units.
595. Literature and Other Arts (3)
Prerequisite: Six lower division units in English, comparative literature or the arts.
Comparative study of literature and such arts as painting, sculpture, architecture, music, dance
and film. May be repeated with new content. Maximum credit six units.

GRADUATE COURSES IN ENGLISH

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.

601. Comparative Literature Theory (3)
Introduction to methods of comparative study involving history and theory of Comparative
Literature as a discipline. Strongly recommended for first semester students who choose an emphasis
in Comparative Literature.

610. (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.

624. British Literature (3)
Prerequisite: Twelve upper division units in English.
Selected works of an author, period, or subject in English literature. Maximum credit six units
applicable on a master's degree.

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)
Prerequisite: 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.

706. (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 the creative process, the critical process, literary translation, teaching of
language 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.

788. (296.) Special Study (1-3) Cr/NC
Prerequisite: Consent of staff; to be arranged with department chairperson and instructor.
Individual study. Maximum credit six units.

798A. (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.
Mass Communications

Faculty
Coordinator, Graduate Programs in Mass Communications: H. L. Anderson

Department of Journalism
Professors: Buckalew, Holowech, Oendahl, Sorensen
Associate Professors: Haberstroh, Whitney
Assistant Professors: Hartung, Spevak, Wulfemeyer

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 catalog.

Mass Communications Committee
H. L. Anderson, Chairman
R. L. Benjamin, Speech Communication
J. Haberstroh, Journalism
M. M. El-Assal, Sociology

F. W. Hornbeck, Psychology
S. W. King, Speech Communication
F. C. Whitney, Journalism
D. G. Wyler, Telecommunications and Film

General Information
The Master of Science degree in Mass Communications is an interdisciplinary degree offered by designated faculty members of the departments of Journalism, Psychology, Sociology, Speech Communication, and Telecommunications and Film. It is administered by the Mass Communications Committee.

The program is designed to offer systematic training for students (1) who plan to continue their study in doctoral or other advanced programs in mass communications or in disciplines emphasizing areas of mass communications; (2) who plan a career in secondary or community college teaching; or (3) who seek a broad background for careers in the mass media, business, or government service.

ADMISSION TO 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 catalog. 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 catalog.
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 catalog.

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 the catalog, 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:

<table>
<thead>
<tr>
<th>Graduate-numbered Courses</th>
<th>Upper Division for Graduate Credit Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 units</td>
<td>6 units</td>
</tr>
<tr>
<td>3 units</td>
<td>3 units</td>
</tr>
<tr>
<td>18 units</td>
<td>12 units</td>
</tr>
</tbody>
</table>

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 standing will be required to complete specified courses to remove any deficiencies in addition to the standing before admission to the graduate program and with a minimum grade average of "B" before the student will be given full classified graduate standing.

Candidates may elect to follow Plan A, requiring a thesis, or Plan B, which requires a comprehensive examination agreed upon by the Mass Communications Committee in lieu of the thesis.

All programs will be approved by the Mass Communications Committee.

Courses Acceptable on Master’s Degree Programs in Mass Communications

UPPER DIVISION COURSES

Journalism Courses

500. (121.) Current Problems in Mass Communications (3) I, II
Forces affecting American mass communications today; Government restrictions, economics, pressure groups, censorship, mechanical developments, interrelationships of the media and society; professional ethics.

502. (102.) Law of Mass Communications (3) I, II
Libel, defamation, privacy, censorship, advertising laws, postal regulations, and constitutional guarantees affecting press, radio, television; rights and responsibilities of communicators in reporting public affairs.

503. (117.) History of Mass Communications (3)
American journalism from colonial times to the present, with special attention to radio and other mass media which have entered the news and entertainment field; the relation of their development to society.

505. (118.) The Foreign Press (3)
The foreign press, international news. Analysis of the foreign media. Problems of propaganda, governmental control, language, and economic support.

507. (122.) Public Opinion Measurement (3)
The history, methods, and problems of public opinion and attitude measurement. Emphasis will be placed upon the polling of consumers and voters. Students will be given field experience.

508. (162.) Mass Communications and Society (3)
Prerequisite: Sociology 101.
Social factors underlying nature, functions of mass media, theories, models, research in media as culture carriers, as opinion shapers, and in relation to government.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>509.</td>
<td>Research Methods in Mass Communications</td>
<td>(3)</td>
<td>Sociology 201</td>
</tr>
<tr>
<td>522.</td>
<td>Reporting of Public Affairs</td>
<td>(3)</td>
<td>Journalism 320, Coverage of the city hall, courthouse, police headquarters, federal agencies, courts, and other public and political centers.</td>
</tr>
<tr>
<td>526.</td>
<td>Advanced Editing Techniques</td>
<td>(3)</td>
<td>Journalism 326, Principles of typography, page layouts, and use of pictorial material, selection, evaluation, editing, and display of news.</td>
</tr>
<tr>
<td>529.</td>
<td>Investigative Reporting</td>
<td>(3)</td>
<td>Journalism 320, Development of articles of substance and depth in specialized fields, Research, analysis, and interpretation of complex issues in the news.</td>
</tr>
<tr>
<td>583.</td>
<td>Problems in Public Relations</td>
<td>(3)</td>
<td>Journalism 481, Current public relations problems of industry, public agencies and other institutions.</td>
</tr>
<tr>
<td>585.</td>
<td>Public Relations Practices</td>
<td>(3)</td>
<td>I, II, Examination of current public relations practices in a wide variety of local commercial, industrial, financial, governmental, cultural and social organizations. Use of the local community's public relations resources. (Formerly numbered Journalism 485.)</td>
</tr>
<tr>
<td>537.</td>
<td>Political Sociology</td>
<td>(3)</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>545.</td>
<td>Sociology of Mass Communication</td>
<td>(3)</td>
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<td></td>
<td>Speech Communication Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>530.</td>
<td>Semantics</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>535.</td>
<td>Theories of Human Communication</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>537.</td>
<td>Empirical Study in Speech Communication</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>540.</td>
<td>Freedom and Responsibilities of Speech</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>575.</td>
<td>Intercultural Communication</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>589.</td>
<td>Ethics of Speech Communication</td>
<td>(3)</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>592.</td>
<td>Persuasion</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td></td>
<td>Telecommunications and Film Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500.</td>
<td>Broadcast Management</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>505.</td>
<td>Regulation of Broadcasting</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>510.</td>
<td>Script Writing for Broadcasting and Film</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>530.</td>
<td>Radio Programming</td>
<td>(3) II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>540.</td>
<td>Broadcast Advertising</td>
<td>(3) I</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>541.</td>
<td>Broadcast Commercial Practices</td>
<td>(3) II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>570.</td>
<td>Educational Telecommunications</td>
<td>(3) I</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>590.</td>
<td>Advanced Programming and Development for Television</td>
<td>(3) I, II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td></td>
<td>International Broadcasting</td>
<td>(3) II</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td></td>
<td>GRADUATE COURSES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600.</td>
<td>Seminar in Scope and Method of Mass Communications</td>
<td>(3)</td>
<td>Intensive preparation in methodology applicable to the various fields related to mass media study.</td>
</tr>
<tr>
<td>700.</td>
<td>Seminar: Media Problems</td>
<td>(3)</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Journalism Courses</td>
<td></td>
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</tr>
<tr>
<td>702.</td>
<td>Seminar: Mass Media and the Law</td>
<td>(3)</td>
<td>Journalism 502 or Telecommunications and Film 505, Case studies of legal restrictions and guarantees affecting radio, television, motion pictures, advertising, and printed media.</td>
</tr>
<tr>
<td>705.</td>
<td>Seminar in International Journalism</td>
<td>(3)</td>
<td>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.</td>
</tr>
<tr>
<td>707.</td>
<td>Seminar in Mass Communications and Public Opinion</td>
<td>(3)</td>
<td>Analysis of media and their opinion-shaping role; methods and effects of pressure groups; propaganda analysis; creation and perpetuation of images and stereotypes.</td>
</tr>
<tr>
<td>708.</td>
<td>Seminar: Mass Communications and Society</td>
<td>(3)</td>
<td>Analysis of media and their opinion-shaping role; methods and effects of pressure groups; propaganda analysis; creation and perpetuation of images and stereotypes.</td>
</tr>
<tr>
<td>740.</td>
<td>Major Projects in Mass Communications</td>
<td>(1-6)</td>
<td>Sociology 201, 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.</td>
</tr>
<tr>
<td>750.</td>
<td>Seminar in Print Advertising Problems</td>
<td>(3)</td>
<td>Journalism 463 or 466, Investigation of the practice, responsibility, and philosophy of advertising in print media with individual projects, cases, and current literature.</td>
</tr>
<tr>
<td>782.</td>
<td>Seminar in Public Relations</td>
<td>(3)</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>798.</td>
<td>Special Study</td>
<td>(1-3)</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>799A.</td>
<td>Thesis</td>
<td>(3) Cr/NC</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td>799B.</td>
<td>Thesis Extension</td>
<td>(0) Cr/NC</td>
<td>Sociology of Mass Communication (3)</td>
</tr>
<tr>
<td></td>
<td>Psychology Courses</td>
<td></td>
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</tr>
<tr>
<td>921.</td>
<td>Seminar in Personnel Psychology</td>
<td>(3)</td>
<td></td>
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<tr>
<td>922.</td>
<td>Seminar in Organizational Psychology</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>700.</td>
<td>Seminar</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>743.</td>
<td>Seminar in Problems in Social Psychology</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>746.</td>
<td>Seminar in Political Psychology</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>788.</td>
<td>Special Study</td>
<td>(1-3)</td>
<td></td>
</tr>
<tr>
<td>799A</td>
<td>Thesis</td>
<td>(3) Cr/NC</td>
<td></td>
</tr>
<tr>
<td>799B.</td>
<td>Thesis Extension</td>
<td>(0) Cr/NC</td>
<td></td>
</tr>
</tbody>
</table>
Mathematical Sciences

(Courses in Mathematics)

Faculty

Chairman: Department of Mathematical Sciences: E. I. Deaton
Graduate Advisers: Master of Arts in Mathematics: E. I. 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: G. Becker
Professors: Becker, Braustetter, Bray, Burton, Deaton, Drobles, Fountain, Garrison, Gindler, Harvey, Ho, Holmes, Lesley, Moser, Riggs, Saltz, Shaw, Short, Smith, Van de Wetering, Wileme, Warren
Associate Professors: Branca, Bryant, Burdick, Davis, Eckberg, Elwin, Elvinn, Flenigan, Hager, Hintzman, Howard, Kopp, Lopez, Macky, Marcus, Marosz, McLeod, Nower, Park, Romano, Ross, Whitman
Assistant Professors: Baase, Herndon, Salomon, Vinge

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.

General Information

The Department of Mathematical Sciences, in the College of Sciences, offers graduate study leading to the Master of Arts degree in Mathematics, to the Master of Arts degree for teaching service with a concentration in Mathematics, to the Master of Science degree in Mathematics, to the Master of Science degree in Statistics, and to the Master of Science degree in Computer Science.

The Master of Arts degree in Mathematics is considered to be the basic academic degree in Mathematics. A candidate of the Master of Science degree is expected to concentrate 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 catalog.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Three of this catalog. 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 catalog, the student must complete a graduate program consisting of at least 24 units in mathematics from courses listed below. At least 15 units must be in 600- and 700-numbered courses in mathematics, exclusive of Mathematics 600, 601, 622, and 799A. Courses in mathematics, exclusive of Mathematics 600, 601, 622, and 799A, must be in 600- and 700-numbered courses in mathematics, exclusive of Mathematics 600, 601, 622, and 799A.

To satisfy the foreign language requirement, the student may present evidence that he/she has completed French 201, German 201, Russian 201, or Spanish 201, or their equivalent, with a grade of C or better, or the student may demonstrate a reading knowledge of French, German, Russian, or Spanish.

The student is required to pass the departmental comprehensive examinations in mathematics. With the approval of the department, a student may select Plan A. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.
Specific Requirements for the Master of Arts Degree for Teaching Service

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this catalog, 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, a student may select Plan A. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.

Specific Requirements for the Master of Science Degree in Mathematics

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this catalog, the student must complete a graduate program which includes at least 24 units in mathematics selected from courses listed below as acceptable on a master's degree program to include at least 15 units of 600- and 700-numbered courses exclusive of Mathematics 600, 601, 602, and 799A. The student is required to pass the departmental comprehensive examinations in mathematics. With the approval of the department, a student may select Plan A. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.

Specific Requirements for the Master of Science Degree in Computer Science

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this catalog, the student must meet the following departmental requirements:
1. Complete 15 units of 600- and 700-numbered courses, including twelve units from any two of the following year-course sequences:
   - Mathematics 650A and 650B
   - Mathematics 651A and 651B
   - Mathematics 652A and 652B
   - Mathematics 653A and 653B
2. Complete nine additional units of graduate level or approved upper division mathematics courses, not including Mathematics 799A.
3. Complete six units of approved electives.
4. Pass two written examinations as determined by the department.
5. Pass a final oral examination. With the approval of the department, a student may select Plan A. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.

Specific Requirements for the Master of Science Degree in Statistics

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this catalog, the student must meet the following departmental requirements:
1. Complete 18 units of 600- and 700-numbered mathematics courses including:
   a. Mathematics 670A and 670B.
   b. Six units selected from Mathematics 672, 673, 674, 675, 676, and 677.
   c. Six units of other 600- and 700-numbered mathematics courses, except that Mathematics 600, 602, and 799A may not be used to fulfill these units required.
2. Complete six additional units of graduate level or approved upper division mathematics courses, not including Mathematics 799A.
3. Complete six units of approved electives.
4. Pass the departmental comprehensive examinations in mathematical statistics. With the approval of the department, a student may select Plan A. In other cases, Plan B will be followed, and the student must complete three units of Mathematics 797.

Courses Acceptable on Master's Degree Programs in Computer Science, Mathematics, and Statistics

UPPER DIVISION COURSES

510. (105.) Introduction to the Foundations of Geometry (3) II
   Prerequisite: Mathematics 122 or 151.
   The foundations of Euclidean and hyperbolic geometries. Highly recommended for all prospective teachers of high school geometry.

511. (106.) Projective Geometry (3) I
   Prerequisites: Mathematics 122 or 151 and consent of instructor.
   Concurrence of lines, collinearity of points and other properties of figures not altered by projections; construction and study of ellipses, hyperbolas, and parabolas by means of projections.

512. (107.) Non-Euclidean Geometry (3)
   Prerequisite: Mathematics 122 or 151.
   History of attempts to prove the fifth postulate; emphasis on plane synthetic hyperbolic geometry; brief treatment of other types of non-Euclidean geometry.

520A. (149.) Linear Algebra (3) I, II
   Prerequisite: Mathematics 123 or 152.
   A study of linear equations, Euclidean spaces, linear transformations, matrices, determinants, and eigenvalues. (Formerly numbered Mathematics 520.)

520B. Applied Linear Algebra (3)
   Prerequisite: Mathematics 520A.
   Jordan forms, vector and matrix norms, condition numbers, generalized inverses, linear programming, analysis of a few standard algorithms in linear algebra.

521A-521B. (150A-150B.) Modern Algebra (3-3) I, II
   Prerequisite: Mathematics 151. Mathematics 521A is prerequisite to 521B.
   Selected topics from modern algebra to include an introduction to the theory of groups, theory of equations, and finite mathematics.

522. (152.) Number Theory (3)
   Prerequisite: Mathematics 151.
   Selected topics from the theory of numbers to include congruencies, Diophantine equations, and a study of prime numbers.

523. (155.) Mathematical Logic (3)
   Prerequisite: Mathematics 120 or Philosophy 120.
   The logical rules of proof governing sentential connectives and the universal and existential quantifiers with applications. Not open to students with credit in Philosophy 521.

530. (119.) Differential Equations (3) I, II
   Prerequisite: Mathematics 152.
   Ordinary differential equations with applications to geometry, physics and chemistry. Not open to students with credit in Mathematics 340A.

531. (170.) Partial Differential Equations (3)
   Prerequisite: Mathematics 530.
   Study of boundary-initial value problems via separation of variables, eigenfunction expansions, Green's functions, and transform methods. Introductions to power series, Fourier series, and integral operators.

532. (175.) Functions of a Complex Variable (3)
   Prerequisite: Mathematics 152.
   Analytic functions, Cauchy-Riemann equations, theorem of Cauchy, Laurent series, calculus of residues.

533. (124.) Vector Analysis and Differential Geometry (3)
   Prerequisite: Mathematics 152.
   Vector algebra, differentiation and integration, classical theory of curves and surfaces, divergence theorems, Stokes' theorem and related integral theorems, curvilinear coordinates, elements of tensor analysis. Applications to geometry and physics.
534A. (121A) Advanced Calculus I (3)  
Prerequisite: Mathematics 152.  
The real number system, limits and other topics, with emphasis on functions of one variable.

534B. (121B) Advanced Calculus II (3)  
Prerequisite: Mathematics 534A.  
A continuation of Mathematics 534A, with emphasis on functions of two or more variables.

535. (160) Introduction to Topology (3)  
Prerequisite: Mathematics 534A.  

541A. (135A) Numerical Analysis and Computation (3) I  
Prerequisite: Mathematics 107 and 152.  
Iteration methods to solve nonlinear equations (convergence, error bound, rate of convergence).  
Iteration methods to solve systems of nonlinear equations. Application to approximating real and complex zeros of a polynomial; Bernoulli's method and difference equations. Floating point arithmetic.

541B. (135B) Numerical Analysis and Computation (3) II  
Prerequisites: Mathematics 540A or 530, 534A and 541A.  

546. Computer Oriented Statistical Analysis (3)  
Prerequisite: Statistics 551B or 552 with working knowledge of FORTRAN.  
Using a computer for statistical analysis, including the use of standard statistical packages and programming statistical procedures not given in standard packages.

550. (134) Probability (3)  
Prerequisite: Credit or concurrent registration in Mathematics 152.  
Definitions, computation of probability by enumeration of the cases, discrete and continuous random variables, density functions, moments, limit theorems, selected distributions.

551A. (140A) Mathematical Statistics (3) I, II  
Prerequisite: Mathematics 552.  
Probability models in the theory of statistics, sampling distributions with applications in statistical inference.

551B. (140B) Mathematical Statistics (3) II  
Prerequisite: Mathematics 551A.  
Point and interval estimation and hypothesis testing in statistical models with applications to problems in various fields.

552. (141) Statistics, Theory and Applications (3)  
Prerequisite: Mathematics 551A.  
Applications of and case studies employing statistical techniques from the areas of experimental design, nonparametric inferences, decision theory and selected topics.

553. (142) Stochastic Processes (3)  
Prerequisite: Mathematics 550.  
Introduction to stochastic processes with selected applications.

557. Systems Programming (3) I, II  
Prerequisite: Mathematics 570.  
Review of batch process systems programs, their components, operating characteristics, user interrupt handling. Details on addressing techniques, core management, system updating.

560. (136) Data Structures (3)  
Prerequisite: Mathematics 137.  
Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Multilinked structures.

571. (137) Finite Mathematics, with Computer Applications (3)  
Prerequisite: Mathematics 123 or 152.  
Equivalence and order relations. Boolean algebra, finite machines and their optimization, logical design.
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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 matrixes, determinants, and vector spaces.

624. (265.) Advanced Mathematical Logic (3)
Prerequisite: Mathematics 521A or 523.
First-order theories, completeness theorems, arithmetization, Godel's incompleteness theorem.

630A-630B. (228A-228B.) 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.

633. (220A.) Topology (3)
Prerequisite: Mathematics 536.

634. (212.) Advanced Ordinary Differential Equations (3)
Prerequisites: Mathematics 530 and 534A.
Existence and uniqueness theorems, Wronskian, 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.

Prerequisites: Mathematics 534A and 550 or 551A. Mathematics 670A is prerequisite to 670B.
Distribution of random variables, characteristic functions, limiting distributions, sampling distributions. Hypothesis testing and estimation: optimality considerations, applications of the linear hypothesis, invariance and unbiasedness to analysis of variance and regression problems, sequential techniques, decision theory.

672. (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.

577. (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 Computation (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.

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. CAl are additional optional topics.

693A. (270A.) Advanced Numerical Analysis (3)
Prerequisites: Mathematics 520 and 541B.

693B. (270B.) Advanced Numerical Analysis (3)
Prerequisite: Mathematics 519A.

720. (206.) Research in Mathematics (3-3)
Prerequisites: Mathematics 570 and 572.
Research in one of the fields of mathematics.

798. (298.) Thesis or Project Extension (1-3)
Prerequisite: Consent of instructor. The student expects to use the facilities and resources of the university.

799A. (299.) Thesis or Project (3) Cr
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
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.
Microbiology

Faculty
Chairman, Department of Microbiology: B. L. Kelly
Graduate Adviser: H. Moore
Professors: Baxter, Kelly, Moore, Walch
Associate Professors: Anderes, Phelps, Steenbergen

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.

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 catalog. To qualify for admission to classified graduate standing in the Department of Microbiology the student must also:
1. have completed the minimum requirements equivalent to the baccalaureate degree in microbiology at San Diego State University.
2. have an undergraduate grade point average of 2.75 or demonstrate the ability to do superior graduate work.
3. have a grade point average of 3.0 or better in upper division courses (at least 24 units) acceptable for the major.
4. have a score of 1100 or better for the combined verbal and quantitative portions of the Graduate Record Examination Aptitude Test.
5. have a grade point average of 3.0 or better in upper division courses (at least 24 units) acceptable for the major.
6. have passed a comprehensive departmental written and oral examination after all other requirements for classification have been completed.
7. have been accepted by a research adviser in the Department of Microbiology who can supply the necessary space and guidance.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as described in Part Three of this catalog.

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 catalog, 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, Animal Virus Identification and Investigation, Pathogenic Bacteriology, Pathogenic Virology, and the Physical and Chemical Environment. A minimum 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 implications in the broad fields of microbiology is required.

Courses Acceptable on Master's Degree Programs in Microbiology

UPPER DIVISION COURSES

510. (115.) Advanced General Microbiology (4) II
Two lectures and six hours of laboratory.
Prerequisite: Microbiology 310.
Taxonomy, comparative physiology and ecology of representative microorganisms found in various natural environments.

515. (114.) Bacterial and Viral Genetics (2) I, II
Prerequisite: Microbiology 310.
The genetics of bacteriophages; selected animal viruses and bacteria.

520. (102.) Pathogenic Bacteriology (4) I, II
Two lectures and six hours of laboratory.
Prerequisites: Microbiology 310, Chemistry 250 or 251. Recommended: Chemistry 361A, Bacteria and rickettsial agents of disease in man and other animals. Consideration of host-parasite relationships, the biology of the infecting agents and mechanisms of host resistance. Laboratory experience in isolation and identification of bacterial pathogens.

525. (104.) Medical Mycology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Microbiology 310.
Mycotic agents of disease in human and other animals. Consideration of the biology of fungi; concepts of host-parasite relationships, including factors affecting virulence and immunity. Experience in systematic identification.

530. (109.) Hematology (4) I, II
Two lectures and six hours of laboratory.
Prerequisite: Microbiology 310.
The study of normal and pathological blood with chemical, physical and microscopic methods.

535. (107.) General Virology (2) I, II
Prerequisite: Microbiology 310. Recommended: Microbiology 330 and 520.
Viruses, their structure, function, culture, and methods of study.

535L. (107L.) General Virology Laboratory (2) II
Six hours of laboratory.
Prerequisites: Microbiology 520 and credit or concurrent registration in Microbiology 535.
The culture, isolation, and characterization of viruses.

560. (116.) Marine Microbiology (2) I
Prerequisite: Microbiology 310.
Microbiological population of estuary and ocean waters; interrelationships with other organisms and the physical and chemical environment.

560L. Marine Microbiology Laboratory (2) I
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Microbiology 560.

580. (120.) Animal Viruses (4) I
Two lectures and six hours of laboratory.
Prerequisites: Microbiology 520 and 535. Recommended: Microbiology 330 and 535.
Animal virus identification and investigation, emphasizing cell culture, cytopathic effects and serology.

590. (180.) Electron Microscopy (4) II
Two lectures and six hours of laboratory.
Prerequisites: Physics 115A-115B or 124A-124B and Microbiology 310. Recommended: Microbiology 535, and Zoology 506.
Principles and techniques in the biological application of the electron microscope.

Biology Courses

519. (175.) Statistical Methods in Biology (3)
520. (110.) Ecology (4)
530. (111.) Limnology (4)
531. (113.) Biological Oceanography (4)
600. (200.) Seminar in Microbiology (2)
Prerequisite: Consent of instructor.
An intensive study in advanced microbiology, topic to be announced in class schedule.
Maximum credit six units applicable on 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 master's degree.

620. (265.) Seminar in Microbial Physiology (2)
Prerequisite: Microbiology 320.
May be repeated with new content. Maximum credit four units applicable on 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 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 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 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 master's degree.
Music

Faculty
Chairman, Department of Music: J. Dayton Smith
Graduate Adviser: J. Dayton Smith
Credential Advisers: R. B. Forman, E. Savage, J. Dayton Smith
Associate Professors: Hill, Loomis, Meadows, Mitchell, Moe, Yates
Assistant Professors: Flye, George, Kolar, Logan, O'Donnell

Scholarships
Information on music scholarships may be obtained by writing to the Chairman, Music Scholarship Committee, Music Department, San Diego State University.

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, and 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 required 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 catalog, 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 catalog, and must have removed any deficiencies assigned on the basis of the placement examinations.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this catalog, 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.

Courses Acceptable on Master's Degree
Programs in Music

UPPER DIVISION COURSES

507. (107.) Composition Laboratory (1) II
Three hours of laboratory.
Prerequisite: Music 207 and consent of instructor.

541. (141.) Performance Studies Pedagogy (5) I, II
Two lectures and three hours of laboratory.
Prerequisite: Consent of instructor.
Teaching beginning and intermediate applied music. Survey and evaluation of teaching materials.

542. (142.) Performance Studies Laboratory (2) I, II
One lecture and three hours of laboratory.
Prerequisite: Music 541A is prerequisite to 542A and 541B is prerequisite to 542B.
Practical experience in the teaching of individual or group lessons.

552A-552B. (152A-152B.) History of Music (3-3) I, II
Prerequisite: Music 258B. Music 552A is prerequisite to 552B.
The chronological development of musical art and forms from the Middle Ages to the present.

554. (154.) Music Literature (2) I, II
Prerequisite: Music 258B.
A concentrated study of the literature in the several areas listed. Analysis by use of scores and of recordings; when available.

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 general areas listed.

601. (201.) Seminar in Foundations of Music Education (3)
History and philosophy of music education in relation to current trends in the teaching of music.

602. (202.) Seminar in Administration and Supervision of Music Education (3)
The Curriculum, scheduling, finance, human relations, organizational aspects, and the role of the supervisor-consultant.
604. (204.) Seminar in Comparative Music Education (3)
Various international philosophical and technical approaches to teaching music to include the Orff,
Kodaly, Suzuki and other systems.

607. (207.) Seminar in Composition (2-3)
Three hours of laboratory and public performance of an extended original work as a project.
Prerequisite: Music 507.
Advanced composition for various media, development of original idiom, intensive study of
modern music.

608. (208.) Seminar in History and Development of Music Theory (3)
Prerequisite: Music 552B.
Survey of important theoretical approaches to music, from pre-Socratic writers to the present.

611. (211.) Seminar in 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.) Seminar in Electronic Music (3)
Prerequisite: Undergraduate concentration in composition.
Theory, techniques and composition of various kinds of electronic music.

648A. (246A.) Seminar in Advanced Choral Conducting (2)
Prerequisite: Music 448A.
Course designed to develop skills at professional level; study of different styles of choral literature
and their relationship to conductor's art; score analysis and experience in conducting.

648B. (246B.) Seminar in Advanced Instrumental Conducting (2)
Prerequisite: Music 449A.
Course designed to develop skills at professional level; study of conducting style as related to
band and orchestra literature score analysis and experience in conducting.

650. (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.

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.

655. (255.) Seminar in Musicology (3)
Prerequisite: Music 552B.
Problems and research in musicology. Projects in bibliography, source materials, music history,
criticism, aesthetics and related fields. Writing and presentation of a scholarly paper.

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.
Natural Science

Faculty
Chairman, Department of Natural Science: J. H. Mathewson
Graduate Advisor: N. F. Dessel
Coordinator of Science Education: N. F. Dessel
Professors: Dessel, Mathewson, Merzbacher, Metzger, Shull
Associate Professors: Dowler, Feher, Ingmanson, May, Pheiger, Springer, Wallace
Assistant Professor: Thompson
Faculty members in the Departments of Astronomy, Chemistry, Geological Sciences, and Physics are listed in the appropriate sections of this catalog.

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

General Information
The Department of Natural Science, in the College of Sciences, offers advanced course work in natural science. Graduate courses in natural science may be used to fulfill requirements for advanced degrees in other departments with the approval of the student's graduate adviser.

UPPER DIVISION COURSE
(Also Acceptable for Advanced Degrees)

522A-522B. (135A-135B) Curricula in Physical Science (3-3) I, II
Two lectures and three hours of laboratory.
Prerequisite: Introductory course work in natural science, physics or chemistry.
Principles of physical science as presented in national curriculum study courses such as Project Physics, PSSC, IPS, and PSNS.
May be taken for graduate credit only by candidates for a Master of Arts degree in Education in secondary curriculum and instruction. (Formerly numbered Physical Science 422A-422B.)

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.

Philosophy

Faculty
Chairman, Department of Philosophy: S. N. Weissman
Graduate Advisor: P. O'Reilly
Professors: Carella, Crawford, Friedman, Howard, Koppelman, Lauver, McCurg, Nelson, O'Reilly, Ruet, Sheldr, Snyder, Warren, Weissman
Associate Professors: Feenberg, Rosenblum, Troxell
Assistant Professor: Weston

General Information
The Department of Philosophy, in the College of Arts and Letters, offers a program of graduate study 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 catalog. Students may be admitted to the graduate program in philosophy in one of two ways:

1. Admission with classified graduate standing requires:
   a. An undergraduate major in philosophy or a minimum of 24 units of upper division work in philosophy.
   b. A minimum GPA of 3.0 in upper division work in philosophy.

2. Admission with conditional classified graduate standing requires:
   a. Twelve units of upper division work in philosophy.
   b. A minimum GPA of 3.0 in upper division work in philosophy.

Students admitted under 2 acquire classified graduate standing by completing sufficient units of upper division work in philosophy to yield a total, with previous work, of at least 24 such units. Units earned to complete this undergraduate requirement do not fulfill unit requirements for the master's degree. A minimum GPA of 3.0 is required for all units attempted after admission.

Students 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 catalog.

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 catalog, the student must fulfill the following requirements:

- 30 units of upper division and graduate courses selected with the approval of the graduate adviser.
- A minimum of 24 units in courses in philosophy listed below.

Students must complete a minimum of 24 units in courses in philosophy listed below as acceptable on master's degree programs. At least 18 of these units must be in 600- and 700-level numbered courses. Philosophy 798 may not be used to fulfill this unit requirement. The remaining numbered courses. Philosophy 798 may not be used to fulfill this 15-unit requirement. The remaining numbered courses. Philosophy 798 may not be used to fulfill this 15-unit requirement. The remaining numbered courses.

Students in the program may elect one of two plans. A or B, to complete the requirements for the degree. Plan A requires the writing of a thesis under Philosophy 799A as part of the outlined course requirement. If Plan B is elected, the student must pass a comprehensive examination, consisting of two written and one oral, and complete three units in Philosophy 796.
The master's examination shall be conducted by a committee of at least three members selected by the graduate adviser after consultation with the student. Each of the written parts of the examination will be based on a bibliography drawn up by the committee administering the examination after consultation with the student. The oral part of the examination will be in a specific problem area or on a major philosopher. Prior to the beginning of the semester of the oral examination, the committee shall determine the subject matter for the examination after consultation with the student. The Master's examination may be repeated only once.

**Courses Acceptable on Master's Degree**

**Programs in Philosophy**

**UPPER DIVISION COURSES**

**502. (102.) History of Philosophy II (3)**
Prerequisite: Philosophy 301.
Plotinus through William ofOccam.

**504. (104.) History of Philosophy IV (3)**
Prerequisite: Philosophy 303.
Fichte through Royce.

**505A-505B. (105A-105B) Twentieth Century Philosophy (3-3)**
Prerequisite: Six units of philosophy.

**508. (108.) Existentialism (3)**
Prerequisite: Six units of philosophy.
The philosophical aspects of Existentialism. Major emphasis is on the diversity of thought within a common approach as this is shown in individual thinkers.

**509. (109.) Ordinary Language Analysis (3)**
Prerequisite: Six units of philosophy.
Foundations of linguistic philosophy with emphasis on achieving an awareness of the relationship between thinking and language.

**510. (110.) Philosophy of Law (3)**
Prerequisites: Three units of philosophy and three units of political science.
The nature of law and the logic of legal reasoning. An exploration of certain key legal concepts such as causation, responsibility, personality and property.

**512. (112.) Political Philosophy (3)**
Prerequisite: Philosophy 101, 102 or 103.
Selected aspects of the political structures within which we live, such as law, power, sovereignty, justice, liberty, welfare.

**521. (121.) Deductive Logic (3)**
Prerequisite: Philosophy 120.
Principles of inference for symbolic deductive systems; connectives, quantifiers, relations and sets. Interpretations of deductive systems in mathematics, science and ordinary language. Not open to students with credit in Mathematics 523.

**522. (122.) Inductive Logic (3)**
Prerequisite: Philosophy 120.

**523. (123.) Theory of Knowledge (3)**
Prerequisite: Six units of philosophy.
The major theories of human knowledge: mysticism, rationalism, empiricism, pragmatism.

**525. (125.) Metaphysics (3)**
Prerequisite: Six units of philosophy.
Prominent theories of reality, e.g., realism and nominalism, materialism and idealism, teleology and determinism.
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.

638. (238.) 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.
Physical Education

Faculty
Chairman, Department of Physical Education: R. W. Wells
Graduate Adviser: P. Governali
Professors: Andrus, Benton, Carter, Cullen, Fox, Governali, Howell, M., Kasch, Murphy, Olsen, A., Olsen L., Phillips, Sucac, Ziegentuss
Associate Professors: Barone, Broadbent, Franz, Friedman, Moore, Seider, Wells, Williamson, Willis
Assistant Professors: Aufsesser, Gutowski, Holtfield, Howell R., Landis, Quinn, Smith, Whitby, Wilhem

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.

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 catalog.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as described in Part Three of this catalog.

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 catalog. The 30-unit program includes a minimum of 21 units in physical education selected from courses listed in this bulletin as acceptable on master's degree programs, of which at least 18 units must be in 600- and 700-numbered courses. Physical Education 791, Seminar in Research Techniques, and 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 with the graduate adviser.

Courses Acceptable on Master's Degree Programs in Physical Education

554A-555B. (154A-155B.) Problems in Dance (2-2)
Prerequisite: Physical Education 150A
Problems in dance; history, anthropological basis, stagecraft, accompaniment, costume.

555A-555B. (155A-155B.) Choreography in Contemporary Dance (3-3)
Two lectures and two hours of activity.
Prerequisite: Consent of instructor.
Experimentation in dance, relating contemporary theories to other arts forms. Force and time-space relationships as factors of choreography.
A. Production problems for large and small groups.
B. Production problems for trios, duos and solos.

556. (156.) History and Philosophy of Dance (2)
The cultural background of all forms of dance in various civilizations with emphasis on the relationship of the social structure to the existing dance forms.

560. (160.) Applied Anatomy and Kinesiology (3)
Prerequisites: Biology 362 and Zoology 108.
Applied anatomy and kinesiology, with emphasis on movement analysis. Muscle groups and their functional relationships. Application of simple mechanical principles to movement analysis.

561. (161.) Physiology of Exercise (3)
Prerequisites: Biology 362 and Zoology 108.
Effects of physical activities on the physiological functions of the body.

563. (163.) Biomechanics of Human Movement (2)
Prerequisite: Zoology 108.
Mechanical principles as applied to movement; analysis and application to selected motor skills.

565. (165.) Prevention and Rehabilitation of Injuries to Athletes (2)
One lecture and three hours of laboratory.
Prerequisites: Physical Education 560 and 561.

567. (167.) Adapted and Special Physical Education (2)
Prerequisites: Physical Education 560 and 561.
Adaptation of programs for atypical and handicapped individuals, including prescribed exercises, activities and evaluation.

570. (170.) Psychological Bases of Physical Education (3)
Prerequisite: Psychology 101.
Psychological parameters related to physical performance and the acquisition of motor skills.

585. (185.) Measurement and Evaluation in Physical Education (3)
Two lectures and two hours of activity.
Elements of physical education criteria for test selection; construction and evaluation of tests; and the administration of a testing program in physical education.

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.

631. (206.) Seminar in Competitive Athletics (3)
Prerequisite: Major or minor in physical education or recreation.
Knowledge and appreciation of the skills, techniques, and the coaching of athletics; the study of possible solutions to problems associated with the program of competitive school athletics.

660. (207.) Seminar in Advanced Kinesiology and Biomechanics (1)
Prerequisites: Physical Education 560, 563. Recommended: Physical Education 364.

661. (208.) Seminar in Advanced Physiology of Exercise (3)
Prerequisites: Physical Education 560 and 561.
Advanced aspects of the physiology of exercise; effects of exercise on human beings in relation to health, longevity, morphology, and performance.

662. (222.) Advanced Exercise Physiology Laboratory (3)
Nine hours of laboratory.
Prerequisite: Physical Education 567.
A laboratory course designed to develop competency in respiratory metabolism, cardiovascular and pulmonary function, gas analysis, blood chemistry and ergometry. Experience in the application of exercise function, gas analysis, blood chemistry and ergometry. Experience in the application of exercise function, gas analysis, blood chemistry and ergometry.

663. (221.) Seminar in Exercise Electrocardiography (3)
Principles of resting and exercise electrocardiography with emphasis on ergometric methods and application to exercise physiology.
664. Seminar in Anthropometry and Motor Performance (3)
Prerequisite: Physical Education 371 and 560.
Relationships between body structure and motor performance as compared through the
techniques of anthropometry, somatotyping and body composition.

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.) Seminar in 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.) Seminar in 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.

669. Cardiopulmonary Physiology, Pathology and Exercise (3)
Prerequisite: Physical Education 561 or upper division course in human physiology.
Selected cardiovascular and pulmonary disease problems, their etiology, symptoms, physical
limitations, and physiology as affected by exercise in therapy and rehabilitation.

670. (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.) Seminar in Current Trends and Issues in Physical Education (3)
A critical appraisal of contemporary trends and issues.
Investigation and analysis of professional literature.

677. (213.) Seminar in Problems in Physical Education (3)
Prerequisite: Major or minor in physical education.
A study of selected areas of the physical education program.

678. Comparative Physical Education and Sport (3)
Prerequisite: Physical Education 375.
Comparative analysis of developments and emergent characteristics of systems of physical
education and sport in representative countries analyzed cross-nationally and the investigation of the
comparative method including its history and research techniques.

680. (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.) Seminar in Advanced Evaluation in Physical Education (3)
Prerequisite: Physical Education 565.
Methods, statistical techniques and apparatus used in testing physical performance. Sources of
error, limitations in application and interpretation. Practice in construction and use of tests.

791. (211.) Seminar in Research Techniques (3)
Prerequisites: Major in physical education and Physical Education 585.
Principles and methods of planning and carrying out the investigation of problems related to
physical education. The development of research designs and practice in formulating and testing
hypotheses as well as the interpretation of results. (Prerequisite to thesis.)
Physics

Faculty

Chairman, Department of Physics: Stephen B. W. Roeder
Graduate Adviser: J. G. Teasdale
Credential Adviser: L. E. Smith
Professors: Garrison, Morris, Nichols, Pasercho, Refruss, Roeder, Skoll, Smith, Snodgrass, Teasdale, Templin, Wolf
Associate Professors: Burnett, Cottrell, Lilly, Shore
Assistant Professor: Solomon

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.

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 spectrosocopy, 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, development administration and nuclear regulatory commission.

Master of Arts and Master of Science Degrees in Physics

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Three of this catalog 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 catalog under Unclassified Student Enrollment.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, including the foreign language requirement, as stated in Part Three of this catalog.

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 catalog, 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 catalog, the student must complete a graduate program which includes the following courses in physics: Physics 602A, 604A, 606, 608, 610A, 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 catalog 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 catalog.

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 catalog, the student must complete a graduate program of at least 30 units which includes the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 362, Principles of Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Biology 570, Radiation Biology</td>
<td>3</td>
</tr>
<tr>
<td>Biology 573, Radiation Biology Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>Physics 656, Radiation Physics</td>
<td>3</td>
</tr>
<tr>
<td>Physics 657, Physics of Radiation Therapy</td>
<td>3</td>
</tr>
<tr>
<td>Physics 659, Health Physics</td>
<td>3</td>
</tr>
<tr>
<td>Physics 797, Research</td>
<td>3</td>
</tr>
<tr>
<td>Physics 799A, Thesis</td>
<td>3</td>
</tr>
<tr>
<td>Approved 600- and 700-numbered courses</td>
<td>3</td>
</tr>
</tbody>
</table>

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 his thesis.
Courses Acceptable on Master's Degree
Programs in Physics

UPPER DIVISION COURSES

510. (190.) Introductory Quantum Mechanics (3)
Prerequisites: Mathematics 340B, Physics 350B and 354B.
The physical basis of the quantum theory and its mathematical formulation in terms of
Self-adjoint operators, states, eigenstates, most general form of the laws of physics.

522. (189.) Solid State Physics (3) II
Prerequisites: Mathematics 340B, Physics 350B and 354B.
Electron, hole, exciton, and optical properties of solids. Introduction to the energy gap
theory of solids, with applications to dielectrics, semiconductors and metals.

541. (122.) Senior Physics Laboratory (2)
Six hours of laboratory.
Prerequisite: Physics 357.
Advanced experimental measurements in the field of classical and modern physics, in one of the
following areas: acoustics, nuclear physics, heat and thermodynamics, advanced electronics,
electricity and magnetism, microwaves and solid state physics. Combinations to two areas in one
semester may be taken with the consent of the instructor. May be repeated with new content.
Maximum credit four units.

542. (114.) Acoustics (3) I
Prerequisites: Physics 350B and 357.
Wave motion and its application to the production, transmission and reception of sound.
Development of acoustic circuits using electroacoustic analogs.

553. (187.) Modern Optics Laboratory (2)
Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Physics 552.
Experiments in various fields of modern optics such as holography, Fourier spectroscopy, spatial
filtering, nonlinear effects and coherence measurements. May be repeated with new content
with the approval of the instructor for a maximum of four units.

561. (148.) Nuclear Physics Laboratory (3) II
One lecture and six hours of laboratory.
Prerequisites: Physics 300 or 357, Mathematics 123 or 152.
Techniques and instrumentation for the detection, identification and measurement of the
properties of nuclear radiations and particles, and their use in the study of nuclear reactions.

564. (151.) Nuclear Physics (3)
Prerequisite: Physics 510.
Nuclear Phenomena, theory of the nucleus, cosmic rays, and high-energy reactions of particles.

570. Relativity (3)
Prerequisites: Mathematics 149 or 520, 531 or 340B, and Physics 350B and 354B.
Relative coordinates, Lorentz transformation, covariant formulation of the laws of physics.
Applications of special relativity, introduction to curved space time, cosmology.

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 406 and 510.
Statistical 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,

610A-610B. (275A-275B) Quantum Mechanics (3-3)
Prerequisites: Physics 406 and 564. 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.

648. (231.) 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 562.
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,
nonlinear optics and applications of Fourier analysis to optical systems and information processing.

654. Gravitation (3)
Prerequisites: Mathematics 149 or 520, 531 or 340B and Physics 570.
Differential geometry, metric geodesics, Equivalence Principle, collapsed objects, black holes,
gravitational waves, evolution of the universe.

655. (220.) Radiative 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.) Physics of Radiation Therapy (1) II
Three hours of laboratory.
Prerequisite: Physcis 565.
Topics and experimental problems in the use of ionizing radiation in 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.

662. Seminar in Radiological Sciences (1)
Seminar in selected topics in Radiological Biology, Chemistry and Physics.
May be repeated with new content. Maximum credit three units applicable on a master's degree.

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.

665. Physics of Diagnostic X-Rays (1) I
Three hours of laboratory.
Prerequisite: Physics 561.
Topics and experimental problems in the use of diagnostic x-rays.

667. Reactor Health Physics (1) II
Three hours of laboratory.
Prerequisites: Physics 302, 655 and 659.
Topics and experimental problems in Health Physics in nuclear reactor facilities.

669. Accelerator Health Physics (1) I
Three hours of laboratory.
Prerequisite: Physics 655 and 659.
Topics and experimental problems in Health Physics in accelerator facilities.

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
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.

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Political Science

Faculty
Chairman, Department of Political Science: L. M. Terrell
Graduate Adviser: D. H. Johns
Professors: Andrain, Crain, Feierabend, Funston, Grip, Hotstetter, Janssen, Johns, Kahng, Miles, Nesvold, Padgett, Schultz
Associate Professors: Anderson, Conniff, Cutter, Hobbs, Lewin, Little, Loverman, Soule, Terrell
Assistant Professors: Fairlie, Jones, Keiser

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.

General Information
The Department of Political Science, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Political Science. For graduate study in connection with the Master of Arts degree in Social Science, refer to the catalog under Social Science. Research facilities provided by the Department of Political Science include the Public Affairs Institute, the Political Science Research Center, and the Social Science Research Center, the International Relations Center, and the Social Science Research Center, the International Relations Center, and the Social Science Research Center. 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 catalog. 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 30 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 catalog. 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 catalog, the student must complete a graduate program which includes a minimum of 24 units in political science from courses numbered below as acceptable on master's degree programs. At least 21 units must be in 600- and 700-numbered courses including Political Science 601 (Seminar in the Scope and Method of Political Science), 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.
Courses Acceptable on Master's Degree
Programs in Political Science

**UPPER DIVISION COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>501A-501B</td>
<td>History of Western Political Thought</td>
<td>3-3</td>
<td>Political Science 501A is prerequisite to 501B. Development of political ideas from the Golden Age of Greece until the French Revolution. Relevance of theory to a critical understanding of concrete political and social problems involving power, freedom, equality, justice and action. 501A emphasizes Plato, Aristotle, Augustine, Aquinas, and Marsilius of Padua. 501B stresses major political theorists such as Machiavelli, Hobbes, Locke, and Rousseau.</td>
</tr>
<tr>
<td>504, (106B)</td>
<td>Socialist Political Thought</td>
<td>3, II</td>
<td>Prerequisites: Political Science 101 or 102, and 501B or 302. Selected topics in socialist thought.</td>
</tr>
<tr>
<td>505, (105J)</td>
<td>American Political Thought</td>
<td>3, II</td>
<td>Prerequisites: Political Science 101 or 102, and 501B or 302. The origin and development of American political ideas from colonial times to the present.</td>
</tr>
<tr>
<td>513, (113)</td>
<td>The Theory of Political Inquiry</td>
<td>3</td>
<td>Prerequisites: Political Science 101, 102 and 103. Philosophical bases of science with reference to political science. Concepts, concept formation, theory testing and verification.</td>
</tr>
<tr>
<td>514, (114)</td>
<td>Problems in Political Theory</td>
<td>3</td>
<td>Prerequisite: Six upper division units in political theory. Research methods in political theory; intensive development of selected issues.</td>
</tr>
<tr>
<td>515A-515B</td>
<td>Research Methods in Political Science</td>
<td>3-3</td>
<td>Prerequisites: Political Science 201. Political Science 515A is prerequisite to 515B. The research process, from research design through data processing, analysis and interpretation. Problems of applications to election statistics, census data, roll-call records, sample survey data and biographical information.</td>
</tr>
<tr>
<td>522, (118)</td>
<td>Urban Politics</td>
<td>3</td>
<td>Prerequisite: Political Science 101 or 102. The processes by which social conflicts in American urban areas are represented and regulated. Urban political culture, ecology, group development and activity; power structures; and reform movements are surveyed. The character of the urban political &quot;problem&quot; and proposed solutions are evaluated.</td>
</tr>
<tr>
<td>523, (119)</td>
<td>Community Political Behavior</td>
<td>3</td>
<td>Prerequisite: Political Science 101 or 102. The study of structure of community power are summarized and critically evaluated. The issues of community conflict are treated both by case study and comparative methods. Examples are drawn primarily from American urban experience.</td>
</tr>
<tr>
<td>530, (120)</td>
<td>Political Parties</td>
<td>3, II</td>
<td>Prerequisite: Political Science 102 or 320. A critical analysis of the political party as a part of the process of government; party organization and activities; nominating and campaign methods; theories and functions of the party system; party responsibility. The function of the two-party system in American government.</td>
</tr>
<tr>
<td>531, (126)</td>
<td>Political Groups and Movements</td>
<td>3, II</td>
<td>Prerequisite: Political Science 101 or 102. Pressure group activity, lobbies, mass movements; factors which explain origins and motivations of group behavior: value, unity, money, information, protest as political resources; theories of pluralism, power elite and mass society; class and ethnic politics.</td>
</tr>
<tr>
<td>536, (124)</td>
<td>The American Presidency</td>
<td>3, II</td>
<td>Prerequisites: Political Science 101 or 102. Analysis of principal institutions, functions and problems of the presidency and federal executive branch. Attention given to presidential leadership, staffing, executive-legislative relations and policy formation.</td>
</tr>
<tr>
<td>537, (129)</td>
<td>The Politics of Bureaucracy</td>
<td>3, II</td>
<td>Prerequisites: Political Science 101 or 102. An analysis of the bureaucracy as an actor in the political system.</td>
</tr>
<tr>
<td>543-S, (123-S)</td>
<td>Contemporary American Politics</td>
<td>3</td>
<td>A consideration of a selected group of current major political problems in terms of their possible future implications and of their relationship to established American democratic principles and ideals.</td>
</tr>
<tr>
<td>546, (138)</td>
<td>Law and the Political System</td>
<td>3</td>
<td>Forces influencing the making of law; relationship between social and legal change, nature and limits of the judicial function.</td>
</tr>
<tr>
<td>547A-547B</td>
<td>American Constitutional Law</td>
<td>3-3</td>
<td>Prerequisites: Political Science 547A is prerequisite to 547B. Principles of American Constitutional law. Includes judicial review, the federal system, the separation of powers, the nature of selected Congressional powers, and the liberties protected by the constitution against national and state action. Meets the graduation requirement in the United States Constitution.</td>
</tr>
<tr>
<td>550, (190)</td>
<td>Jurisprudence</td>
<td>3, II</td>
<td>Prerequisite: Political Science 101 or 102 or three upper division units within Group IV. Theoretical foundations of law; relationship between legal and political philosophy; development of law and legal systems.</td>
</tr>
<tr>
<td>555, (191)</td>
<td>Comparative Political Systems</td>
<td>3, II</td>
<td>Prerequisite: Political Science 103. An examination of selected political and governmental systems for purposes of comparative study and analysis to determine similarities, differences and general patterns and universals among political systems.</td>
</tr>
<tr>
<td>556, (195)</td>
<td>Governments of Continental Europe</td>
<td>3, II</td>
<td>The political systems of countries of western continental Europe.</td>
</tr>
<tr>
<td>567, (190)</td>
<td>Government of England</td>
<td>3</td>
<td>The structure and functioning of the English parliamentary system with emphasis on present-day political principles and parties.</td>
</tr>
<tr>
<td>558, (196)</td>
<td>Comparative Communist Governments</td>
<td>3, II</td>
<td>The role of political parties in communist systems and governments.</td>
</tr>
<tr>
<td>559, (197)</td>
<td>Government of the Soviet Union</td>
<td>3</td>
<td>The role of political parties in the Soviet Union, with some attention to foreign affairs.</td>
</tr>
<tr>
<td>561, (191)</td>
<td>Governments and Politics of the Developing Areas</td>
<td>3, II</td>
<td>Prerequisite: Political Science 101 or 103. Internal political systems, governmental structures and the foreign policies of developing nations.</td>
</tr>
<tr>
<td>562, (187)</td>
<td>Governments and Politics of the Far East</td>
<td>3</td>
<td>The internal political structure and foreign policies of China, Japan and Korea.</td>
</tr>
<tr>
<td>563, (189)</td>
<td>Governments and Politics of the Middle East</td>
<td>3</td>
<td>The governmental and political structures of representative states in the Middle East including Turkey, Israel and the Arab states.</td>
</tr>
<tr>
<td>564, (192)</td>
<td>Political Change in Contemporary Africa</td>
<td>3</td>
<td>General pattern of nationalism in Africa south of the Sahara. Theories of social change and general features of contemporary African political development.</td>
</tr>
<tr>
<td>566, (194)</td>
<td>Political Change in Latin America</td>
<td>3</td>
<td>Prerequisite: Political Science 101 or 103. General pattern of politics and political development in Latin America with an emphasis on those features which condition domestic and foreign policy making.</td>
</tr>
<tr>
<td>567, (195)</td>
<td>Political Systems of Latin America</td>
<td>3</td>
<td>The governmental and political structures of Latin American states.</td>
</tr>
<tr>
<td>568, (184)</td>
<td>The Mexican Political System</td>
<td>3</td>
<td>Prerequisite: Political Science 101 or 103. Principal factors in Mexican governmental decision making: ideology, political groups, tactics of leaders and governmental structure.</td>
</tr>
<tr>
<td>571, (193)</td>
<td>Seminar in Cross-national Studies</td>
<td>3, II</td>
<td>Prerequisite: Any upper division course in comparative politics. Cross-national analysis of institutional norms, attitudes and behavior in relation to government; factors which determine patterns and styles of political participation in contemporary societies.</td>
</tr>
</tbody>
</table>
576. (172.) International Organization (3) I, II
Prerequisites: Political Science 101 and 102.
International organization both as institutions and as processes, including the United Nations, regional organizations, multinational corporations, international stratification, development of international law, international integration and disintegration.

577. (173.) Principles of International Law (3)
The function of law in the international community. The historical development of the idea and rules of international law and their place in the modern diplomatic and legal structure.

579. (174.) National Security Policy (3)
Objectives, instruments and consequences of national security policy.

581. (176.) International Relations of the Developing Nations (3)
Prerequisite: Six units of political science.
Cooperation and conflict between the developing nations and relations of such nations with the developed countries. The foreign policies of the Latin American states; the organization of American states; relationships with the United Nations and with the United States.

582. (175.) International Relations of the Latin American States (3)
The foreign policies of the Latin American states; the organization of American states; relationships with the United Nations and with the United States.

590. (165.) Dynamics of Modern International Crises (3) I, II
Prerequisite: Consent of instructor.
The determination and analysis of facts surrounding international crises since World War II; the evaluation of these crises and their effects upon the United States and the operations of the United Nations.

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 533.
Government and politics in the world's major metropolitan areas. 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, 522 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 be from Political Science courses 320 through 344, 522 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.

546. (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 concepts, 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.

659. (285.) 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. (288.) Seminar in Latin American Political Systems (3)
Prerequisite: Political Science 555 or 561 or 566.
Political development in selected Latin American nations. May be repeated with new content. Maximum credit six units.

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 degree thesis.

795. (291.) Problem Analysis (3)

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. (299A.) 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

Faculty
Chairman, Department of Psychology: John M. Grossberg
Graduate Advisor: W. A. Hunrichs
Associate Professors: Bryson, Defran, Fenson, Horbeck, Larczynski, Lynn, Pollack, Pichik, Price, Pastras, Sand, Smith, Spinetta
Assistant Professors: Borges, Bryson, R., Fenson, Kaplan, R., McCordick, Saccuzzo, Scollay

Assistantships
Graduate teaching assistantships and graduate non-teaching assistantships in psychology are available to a limited number of qualified students. Application forms and information may be obtained from the Chairman, Graduate Assistantships Committee, Department of Psychology.

General Information
The Department of Psychology, in the College of Sciences, offers graduate study leading to the Master of Arts degree in Psychology and the Master of Science degree in Psychology. The Master of Arts program is a general psychology program emphasizing predoctoral preparation in one or more areas of psychology. The master of science degree programs offer a choice of study in two concentrations: clinical psychology, and industrial and organizational psychology. The master of science programs are intended to serve a dual purpose of preparation of the student for employment upon completion of the master’s degree, as well as preparation for doctoral work in specified areas. The doctorate in psychology is not offered at San Diego State University.

Modern resources are available on campus, at the San Diego Zoo and other community facilities for graduate education and research in comparative, experimental and physiological psychology. Facilities for clinical practice 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 previously stated, and submit three letters of recommendation from persons familiar with his/her academic performance, and score reports for the GRE Aptitude Test and the GRE Advanced Test in Psychology. These materials must be submitted to the Department of Psychology by March 1 and are in addition to any materials requested by the Graduate Division or the Admissions Office.

Students are advised to take the necessary examinations by December of the year prior to the year in which they are seeking enrollment.

To qualify for admission to the graduate program in psychology, the student must have:
1. An undergraduate major in psychology consisting of at least 24 upper division units with a grade point average of at least 3.0. The major must include work in general psychology, physiological psychology, statistical methods, psychological testing, abnormal psychology, and at least two laboratory courses in psychology. At San Diego State University these specific course requirements are met by Psychology 210, 265, 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 550 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 catalog. Having obtained three grades of C or lower in graduate courses automatically precludes advancement to candidacy.

In addition, students must have an approved thesis proposal prior to advancement to candidacy.

General Requirements for all Master’s Degree Programs
In addition to meeting the basic requirements for the master’s degree as described in Part Three of this catalog, the student must complete a graduate program of at least 30 units (45 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 570 or 670 is required for all master’s degree programs in the Department of Psychology, unless similar content has been completed at the undergraduate level. Psychology 798 and 799A (Colloquium and Thesis) plus an oral examination on the thesis, are also required in all master’s (Colloquium) and 799A (Thesis), and an oral examination on the thesis. A maximum of two units credit in 798 degree programs in the Department of Psychology. A maximum of two units credit in 798 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 courses in psychology, no more than seven units of which may be at the 500 level, including Psychology 605, 705 (Colloquium), and 799A (Thesis). Psychology 570 or 670 is required for this program if similar content has not been completed as an undergraduate. Psychology 580 is also 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 concentrations:

1. **Clinical Psychology:** At least 36 units of courses in psychology, no more than seven units of which may be at the 500 level, including Psychology 650, 651 or 652, 654, 655 or 656, 796 (Prcaticm), 798 (Culloquium), and 799A (Thesis). Psychology 570 or 670 is required for the program if similar content has not been completed as an undergraduate. Psychology 551 is also required for the program if similar content has not been completed as an undergraduate. Registration for six units of Psychology 796 (Clinical practicum) is contingent upon prior cooperative arrangement by the student and the Department of Psychology Practicum Committee, and is exempt from the University's requirement that courses graded C/NC be limited to 30% of units for the master's degree.

2. **Industrial and Organizational Psychology:** At least 30 units of courses in psychology, no more than seven units of which may be at the 500 level, including Psychology 621, 622, 675, 797, 798 (Colloquium), and 799A (Thesis). Psychology 570 or 670 is required for the program if similar content has not been completed as an undergraduate. Psychology 520 is also required for the program if similar content has not been completed as an undergraduate.

### Area Requirement Courses

The courses listed below constitute core courses required for the various graduate programs as listed in the Specific Requirements.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>551</td>
<td>Clinical Psychology: Theory and Practice (4)</td>
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<tr>
<td>570</td>
<td>Advanced Statistics (3)</td>
</tr>
<tr>
<td>560</td>
<td>History of Psychology (3)</td>
</tr>
<tr>
<td>605</td>
<td>Seminar in Theoretical Psychology (3)</td>
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<tr>
<td>620</td>
<td>Seminar in Industril-Organizational Psychology (3)</td>
</tr>
<tr>
<td>621</td>
<td>Seminar in Personnel Psychology (3)</td>
</tr>
<tr>
<td>622</td>
<td>Seminar in Organizational Psychology (3)</td>
</tr>
<tr>
<td>650</td>
<td>Seminar in Counseling and Psychotherapy Laboratory (4)</td>
</tr>
<tr>
<td>651</td>
<td>Seminar in Behavior Disorders of Childhood and Adolescence (3)</td>
</tr>
<tr>
<td>652</td>
<td>Seminar in Behavior Disorders of Adults (3)</td>
</tr>
<tr>
<td>654</td>
<td>Seminar in Psychiological Assessment I (4)</td>
</tr>
<tr>
<td>655</td>
<td>Seminar in Psychiological Assessment II (4)</td>
</tr>
<tr>
<td>656</td>
<td>Seminar in Behavior Therapy Laboratory (4)</td>
</tr>
<tr>
<td>670</td>
<td>Experimental Design (3)</td>
</tr>
<tr>
<td>675</td>
<td>Seminar in Principles of Test Construction (3)</td>
</tr>
<tr>
<td>796</td>
<td>Clinical Practicum (3 or 6)</td>
</tr>
<tr>
<td>797</td>
<td>Research (1-3)</td>
</tr>
<tr>
<td>798</td>
<td>Special Study (1-3)</td>
</tr>
<tr>
<td>799A</td>
<td>Thesis (3)</td>
</tr>
</tbody>
</table>

### 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.

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<tbody>
<tr>
<td>561 (141)</td>
<td>Neural Bases of Behavior (4)</td>
</tr>
<tr>
<td>571</td>
<td>Correlational Analysis (3)</td>
</tr>
<tr>
<td>587</td>
<td>Advanced Principles of Learning (3)</td>
</tr>
<tr>
<td>607</td>
<td>Seminar in Applied Community Psychology (3)</td>
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<tr>
<td>609</td>
<td>Field Work in Community Psychology (3)</td>
</tr>
<tr>
<td>700</td>
<td>Seminar (3)</td>
</tr>
<tr>
<td>710</td>
<td>Seminar in Research in Operant Behavior (3)</td>
</tr>
<tr>
<td>745 (221)</td>
<td>Seminar in Problems in Social Psychology (3)</td>
</tr>
<tr>
<td>746 (226)</td>
<td>Seminar in Political Psychology (3)</td>
</tr>
<tr>
<td>757 (201)</td>
<td>Seminar in Selected Topics in Clinical Psychology (3)</td>
</tr>
<tr>
<td>760 (230)</td>
<td>Seminar in Physiological Correlates of Behavior (3)</td>
</tr>
<tr>
<td>761 (231)</td>
<td>Seminar in Ethology and Comparative Psychology (3)</td>
</tr>
<tr>
<td>764</td>
<td>Seminar in Psychopharmacology and Behavioral Disorders (3)</td>
</tr>
</tbody>
</table>

### Courses Acceptable on Master's Degree

#### Upper Division Courses

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<tr>
<td>551</td>
<td>Clinical Psychology: Theory and Practice (4)</td>
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</tr>
<tr>
<td>764</td>
<td>Seminar in Psychopharmacology and Behavioral Disorders (3)</td>
</tr>
</tbody>
</table>

#### Graduate Courses

Graduate courses in psychology are not open to postbaccalaureate unclassified students. Priority for enrollment in graduate courses in psychology is given to psychology students who have the courses as requirements in their respective programs.

<table>
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<tbody>
<tr>
<td>605 (222)</td>
<td>Seminar in Theoretical Psychology (3)</td>
</tr>
<tr>
<td>607 (278)</td>
<td>Seminar in Applied Community Psychology (3)</td>
</tr>
<tr>
<td>609</td>
<td>Field Work in Community Psychology (3)</td>
</tr>
<tr>
<td>700 (203)</td>
<td>Seminar (3)</td>
</tr>
<tr>
<td>710</td>
<td>Seminar in Research in Operant Behavior (3)</td>
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<td>764</td>
<td>Seminar in Psychopharmacology and Behavioral Disorders (3)</td>
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<td>609 (205)</td>
<td>Field Work in Community Psychology (3)</td>
</tr>
<tr>
<td>607 (280)</td>
<td>Seminar in Applied Community Psychology (3)</td>
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<tr>
<td>620</td>
<td>Seminar in Industrial-Organizational Psychology (3)</td>
</tr>
</tbody>
</table>

Further study of quantitative methods in psychology with emphasis on methods of correlation, chi-square, and contingency, and an introduction to the analysis of variance. (Formerly numbered Psychology 470.)
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.) Seminar in Counseling and Psychotherapy and 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. 
This course is open only to students accepted in the clinical psychology concentration.

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.

654. (204.) Seminar in Psychological Assessment I (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 390, 405, and consent of graduate adviser.
Theory and practice in assessment of intelligence and special abilities.

655. (205.) Seminar in Psychological Assessment II (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 654 and consent of graduate adviser.
Theory and practice in assessment of special abilities, personality and behavior disorders.

656. (234.) Seminar in Behavior Therapy and Laboratory (4)
Two lectures and six hours of laboratory.
Prerequisites: Psychology 451 or 551, 467 or 711, and consent of graduate adviser.
Supervised practice in the application of behavior therapy (individual treatment) and behavior modification (group method).
This course is open only to students accepted in the clinical psychology concentration.

670. (222.) Experimental Design (3)
Prerequisites: Psychology 410, consent of graduate adviser and instructor.
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.) Seminar in 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.

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.

718. Seminar in 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.
Public Administration and Urban Studies

Faculty

Director, Public Administration and Urban Studies: J. D. Kitchen
Coordinator, City Planning Program: J. A. Capp
Coordinator, Criminal Justice Administration Program: R. L. Boostrom

Graduate Advisers:
Master of City Planning: J. A. Capp, A. W. Corso, L. M. Rea
Professors: Bigger, Capp, Gazell, Gilbreath, Gitchoff, Kitchen, Stock, Thompson, Walshok
Associate Professors: Boostrom, Hamilton
Assistant Professors: Corso, Rea, Smith, Stock, Thompson, Walshok

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.

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.

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 catalog. 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; (2) have had a minimum of six units in political science, six units in sociology, three 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 an individual 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, the student is not sufficient merely to file the general forms. Students are admitted to the program only in the fall semester of each academic year and applications must be received no later than April 1.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as described in Part Three of this catalog and be recommended by the faculty. In order to be recommended for advancement, a student must have (1) completed 36 units of upper division or graduate courses in planning and/or related fields selected under advisement. An internship of 12 units (one semester) beyond the 36 units of course work is required of students who have not had equivalent experience. Public Administration 799A, Thesis, must be included in the program unless Plan B with a comprehensive examination in lieu of the thesis is selected by the student. The internship normally will be served in a governmental agency; however, the internship may be completed in a non-governmental position. Assignments 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.

Specific Requirements for the Master of Public Administration Degree
In addition to meeting the requirements for classified graduate standing, the student must satisfy the following requirements for the master's degree as described in Part Three of this catalog. Students must also complete a part of their programs: (1) at least 27 units of 600- and 700-numbered courses including Public Administration 600, 605 or 650, 655, 660, 670 and 666, (2) a minimum of nine additional units of upper division or graduate courses in public administration or related fields selected under advisement. An internship of 12 units (one semester) beyond the 36 units of course work is required of students who have not had equivalent experience. Public Administration 799A, Thesis, must be included in the program unless Plan B with a comprehensive examination in lieu of the thesis is selected by the student. The internship normally will be served in a governmental agency; however, the internship may be completed in a non-governmental position. Assignments 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.

Specific Requirements for the Master of City Planning Degree
All students must meet the general requirements for admission to the University with classified graduate standing, as described in Part Three of this catalog. 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; (2) have had a minimum of six units in political science, six units in sociology, six units in economics, and six 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 an individual 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, the student is not sufficient merely to file the general forms. Students are admitted to the program only in the fall semester of each academic year and applications must be received no later than April 1.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as described in Part Three of this catalog and be recommended by the faculty. In order to be recommended for advancement, a student must have (1) completed 36 units of upper division or graduate courses in planning and/or related fields selected under advisement. An internship of 12 units (one semester) beyond the 36 units of course work is required of students who have not had equivalent experience. Public Administration 799A, Thesis, must be included in the program unless Plan B with a comprehensive examination in lieu of the thesis is selected by the student. The internship normally will be served in a governmental agency; however, the internship may be completed in a non-governmental position. Assignments 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.

Specific Requirements for the Master of City Planning Degree
In addition to meeting the requirements for classified graduate standing, the student must satisfy the following requirements for the master's degree as described in Part Three of this catalog. Students must also complete a part of their programs: (1) at least 27 units of 600- and 700-numbered courses including Public Administration 600, 605 or 650, 655, 660, 670 and 666, (2) a minimum of nine additional units of upper division or graduate courses in public administration or related fields selected under advisement. An internship of 12 units (one semester) beyond the 36 units of course work is required of students who have not had equivalent experience. Public Administration 799A, Thesis, must be included in the program unless Plan B with a comprehensive examination in lieu of the thesis is selected by the student. The internship normally will be served in a governmental agency; however, the internship may be completed in a non-governmental position. Assignments 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.

Further requirements include:
1. City Planning 700, Urban Design and Land Use Planning Studio (6)
2. City Planning 610, Seminar in Urban Planning (3)
3. City Planning 620, Seminar in Urban Planning Methodologies (3)
4. City Planning 630, Seminar in Urban Planning Implementation (3)
5. City Planning 640, Seminar in Urban Planning Theory (3)
6. Public Administration 512, The Metropolitan Area (3)
7. 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 catalog.

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 catalog and be recommended by the faculty. In order to be recommended for advancement, a student must have passed satisfactorily a general written examination in criminal justice administration. An oral examination may also be required by the Graduate Review Committee.

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 catalog. The student must also complete as part of his program: (1) at least 24 units of 600- and 700-numbered courses including Public Administration 600 and Criminal Justice Administration 601, 602, 604 and 797; (2) a minimum of six additional units of 500-numbered or graduate courses in criminal justice administration or related fields selected under advisement. An internship of three units beyond the 30 units of course work is required of students who have not had equivalent experience. Criminal Justice Administration 798A, 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 Coordinator of the Criminal Justice Administration program.

Courses Acceptable on Master's Degree Programs in Public Administration and Urban Studies

UPPER DIVISION COURSES

Criminal Justice Administration Courses

502. (117) Juvenile Deviance and the Administrative Process (3)
Prerequisite: Sociology 514, or Criminal Justice Administration 301 or 310.
The activity of those in the administrative system who process juvenile deviance.

530. (116) Contemporary Correctional Administration (3) II
Prerequisite: Sociology 513 or 514.
The problems encountered in administering modern correctional institutions, forestry and road camps, detention homes, and jails.

531. (188) Probation and Parole (3) I
Prerequisite: Criminal Justice Administration 301 or 310.
Basic concepts, history, legislation, and practices used in work with juveniles and adults who have been placed on probation or parole; criteria of selection, methods of supervision, and elements of case reporting.

Public Administration Courses

510. (154) Intergovernmental Relations in the United States (3) II
Prerequisite: Public Administration 310 or 312 or 315.
Constitution, political and administrative characteristics of American federalism, including regionalism, interstate compacts, and grants-in-aid.

512. (140) The Metropolitan Area (3) I, II
Prerequisite: Public Administration 310 or 312.
Problems of government and administration arising from population patterns and physical and social structures of metropolitan areas.

520. (150) Decision Making in the Urban Community (3) I, II
Prerequisite: Public Administration 310.
Processes of decision making in the management of urban communities.

530. (114) Negotiation and Bargaining in the Public Service (3)
Prerequisite: Public Administration 301.
Specific issues such as strategies, the effects of threat, the physical setting, use of a third party. Emphasis on analyzing simulations of the bargaining process and developing effective negotiation skills.

531. (115) Governmental Employee-Employee Relations (3) I, II
Prerequisite: Public Administration 330.
Historical development, legal basis and organizational implications of governmental employer-employee relations; emphasis on California local government.

540. (156) Public Administration Systems Analysis (3)
Prerequisites: Public Administration 301 and a statistics course.
Systems and organization analysis; work standards and units; procedures analysis; administrative planning.

570. (136) Administrative Law (3) II
Prerequisite: Public Administration 301.
The law of public office and public officers, powers of administrative authorities, scope and limits of administrative powers, remedies against administrative action, (formerly numbered, Public Administration 140.)

580. (149) Comparative Public Administration (3) II
Prerequisite: Public Administration 301.
Administrative organization and process of selected foreign and American governments. Analysis of the cultural basis of administrative systems.

GRADUATE COURSES IN PUBLIC ADMINISTRATION

600. (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) Seminar in 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) Seminar in 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) Seminar in Management of Urban Governments (3)
Selected problems in the management of urban governments. Maximum credit six units applicable on a master's degree.
621. (255) Seminar in The Metropolitan Area (3)
Prerequisite: Public Administration 310, 512 or 520.
Selected problems in the government and administration of the world's major metropolitan areas.

630. (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 Administrative Theory (3)
Prerequisite: Public Administration 600.
Organization and management; the executive role, decision making; bureaucracy; authority and power; communication and control and organizational systems; tactics and strategies in effective management.

643. Seminar in Administrative Behavior (3)
Prerequisite: Public Administration 340.
Intrapersonal, interpersonal and group development knowledge which enhances the administrator's effectiveness. Simulations and structured experiential designs examine behaviors encountered in public bureaucracies.

650. (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. (242) Science, Technology and Public Policy (3)
Prerequisite: Public Administration 600, or equivalent seminar in another department.
The influence of science and technology on governmental policy making; scientists as administrators and advisers; governmental policy making for science and technology; government as a sponsor of research and development.

670. Seminar in Administrative Law (3)
Prerequisite: Public Administration 470.
Legal aspects and problems of administration at the federal, state and local levels.

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)

795. (296) Internship in Public Administration (1-8)
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. 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 the Director 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.

GRADUATE COURSES IN CITY PLANNING

610. (CP266A) Seminar in Urban Planning (3)
Prerequisite: Public Administration 330.
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.
Study, definition and analysis of housing needs and problems. Public policies and programs addressed to housing issues. Alternative solutions and the role of the private and public sectors.

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.

635. Seminar in Housing and Housing Policy (3)
Prerequisite: Public Administration 600, or equivalent seminar in another department.
Study, definition and analysis of housing needs and problems. Public policies and programs addressed to housing issues. Alternative solutions and the role of the private and public sectors.

640. (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, relationships to governmental structure, decision making, and ideological and ethical orientations. A seminar.

650. (CP266E) Seminar in Urban Theory (3)
Prerequisite: Public Administration 330.
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.

665. Seminar in Planning Policy Analysis (3)
Analysis of issues, techniques and examples of policy design and evaluation for urban problems and relationships to the urban planning process.

670. (CP262) History of Urban Planning (3)
Prerequisite: Public Administration 600.
History of urban development and of the field of urban planning.

680. (CP267) Seminar in Readings in Urban Planning (3)
Selected topics in urban planning. Maximum credit six units applicable on a master's degree.

700. (CP261) Urban Design and Land Use Planning Studio (6)
Two lectures and eight hours of laboratory. Prerequisite: City Planning 620.
Course designed to develop an understanding of urban design, land use, and urban development.

710. Seminar in Theories of Urban Design (3)
Prerequisite: Public Administration 330.
Perspectives and methodologies of contemporary urban design and its contribution toward improving the quality of the physical, social, and economic environment.

720. Seminar in Environmental Planning and Management (3)
Prerequisite: Public Administration 600.
Issues and methods in environmental assessment and enforcement.

730. Seminar in Urban Transportation Planning (3)
Prerequisite: Public Administration 600.
Issues, techniques and practices in urban transportation planning with emphasis on interrelations between transportation and land use planning.
796. (CP296) Internship in Urban Planning (3-6) Cr/NC
Students will be assigned to various government agencies and will work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences.

797. (CP297) Seminar in 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.

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.

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.

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.

602. Seminar in the Criminal Justice System as a Social Institution (3)
Prerequisite: Criminal Justice Administration 301.
Examination of criminal justice system as both cause and consequence of social change; nature of institutional change with application to criminal justice system components.

604. Seminar in Criminal Justice and Urban Administration (3)
Prerequisite: Criminal Justice Administration 540.
Critical analysis of influences on crime control and the criminal justice process of actions by urban administrators, legislators and the private sector in areas such as housing, education, public health and transportation, and urban development policies.

610. Seminar in Theory, Research and Analysis in Law Enforcement Administration (3)
Prerequisite: Criminal Justice Administration 301.
Exploration and application of potential role of theory, research and analysis in the administration of law enforcement agencies.

630. (216) Seminar in Theory, Research and Analysis in Correctional Administration (3)
Prerequisite: Criminal Justice Administration 330.
Exploration and application of potential role of theory, research and analysis in the administration of correctional agencies and institutions.

631. (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.

633. Seminar in Judicial Administration (3)
Prerequisite: Criminal Justice Administration 333.
Exploration of leading issues from state and federal perspectives along with the interrelationships between courts and other components of the justice system, especially police and correctional agencies.

660. Seminar in Selected Topics in Criminal Justice Administration (3)
Prerequisite: Criminal Justice Administration 601 or 602.
Analysis of contemporary issues of major import to the administration of criminal justice. Maximum credit six units.

791. Seminar in Readings in Criminal Justice Administration (3)
Prerequisite: Six graduate units in criminal justice administration.
Selected readings in the literature of criminal justice administration.

797. Research in Criminal Justice Administration (3) Cr/NC
Prerequisite: Consent of Coordinator of Criminal Justice Administration.
Research in one of the areas of criminal justice administration. Maximum credit six units applicable on a master's degree.

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

Faculty
Chairman, Department of Recreation: D. Peterson
Graduate Adviser: R. Butler
Professors: Butter, Hanson
Associate Professors: Duncan, Geba, Peterson
Assistant Professors: Hutchinson, Lamke, Namba, Ramos

General Information
The Department offers an undergraduate degree and advanced course work in recreation. Graduate courses in recreation may be used toward fulfilling the requirements for master's degrees in other departments with the approval of the student's graduate adviser.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

548. (148.) Aquatic Administration (3)
Management of swimming pools, beaches, lakes and marinas; safety factors; legal requirements; health standards; facilities and programming. (Formerly numbered Recreation 448.)

549. (149.) Camp Administration (3)
Prerequisite: Recreation 110.
Operation of resident, day and travel camps: Staff management, health and safety, finances, food services, maintenance, planning and publicity. (Formerly numbered Recreation 449.)

575. (175.) Management of Recreation Areas and Facilities (3) I, II
Prerequisite: Recreation 465.
Role of the recreation administrator in the planning, acquisition, development, financing, staffing and maintaining of recreational lands, waters, and structures. Use of natural and man-made resources in the environment. (Formerly numbered Recreation 475.)

GRADUATE COURSES

604. (204.) Seminar in Problems in Recreation (3) Alternate Years
A survey of current problems facing the recreation profession, a review of literature, discussion of trends and observation of school situations together with the analysis and evaluation of actual problems. Written reports are required.

705. (205.) Seminar in Park Management (3) Alternate Years
Prerequisite: Recreation 465.

760. (260.) Recreation Administration and Supervision (3) Alternate Years
Prerequisites: Recreation 485 and 484.
Methods, techniques and evaluation systems used by chief administrators, department heads and supervisors in both public and private agencies.

761. (261.) Seminar in Specialized Facilities (3)
Prerequisite: Recreation 475.
Management methods in planning, developing and operating specialized recreation facilities such as golf courses, zoos and aquaria, botanical gardens and arboreta, beaches and marinas, centers for the handicapped, sports stadia, and others. May be repeated once in a different area of specialization.

Russian

Faculty
Chairman, Department of Germanic and Slavic Languages and Literatures: L. A. Kozlik
Graduate Adviser: Vyta Dukas
Credentia Adviser: Vyta Dukas
Professors: Dukas, Fetzer, Kozlik

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.

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 catalog. 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 catalog, 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 catalog, the student must complete a graduate program of at least 24 units which includes a major consisting of at least 24 units in comprehensive examination in lieu of Russian 799A.

Thesis. If Plan B is followed, the student must pass a comprehensive examination in lieu of Russian 799A.

Courses Acceptable on Master's Degree

UPPER DIVISION COURSES

555A-555B. (105A-105B.) The Russian Short Story, Drama and Poetry of the Nineteenth Century (3-3)
Development of the Russian short story, drama and poetry of the nineteenth century.

561A-561B. (110A-110B.) The Russian Novel of the Nineteenth Century (3-3)
Development of the Russian novel of the nineteenth century.

563. (111.) Russian Literature of the Twentieth Century (3)
Poetry, prose and drama of the twentieth century.

570. Slavic Linguistics (3)
Prerequisite: Russian 202 and 212.
Structural and comparative Slavic linguistics.
580. (130.) Russian Syntax and Stylistics (3)
Prerequisite: Russian 301 and 302.
The structure of contemporary Russian.
581. (131.) Russian Phonetics and Morphology (3)
Prerequisite: Russian 202 and 212.
The sounds and forms of contemporary Russian.

GRADUATE COURSES

600. (290.) Research and Criticism (3)
Prerequisite: Twelve upper division units in Russian.
Courses 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.) Seminar in the Soviet Novel and Short Story (3-3)
Prerequisite: Twelve upper division units in Russian.
Intensive study of major writers of Soviet prose fiction.

710. (205.) Seminar in Russian Poetry from Pushkin to the Present (3)
Prerequisite: Twelve upper division units in Russian.
The major Russian poets of the nineteenth and twentieth centuries.

750. (253.) Seminar in 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. (288.) 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. (290.) 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.

Social Science

Faculty
Graduate Advisers:
Anthropology: B. Bartel
Economics: J. Hambleton
Geography: J. Blick
Political Science: H. Janssen
Sociology: C. Hohm

Faculty members in the Departments of Anthropology, Economics, Geography, Political Science, and Sociology are listed in the appropriate sections of this catalog.

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 catalog.)

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 catalog. 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 upper division 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.
The required upper division units are distributed among the six subfields listed in the General Catalog.

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 the 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 catalog.

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 catalog, 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 student's 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.
Courses Acceptable on Master's Degree

Programs in Social Science

Refer to course listings in the sections of this catalog 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.

GRADUATE COURSES

580. Topics (3)
Special topics appropriate to an interdisciplinary approach. Reading, observation and evaluation of research material and current scholarship in topics under consideration. Whenever possible taught by a team of instructors representing two of six social science disciplines of anthropology, economics, geography, history, political science and sociology. Maximum credit six units.

581. Interdisciplinary Methods (3)
Introduction to graduate research methods and presentation of findings in the social sciences.

680. Seminar in the Social Sciences (3)
Intensive study and research on a topic in the social sciences.
B. Social Work in Mental Health
The concentration addresses human and institutional problems related to personal and family dysfunction reflected in acute life crises, and emotional, behavioral and mental disorders. The objective is social work knowledge and skill development in interdisciplinary community mental health planning, practice and research, with emphasis on roles and modalities of intervention that promote mental health, prevent mental disabilities and treat personal and family dysfunctions. Sociocultural responsiveness and accountability are stressed in comprehensive community oriented services. Roles include clinical diagnosis and treatment of outpatient and inpatient clientele, advocacy, community education, planning, program development and administration. These may be emphasized in accordance with students' career objectives.

C. Social Work in Health
The concentration focuses on the universal quest for health and the human and societal problems contributing to or resulting from illness in all phases of health care, various age groups and vulnerable populations. Development of knowledge and skills prepares students for a range of emerging and established social work roles, modalities and strategies, applied collaboratively with other disciplines in health promotion, prevention and treatment of psychosocial components of illness in individuals, families and groups, and in humanizing health care through consumer advocacy, policy and program development, planning and administration. Research and advanced study in selected areas are geared to individual student interests.

D. Social Work with Children, Youth and Families
The concentration focuses on social work practice in a variety of professional roles in developing and delivering services to children, youth and families. Functional and dysfunctional aspects of human development, socialization, education and other institutions are identified and analyzed from a cross-cultural perspective. Appropriate intervention strategies, involvement in planned change and prevention through social policy analysis, research evaluation, program planning and development are offered.

Application for Admission
In seeking tentative admission to the program leading to the Master of 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 OR THE SCHOOL OF SOCIAL WORK ADMISSIONS COMMITTEE NOT LATER THAN FEBRUARY 1.

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 catalog, 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 personal attributes 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 grade point average in both academic and field instruction in the first year of his program. Grade point average in academic courses is independent of grade point average in field instruction.
2. Be recommended by the faculty of the School of Social Work.
3. Be approved for advancement by the Graduate Division.
4. Successfully pass a written comprehensive examination on the first year's program under conditions determined by the Dean or the faculty of the School of Social Work.

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 at the time of the student's attendance. Normally, a student who wishes to transfer credits earned in such a school of social work must have completed the requirements of that school for the first full academic year of graduate study.
   c. of the 56 units required for the MSW degree, nine units, with permission of the Dean of the School of Social Work, may be in courses in other schools and departments on the campus.
   d. Credits earned more than five years prior to the date of admission to the School of Social Work are not accepted and all work for the degree must be completed within seven years of the date of entering the program. In special circumstances, students may be permitted to validate credits earned outside these time limits by satisfactorily passing comprehensive examinations on the outstanding course or courses.
   e. Minimum of nine units combined credit in 797A-797B and 798 numbered courses may be included on the student's official program for the MSW degree.
2. All candidates for the degree must pass satisfactorily an oral comprehensive examination in lieu of a thesis under the provisions of Plan B as described elsewhere in this catalog.
3. For regulations concerning grade point averages, final approval for the granting of the degree, and for a breakdown of the degree, see the section titled "Basic Requirements for the Master's Award of the Degree, and Diplomas," in Part Three of this catalog. In addition, the student must have earned a 3.0 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.
4. A candidate for the degree must complete a minimum of 36 units in a concentration, not including the research requirement Social Work 797A-797B.

Course Requirements
The normal course of study to be followed by a student seeking the MSW degree is as follows:

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Semester I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Work Analysis</td>
<td>SW 756A, B, C or D (12)</td>
<td>SW 756A, B, C or D (12)</td>
<td>SW 756A, B, C or D (12)</td>
<td>(36)</td>
<td></td>
</tr>
<tr>
<td>Social Welfare Policy &amp; Services</td>
<td>SW 808A, B, C or D (12)</td>
<td>SW 808A, B, C or D (12)</td>
<td>SW 796A, B, C or D (12)</td>
<td>(36)</td>
<td></td>
</tr>
<tr>
<td>Human Behavior and Social Environment</td>
<td>SW 809A, B, C or D (12)</td>
<td>SW 809A, B, C or D (12)</td>
<td>SW 809A, B, C or D (12)</td>
<td>(36)</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>SW 810A, B, C or D (12)</td>
<td>SW 810A, B, C or D (12)</td>
<td>SW 810A, B, C or D (12)</td>
<td>(36)</td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td>SW 850A, B, C or D (12)</td>
<td>SW 850A, B, C or D (12)</td>
<td>SW 850A, B, C or D (12)</td>
<td>(36)</td>
<td></td>
</tr>
<tr>
<td>Field</td>
<td>SW 796A, B, C or D (12)</td>
<td>SW 796A, B, C or D (12)</td>
<td>SW 796A, B, C or D (12)</td>
<td>(36)</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>(12-14)</td>
<td>(12-14)</td>
<td>(12-14)</td>
<td>(56-58)</td>
<td></td>
</tr>
</tbody>
</table>

*Student to do research project related to concentration (exceptions by permission of Dean).
Program of Study

The above course requirement pattern represents the Official Program of Study for MSW candidates. However, to ensure maximum individualized learning within the pattern, each student must plan with his/her adviser, based on guidelines available from the School office, an individual program of study. The initial plan will of necessity be tentative and subject to revision. By Advancement to Candidacy, the student must file with the Dean a plan for completion of the program including preferred electives. Revisions of the plan require approval by the Dean.

Additional Information

Withdrawals

Students in the School of Social Work are governed by the general regulations of San Diego State University and the Graduate Division. For regulations governing withdrawals from courses, unofficial withdrawals, and probation and disqualification from San Diego State University, see the section titled "Regulations of the Graduate Division," in Part Three of this catalog.

Any graduate student who has been admitted to the curriculum offered in the School of Social Work and whose performance therein is judged to be unsatisfactory with respect to scholastic, personal, or professional standards by the faculty of the School of Social Work and the Graduate Council, may be required to withdraw from all graduate curricula at San Diego State University.

Conditional Admission

Students who do not fully meet all requirements for admission to the School of Social Work may, under special circumstances, be admitted to the School of Social Work in conditionally classified graduate standing. At the end of the first semester’s work, the faculty of the School of Social Work shall recommend to the Dean of the Graduate Division and Research that the student:

1. Be disqualified from further participation in the curriculum, or
2. Be continued in conditionally classified standing for a second semester, or
3. Be admitted to full participation in the curriculum with classified graduate standing.

Financial Assistance

Students in the School of Social Work are eligible for financial assistance as described in Part Three of this catalog.

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.

REQUIRED COURSES IN M.S.W. PROGRAM

All with appropriate concentration section: (A-Aging, B-Mental Health, C-Health, D-Children, Youth and Families)

Social Work 600, 620, 630, 650, 690, 730, 731, 750, 755

Not sectioned by concentration:

Social Work 797A-797B

Courses Acceptable on Master’s Degree Program in Social Work

UPPER DIVISION COURSES

520. Seminar in Contemporary Issues and the American Family (3)
Prerequisite: Upper division, undergraduate social welfare major, or classified graduate standing in the School of Social Work; or classified graduate standing in other programs of study and unclassified standing with the consent of the dean.
Explores and analyzes a myriad of areas within the context of change of the family as a social institution. The family is viewed systemically. Such factors as industrialization, cybernetics and the changing nature of the marital bond are included.

530. Seminar in History of Social Work (3)
Prerequisite: Upper division, undergraduate social welfare major, or classified graduate standing in the School of Social Work; or classified graduate standing or unclassified standing with consent of the dean.
Development of social welfare institutions as a function of industrial society in America. Historical trends in politics, economics, migration, and life styles are examined in relation to the development of social institutions for responding to human need including the development of the profession of social work.

540. Seminar in Social Effects of the Legal Process (3)
Prerequisite: Upper division, undergraduate social welfare major, or classified graduate standing in the School of Social Work; or classified graduate standing or unclassified standing with consent of the dean.
Structure and functions of law as it bears upon such groups as defendants in criminal prosecutions, recipients of welfare programs, conservates in mental health hearings, children in juvenile court dependency proceedings. The legal conflicts social workers may encounter between their ethics and their duties to clients and agency.

550. Seminar in Administration and Decision Making in Human Service (3)
Prerequisite: Upper division, undergraduate social welfare major, or classified graduate standing in the School of Social Work; or classified graduate standing or unclassified standing with consent of the dean.
Relationship between the development of social policy and its actual implementation through decision program development and delivery of human services. Administrative actions including decision program development and delivery of human services. Administrative actions including decision program development and delivery of human services. Administrative actions including decision program development and delivery of human services.

GRADUATE COURSES

600. Seminar in Social Welfare Policy and Services (3)
Social welfare as a social institution; philosophical, historical and comparative analysis of the welfare functions, issues and problems, plus conceptual analysis of social welfare programs in general and related to areas of concentration. Sectioned by:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

620. Seminar in Human Behavior and Social Environment (3)
Theoretical perspectives on the human condition based on biological, psychological, interpersonal and social assumptions, with emphasis on examining unusual behavior from several perspectives for social work practice. Sectioned by:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families
630. **Seminar in Social Work Practice** (3)

Theories, principles, skills and objectives of social work practice with individuals, families, groups, organizations and communities. Sections related to needs of practice in:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

650. **Field Instruction** (8)

Prerequisite: Concurrent registration in Social Work 730 in same concentration.

Field instruction in public or voluntary social work setting. Experiences emphasize application of social work objectives, principles and skills in service to individuals, families, groups and communities related to:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

690. **Seminar in Social Work Research Methods** (3)

Definition and purpose of research in social work. Techniques and methods used in collecting, organizing and interpreting social welfare and related data; steps involved in planning a research project and selecting a research design, related to:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

700. **Seminar in Social Welfare Policy and Services** (3)

Prerequisite: Social Work 600.

Problems and issues in emerging social welfare programs, including analysis of the structure of social services and of social work as a profession.

710. **Seminar on Selected Topics** (3)

Selected topics such as alcoholism, drug abuse, human sexuality, legislative processes and violence against children and implications to social work. Topics announced in class schedule. Maximum credit nine units applicable on a master's degree.

720. **Seminar in Human Behavior and Social Environment** (3)

Prerequisite: Social Work 620.

Theories of natural and induced change in human behavior which have utility for social work practice.

730. **Seminar in Social Work Practice** (3)

Prerequisite: Social Work 630 in same concentration and concurrent registration in Social Work 650 in same concentration.

Social work practice with the objective of personal, family, organization and institution social situation analysis and problem solving. Emphasis on societal and cultural interactional contexts appropriate to:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

731. **Seminar in Advanced Social Work Practice** (3)

Prerequisite: Social Work 730 in same concentration and concurrent registration in Social Work 750 in same concentration.

Advanced social work practice in the areas of:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

734. **Seminar in Social Work Practice With Organizations and Communities** (3)

Prerequisites: Completion of first year courses.

Examines community problems, power and strategies in social planning and development under auspices of interorganizational systems, bureaus and informal associations. Applications of concepts and principles of planning social change in situational analysis, community organization, program development and evaluation.

740. **Seminar in Management Knowledge and Technique** (3)

Prerequisite: Social Work 600.

Examines problems and roles of administrators in social agencies: administrative and organizational theories; executive functions of planning, budgeting, directing, reporting and staffing; relationships and communications in ordinary, superordinate and subordinate levels.

750. **Advanced Field Instruction** (8)

Prerequisite: Social Work 650 in same concentration and concurrent registration in Social Work 731 in the same concentration.

Advanced field instruction in public or voluntary social work setting. Continuation and intensification of experiences in the application of social work objectives, principles and skills in service to individuals, families, groups and communities related to:

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

755. **Seminar: Social Work Analysis** (1-4)

Student orientation to concentration in context of social work profession to include discussion, attendance at general presentations, field observation, and written assignments integrating experiences.

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

A. Aging
B. Mental Health
C. Health
D. Children, Youth and Families

760. **Seminar in Social Work and Racial-Ethnic Groups** (3)

Prerequisite: Completion of first year courses.

Nature of institutional racism and its effect on social provision and social policy. Examines overt and covert forms of racism in but not limited to areas such as housing, schools, corrections, organized labor, job training for the poor, and social statistical reporting for implications to social work practice.

761. **Seminar on Racial-Ethnic Groups** (3)

Prerequisite: Completion of first year courses.

Exploration of social survival techniques of ethnic minority groups, their similarities and differences and implications to development of social service delivery systems and practice.

765. **Seminar in Social Work and Aging** (3)

Prerequisites: Completion of first year courses.

Exploration of social work principles and techniques related to the impact of the aged population on our society. Focus on becoming sensitive to the implied and actual changes taking place in service delivery systems, living arrangements, etc., which affect social work practice.

766. **Seminar on Aging** (3)

Prerequisite: Completion of first year courses.

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. **Seminar in Social Work and Health** (3)

Prerequisites: Completion of first year courses.

Examination of changing health definitions and health service delivery systems; their effects on consumers and providers of social services and implications for social work practice.

771. **Seminar on Health** (3)

Prerequisite: Completion of first year courses.

Examination of selected health-related topics: social and emotional aspects of health and disability, continuity of health care; relationship of social work to other health professions.
775. Seminar in Social Work and Mental Health (3)
Prerequisite: Completion of first year courses.
Analysis of selected areas of mental health service that critically examines social work responsibilities and roles in addressing a continuum of mental health needs in a changing society.

776. Seminar on Mental Health (3)
Prerequisite: Completion of first year courses.
Overview of mental health needs, problems, and services with emphasis on philosophical, social, legal, and therapeutic concerns, particularly as these relate to vulnerable population groups.

780. (291.) Seminar in Social Work and Selected Populations-at-Risk (3)
Social work practice with selected populations-at-risk such as one-parent families, children in institutions, ethnic minority immigrants, Native-Americans in the urban scene, and foreign-born brides of U.S. servicemen. Topics to be announced in class schedule. 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 690.
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.
## Courses Acceptable on Master’s Degree Programs in Sociology

### UPPER DIVISION COURSES

#### 506. Modernization of Traditional Societies (3)
Prerequisite: Sociology 101.
Examines theories of social change relative to industrialization and urbanization of preindustrial societies. Comparative study of institutional and social-psychological consequences of industrialization, utilizing historical and contemporary study of macrosocial change.

#### 508. Sociology of the Future (3)
Prerequisite: Sociology 101.
Examines sociological aspects of alternative futures and the role of contemporary behavior in creating those futures. Analysis of projections in selected areas such as family, technology, work and leisure.

#### 510. Sociology of Deviance (3)
Prerequisite: Sociology 101.
Survey of many alleged abnormal phenomena in society as seen in society today in various forms of individual, family, community and world disorganization, such as crime, prostitution, extreme alcoholism, migratory workers, divorce, revolution, war, etc.

#### 511. Current Topics in Sociology (3)
Prerequisite: Sociology 101.
Selected specialized, controversial or currently relevant topics in sociology. Maximum opportunity provided for student initiative in determining course content and procedures. May be repeated with new content. Maximum credit six units.

#### 512. Sociology of Conflict (3)
Prerequisite: Sociology 101.
Conflict as a social process: background, forms and consequences at the interpersonal, intergroup, class and international levels from a sociological frame of reference. Major theories of social conflict.

#### 513. Criminology and Penology (3)
Prerequisite: Sociology 101.
The extent and characteristics of crime; consideration of physical, mental, economic and sociological causes of crime; study of methods of penal discipline, prison labor, parole and probation, programs of prevention.

#### 514. Juvenile Delinquency (3)
Prerequisite: Sociology 101.
The nature and extent of delinquency; the causative factors involved; methods of control and prevention, with special attention to the protective and remedial measures offered by the school, home, juvenile court, correctional institutions and camps, probation and parole, and recreational agencies.

#### 519. Topics in Comparative Societies (3)
Prerequisite: Sociology 101.
Analysis of contemporary social structure, the process of modernization and current social problems in selected areas of the world. May be repeated with new content. Maximum credit six units.

#### 520. Industrial Sociology (3)
Prerequisite: Sociology 101.
Group relationships within economic organizations. Problems of leadership, morale and conflict. Some attention to the sociology of occupations and professions.

#### 521. Sociology of Occupations and Professions (3)
Prerequisite: Sociology 101.
Division of labor, status ranking of occupations, authority structures, occupational and professional organization, occupational socialization, problems of identity and role conflict.

#### 522. The Sociology of Mental Illness (3)
Prerequisite: Sociology 101.
The social definition, ecology and control of mental illness across various societies. The implications of social differentiation, stratification and urbanization upon the incidence, prevalence and control of mental illness and the use of these empirical problems for sociological research.

#### 523. Sociology of Religion (3)
Prerequisite: Sociology 101. Recommended: Sociology 422.
Theories of ethnic prejudice. Analysis of racial and ethnic discrimination. Analytic inquiry into sources of friction and causes of conflict between majority and minority groups.

#### 524. Medical Sociology (3)
Prerequisite: Sociology 101.
A sociological analysis of health and medical institutions. Cultural factors in conceptions of disease, health and healing. Social structure of medical facilities and the role of personnel in such institutions. Relation of illness to income, housing and other socioeconomic factors. Not open to students with credit in Health Science and Safety 561.

#### 527. Sociology of Aging (3)
Prerequisite: Sociology 101.
Status and roles of men and women in the second half of the life cycle. Ethnic, sex and class variables in aging. Cross-cultural comparisons of occupational, educational, familial, recreational and political opportunities for the aging.

#### 528. Sociology of Death (3)
Prerequisite: Sociology 101.
Examines sociological concepts and theories of the process of dying. Comparative study of death and dying with emphasis on social, psychological and social organization approaches. Consideration of contemporary social-ethical issues surrounding dying in our society.

#### 533. Sex Roles in Contemporary Societies (3)
Prerequisite: Sociology 101.
Male-female relationships in occupational, educational and familial settings viewed historically and cross-culturally. Changing concepts of femininity and masculinity. Images of men and women in literature, in the mass media, and in laws and judicial decisions.

#### 534. Sexuality in Modern Society (3)
Prerequisite: Sociology 101.
Analysis of landmark sex research and pornography in the United States and in selected other societies. Changing norms in premarital, marital and extramarital attitudes and behaviors. Implications for the individual, family and society.

#### 535. The American Family and Its Alternatives (3)
Prerequisite: Sociology 101.
Analysis of contemporary dating, engagement, marriage, family and other intimate relationships in the United States as they are affected by changes in the culture.

#### 536. The Family in Cross-Cultural Perspective (3)
Prerequisite: Sociology 101. Recommended: Sociology 535.
Comparative study of selected family systems in the past and present. Family and parafamily forms in intentional communities of the 19th century compared with contemporary communal experiments. Ethnic and class differences in family organization. (Not open to students with credit in Family Studies and Consumer Sciences 536.)

#### 537. Political Sociology (3)
Prerequisite: Sociology 422.
Power and authority, social class, primary groups. Social organization of political processes. Power and authority, social class, primary groups.

#### 538. Sociology of Religion (3)
Prerequisite: Sociology 101. Recommended: Sociology 401 and 546.
The role of religion in society as cult and institution, including primitive religion, modern sects and churches, ritual, secularization and religious movements.

#### 539. Sociology of Education (3)
Prerequisite: Sociology 101.
Social organization of education, teaching as a profession. Class, ethnic and other social factors affecting the educational process. Educational institutions and the community.

#### 541. Advanced Social Psychology (3)
Prerequisite: Sociology 440 or Psychology 340. Recommended for majors and minors only.
Sociological theories and approaches to the study of group behavior and membership, socialization of the individual, and processes of social interaction.
545. (145.) Sociology of Mass Communication (3)
Prerequisites: Sociology 101. Recommended: Sociology 440 and 546.
Sociological analysis of the processes and effects of mass communications in different social systems, their functions and dysfunctions and their relationships to other social institutions.

546. (146.) Collective Behavior (3)
Prerequisite: Sociology 440.
The basic processes of social behavior in masses and groups, including crowd behavior, fads, fashions, crazes, panics, rumors, sects and cults; heroes and scapegoats; social movements; effects of mass communication.

547. (147.) Sociology of Social Movements (3)
Prerequisite: Sociology 101. Recommended: Sociology 422 and 545.
Revolutionary and reform movements in relationship to the larger society. Conditions leading to development of social movements, emergence of leadership, ideologies, strategies, recruitment of members and social consequences, case studies in depth.

548. (148.) Small Groups (3)
Prerequisite: Sociology 440.
Processes, morale and organization of small groups; their role in society and institutions such as industry, military, recreation and education; recent studies and methods of research.

550. (150.) Population Problems (3)
Prerequisite: Sociology 101.
Study of population variables including births, deaths and migration. Comparative analysis of theories, methods and techniques used in the study of population and ecological problems, processes and relationships.

557. (157.) Urban Sociology (3)
Prerequisite: Sociology 101.
The structure and function of the modern city; types of neighborhoods; forms of recreation, social forces in a metropolitan area; types of urban personalities and groups; rural-urban conflicts of culture. Practical field studies required.

563. The Logic of Sociological Inquiry (3)
Prerequisite: Sociology 201.
Systematic overview and analysis of explanation in the social sciences and history with emphasis on sociology. Problems of applying the natural scientific method to the social sciences, interpretation of meaning and objectivity.

597. (197.) Investigation and Report (3) I, II
Prerequisite: Fifteen units in sociology and consent of instructor.
Analysis of special topics in sociology. Maximum credit six units.

GRADUATE COURSES

601. Advanced Social Theory: Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 401.
Systematic treatment of the original European and American classic sociological writing and an overview of the major developments in contemporary social theory.

602. Advanced Research Methods: Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 464.
Problems and techniques in social research with stress on philosophy of science, theory building, research design, measurement, and data analysis including fundamental critiques and alternatives.

603. Advanced Social Psychology (Sociological Approaches): Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 440.
Investigation and analysis of original works in classical social psychological theory focusing on implications for research on topics such as socialization, motivation, perception, role, self, interaction and symbolic processes.

604. Social Organization: Core Course (3)
Prerequisites: Conditional graduate standing, Sociology 422.
Concepts, theories and findings concerning structure and change in society, institutions, formal organizations, the community and small groups. Special attention given key concepts of culture, stratification, division of labor, power, bureaucracy, role relationships and interaction.

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, ecological structure and process; community institutions and structure; community deterioration, 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, 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.
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.

797. (297.) Research (3) Cr/NC
   Prerequisite: Sociology 464.
   Independent investigation of special topics. 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.

Spanish

Faculty
Chairman, Department of Spanish and Portuguese
Languages and Literatures: G. V. Segade
Coordinator, Graduate Program: E. M. Barrera
Graduate Adviser: Barrera
Credentail Adviser: R. R. Young
Professors: Barrera, Case, Head, Lemus, Segade, Walsh
Associate Professors: Christensen, Jimenez-Vera, O'Brien, Santalo, Talamantes, Weeter
Assistant Professor: Young

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.

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 catalog. 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 catalog, 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 catalog, 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 16 units must be in 600- and 700-numbered courses, including Spanish 691 and Spanish 799A in the Plan A program.

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.

Courses Acceptable on Master's Degree
Programs in Spanish

UPPER DIVISION COURSES IN SPANISH

504A-504B. (104A-104B.) Spanish-American Literature (3-3)
   Prerequisites: Spanish 202 and 212.
   Reading from representative Spanish-American authors during the colonial, revolutionary and modern periods. Lectures, class reading, collateral reading and reports.
### GRADUATE COURSES IN SPANISH

#### Spanish Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisite(s)</th>
</tr>
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<tbody>
<tr>
<td>510A-510B</td>
<td>Modern Spanish Drama</td>
<td>3-3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>515A-515B</td>
<td>Mexican Literature</td>
<td>3-3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>520</td>
<td>Caribbean Area Countries Literature</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>522</td>
<td>Andean Countries Literature</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>524</td>
<td>River Plate Literature</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>530</td>
<td>Nineteenth Century Spanish Novel and Short Story</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>532</td>
<td>Twentieth Century Spanish Novel and Short Story</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>533</td>
<td>Contemporary Spanish Novel</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>534</td>
<td>Medieval Spanish Literature</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>540</td>
<td>Spanish Linguistics</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
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<tr>
<td>549</td>
<td>Phonetics and Phonemics</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>550</td>
<td>Golden Age Literature I</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>560</td>
<td>Golden Age Literature II</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>570</td>
<td>Spanish-American Poetry</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>571</td>
<td>Spanish-American Short Story</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>572</td>
<td>Spanish-American Theatre</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
<tr>
<td>580</td>
<td>Modern Spanish Poetry</td>
<td>3</td>
<td>Spanish 202 and 212.</td>
</tr>
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#### Portuguese Courses

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tr>
<td>534</td>
<td>Portuguese Literature</td>
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<td>535</td>
<td>Brazilian Literature</td>
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<td>540</td>
<td>Portuguese Literature</td>
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<tr>
<td>550</td>
<td>Brazilian Literature</td>
<td>3</td>
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</table>

**Graduate Courses in Spanish**

All graduate courses in the Department of Spanish and Portuguese Languages and Literatures have a prerequisite of 12 upper division units in Spanish, or consent of instructor.

**601. Research and Criticism (3)**

**610. History of the Spanish Language (3)**

**620. Cervantes (3)**

**630. Lope de Vega and Calderon (3)**

**640. The Spanish-American Novel (3)**

**650. The Gaucheo Epic (3)**

**660. Modernism (3)**

**670. Medieval Spanish Literature (3)**

**680. The Modern Spanish Essay (3)**

**690. The Spanish-American Essay (3)**

**695. Contemporary Spanish-American Prose Fiction (3)**

**720. Seminar in Spanish Golden Age Literature (3)**

**730. Seminar in 19th Century Spanish Literature (3)**

**740. Seminar in 20th Century Spanish Literature (3)**

**750. Seminar in Spanish-American Literature (3)**

**755. Seminar in Spanish-American Culture and Thought (3)**

**770. Applied Spanish Linguistics for Teachers (3)**

The application of linguistic theory to the teaching of Spanish at the secondary and college levels.
Speech Communication

Faculty
Chairman, Department of Speech Communication: F. C. Sanders
Coordinator, Graduate Program: S. W. King
Graduate Advisers: S. W. King, F. C. Sanders
Credential Adviser: P. G. Gaske
Professors: Adams, Benjamin, Mills, Samovar
Associate Professors: King, Sanders
Assistant Professor: Weitzel

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.

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 catalog.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as described in Part Three of this catalog. In addition, students seeking the Master of Arts degree in Speech Communication are required to have completed Speech Communication 700.

Specific Requirements for the Master of Arts Degree
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Three of this catalog, the student must complete a graduate program which includes at least 30 units 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, resulting in a 33-unit degree program.

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 (3), 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)
   525. Studies in American Fiction (3)
   526. Studies in American Poetry (3)
   527. Studies in American Drama (3)
   537. Milton (3)
   540A or 540B. English Fiction (3)
   542A or 542B. Nineteenth Century British Poetry (3)
Courses Acceptable on Master's Degree
Programs in Speech Communication

GRADUATE COURSES

700. (200.) Seminar in Research and Bibliography (3)
Basic reference works, scholarly and critical journals; introduction to bibliographical techniques; exercises and problems in methods and exposition of research as it relates to speech communication. Recommended for first semester of graduate work, and prerequisite to advancement to candidacy.

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 linguistic 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.

775. Seminar in Intercultural Communication (3) I, II
Prerequisite: Speech Communication 575.
Analysis of cultural influences on human communication acts. Emphasis on cultural values, perception, social organizations, language and nonverbal codes.

780. (280.) Seminar in Public Address (3)
Case studies of rhetorical events which illustrate rhetorical theory. Maximum credit six units applicable on a master's degree.

790. (290.) Seminar in Experimental Procedures in Speech Communication (3)
Prerequisites: Credit or concurrent registration in Speech Communication 592 and 700.
Examination and evaluation of appropriate experimental procedures and traditional methods; special problems in research design.

791. (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.

788. (298.) Special Study (1-3) Cr/NC
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 student expects to use the facilities and resources of the university. Also student must be registered in the course when the completed thesis or project is granted final approval.
Telecommunications and Film

Faculty
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, Meadow
Assistant Professors: Miskes, Misiorowski

Assistantships
Graduate 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.

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 catalog 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 standing, as outlined in Part Three of this catalog, 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 310) 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.

Specific Requirements for the Master of Arts Degree
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 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 catalog.

Courses Acceptable on Advanced Degree Programs in Telecommunications and Film

UPPER DIVISION COURSES

500. (101) Broadcast Management (3) I, II
Prerequisites: Telecommunications and Film 100
Administration and organization of radio and television, including radio and television advertising.

501. Business Aspects of Television and Film Production (3) I, II
Prerequisites: Telecommunications and Film 260 or 280. Normally taken concurrently with Telecommunications and Film 580 or 581.

505. (105) Regulation of Broadcasting (3) I, II
Prerequisite: Telecommunications and Film 100
Responsibilities of broadcasters as prescribed by law, governmental policies and regulations, and significant court decisions.

510. (110) Script Writing for Broadcasting and Film (3) I, II
Prerequisites: Telecommunications and Film 260 or 280, and successful completion of the University's writing competency requirement. Development of a single program and series ideas. Scripting of dramatic original and adaptation forms, and the documentary.

520. (180) Directing Television and Film Drama (3) I, II
Two lectures and more than three hours of activity. Planned for prospective directors of plays for television and film. The student will become acquainted with principles, procedures and methods. Practical experience in University-sponsored productions.

3. Total score (verbal and quantitative) on the GRE Aptitude Test of 850.
To be considered for admission to a graduate program in the department, a student must submit the following in addition to materials required by the University:
1. Three letters of recommendation.
2. A personal statement in which the student discusses his or her background, interests and abilities as they apply to the desire for an advanced degree, and in particular, a graduate degree in telecommunications and film at San Diego State University.

Students accepted for graduate study in the Department of Telecommunications and Film will first be given Conditional Graduate Standing (classified). Full classified standing will be given only after the student has completed Telecommunications and Film 600 with a grade of B or better, and has filed an official statement of program. In addition to meeting the requirements for classified standing described in Part Three of this catalog, all students must complete Telecommunications and Film 600 in their first semester in residence.
530. (130.) Radio Programming (3) II
Two lectures and more than six hours of scheduled activity.
Prerequisite: Telecommunications and Film 100 and 121.
Formats, policies, production practices and research in modern programming. Student work is broadcast on KPBS-FM.

540. (103.) Broadcast Advertising (3) I
Prerequisite: Two courses in broadcasting or journalism.
Theory, procedures, and the role of broadcast advertising, including marketing and media research, campaign planning, media strategy, time purchasing, and evaluation.

541. (104.) Broadcast Commercial Practices (3) II
Prerequisite: Telecommunications and Film 121, 280, 540, and permission of instructor.
Planning and execution of broadcast advertising and promotion campaigns; creative strategy and production techniques; use of research; campaign evaluation.

550. (156.) Advanced Lighting and Staging for Television and Film (4) I, II
One lecture and more than nine hours of activity.
Prerequisite: Telecommunications and Film 120, 122, 123.
Production elements of television and film, to include lighting and staging techniques, art and graphics, scene design and scene decoration. Practical experience in University-sponsored productions.

560. (1664.) Film Production (3) I, II
Two lectures and more than six hours of activity. Practical experience in University-sponsored productions.
Prerequisite: Telecommunications and Film 260, 510, and 520.
Advanced practice in film production. Cameras, lighting, design, sound techniques for super-8 and 16mm productions. (Formerly numbered Telecommunications and Film 560A.)

561. (165B.) Film Direction (3) I, II
Two lectures and more than three hours of activity.
Prerequisite: Telecommunications and Film 501, 550, and 560.
Studio and location work in the preparation of filmed materials and complete nontheatrical films. Practical experience in University-sponsored productions. (Formerly numbered Telecommunications and Film 560B.)

562. (164.) Documentary and Propaganda Film (3) I
Two lectures and three hours of activity.
Prerequisite: Telecommunications and Film 160.
Viewing and analysis of the major conceptual forms and cinematic techniques of these genres from 1922 to the present.

563. (160.) Film Classics (3) I, II
Two lectures and three hours of activity.
Prerequisite: Upper division standing.
Viewing and analysis of those American and foreign theatrical films particularly of the sound era, which represent milestones in the development of the cinema. May be repeated with new content. Maximum credit six units.

565. (165) Animated Film Techniques (3) I, II
Two lectures and more than three hours of activity.
Screening of representative examples and production of a filmograph or animated motion picture. Practical experience in University-sponsored productions.

570. (170.) Educational Telecommunications (3) I
Prerequisite: Telecommunications and Film 100.
The role of instructional and public broadcasting in the United States; utilization of telecommunications in the classroom and industrial training programs.

580. (183.) Advanced Programming and Development for Television (3) I, II
One lecture and more than six hours of activity.
Prerequisite: Telecommunications and Film 280, 510, and consent of instructor.
The development of program ideas into formats for television productions of all types. Practical experience in developing and producing programs for University-sponsored productions.

581. (184.) Advanced Television Directing (3) I, II
One lecture and more than six hours of activity.
Prerequisite: Telecommunications and Film 100, 280, 520 and consent of instructor.
Presentational techniques and individual projects in the direction and production of television programs. Practical experience in University-sponsored productions.

590. (108.) International Broadcasting (3) II
Prerequisite: Telecommunications and Film 500 or 555.
Comparative study of broadcasting in various world areas; economic, social and political determinants of broadcasting patterns.

596. (196.) Selected Topics in Telecommunications and Film (1-3) I, II
Prerequisite: Twelve units in telecommunications and film.
Specialized study of selected topics from the areas of telecommunications and film. May be repeated with new content. Maximum credit six units. (Formerly numbered Telecommunications and Film 496.)

GRADUATE COURSES

600. (200.) Seminar in Research and Bibliography (3)
Basic reference works, scholarly and critical journals; bibliographical techniques; exercises and problems in methods and exposition of research as it relates to the various areas of telecommunications and film.

602. (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.) Seminar in Mass Communications Message Design (3)
Prerequisite: Speech Communication 535.
Selection and organization of message design elements in the mass communications media. Analysis of different effects of various types of mass communications formats, presentations, and systems on individuals and groups.

610. (210.) Seminar in Writing for Broadcast and Film (3)
Prerequisite: 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.) Seminar in Criticism of Broadcasting and Cinema (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
Principles of 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; analysis of techniques and stylistic contributions of major directors as seen in their films. Production of a short dramatic film embodying concepts so learned.

660. (268.) Seminar in Directing the Dramatic Film (3)
Prerequisite: Telecommunications and Film 520, 560, and consent of instructor.
Analysis of techniques and stylistic contributions of major directors as seen in their films. Production of a short dramatic film embodying concepts so learned.

670. (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 Programming and Production (3)
Prerequisite: The equivalent of an undergraduate major in telecommunications and film.
Theory and analysis of programming 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)
Prerequisite: Telecommunications and Film 505 or Journalism 502.
Analysis of legal concepts and issues as applied to commercial and non-commercial broadcasting; relationship of local, state and federal government to broadcast media.

770. (275.) Seminar in Teaching Broadcasting and Film (3)
Broadcast and film curriculum development. Methods of teaching both theory and laboratory courses in broadcasting and film. Analysis of organizations for administering broadcast and film curricula in colleges and universities with public TV stations and/or on-campus instructional TV systems.

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
Prerequisite: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.
Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval.

799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with 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.

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Upper Division Courses

(Also Acceptable for Advanced Degrees)

The following courses are acceptable on selected advanced degree programs.

**AMERICAN INDIAN STUDIES COURSE**

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

**GREEK COURSE**

550. (155.) Advanced Reading in Greek (3-4)
Prerequisite: Greek 304.
Extended, intensive reading in a major author of more difficult or peculiar style or content, such as Aeschylus, Thucydides, Herodotus, Aristotle, Sappho, Aristophanes, Lucretius, Caesar, Tacitus, Livy, Terence, Horace, Plautus, Petronius, Juvenal. Emphasis on style, content, interpretation. May be repeated with new content. Maximum credit nine units. (Formerly numbered Greek 450.)

**LATIN COURSE**

550. (155.) Advanced Reading in Latin (3-4)
Prerequisite: Latin 304.
Extended, intensive reading in a major author of more difficult or peculiar style or content, such as Lucretius, Caesar, Tacitus, Livy, Terence, Horace, Propertius, Petronius, Juvenal. Emphasis on style, content, interpretation. May be repeated with new content. Maximum credit nine units. (Formerly numbered Latin 450.)

**RELIGIOUS STUDIES COURSES**

501. (121A.) Religions of India (3)
Prerequisite: Three units of religious studies.
Phenomenological studies in the major religious traditions of India, especially Hinduism and Buddhism.

503. (121B.) Religions of the Far East (3)
Prerequisite: Three units of religious studies.
Phenomenological studies in the major religious traditions of East Asia, especially China and Japan.

506. (126A.) Scriptures of India (3)
Prerequisite: Religious Studies 201, 501 or 503, or six units of philosophy.
The religious and philosophical modes of thought and ways of life in India as reflected in major scriptures; reading and analysis of primary texts in translation.

508. (126B.) Scriptures of Far Eastern Traditions (3)
Prerequisite: Religious Studies 201, 501 or 503, or six units of philosophy.
The religious and philosophical modes of thought and ways of life in East Asia, especially China and Japan, reading and analysis of primary texts in translation.

518. (140.) The Oracular Tradition (3)
Prerequisite: Religious Studies 201, and 360, 361, 501, 503, 506 or 508.
Oracular traditions of East and West, with special attention to the I Ching and the Tarot.

520. (150.) Religious Consciousness in American Society (3)
Prerequisite: Three units of religious studies.
Critical investigation of the traditions which have helped to shape religious pluralism within American society.

522. (151.) Religion in America (3)
Prerequisite: Religious Studies 520.
Selected topics in religion in America, such as Deism, transcendentalism, pragmatism, church-state relations, Jewish identity, etc. May be repeated with new content. Maximum credit six units.
524. Religion and Public Education (3)
Prerequisite: Valid teaching credential or enrolled in a credential program. Examinations of federal and state legislation and guidelines of boards of education affecting the teaching about religion in the public schools. Teaching materials and curriculum will be evaluated in the light of these contexts.

580. (180.) A Major Figure (3) I, II
Prerequisites: Religious Studies 101 or 201, and three upper division units in religious studies. Life, works and significance of one major figure in a religious tradition. May be repeated with new content. Maximum credit six units.

581. (181.) A Metaphysical Doctrine (3) I, II
Prerequisites: Philosophy 102, Religious Studies 101 or 201, and three upper division units in religious studies. Systematic study of a selected theme or problem basic to the teachings of one of the major religious traditions. May be repeated with new content. Maximum credit six units.

WOMEN'S STUDIES COURSE

595. Seminar in Women's Studies (3)
Prerequisites: Six upper division units in women's studies. Directed research in women's studies. Field of investigation will vary with instructor. Methods of investigation and development of bibliography, presentation of paper based on original research. (Formerly numbered Women's Studies 495.)
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 1976 totaled approximately 300,000 students, who were taught by a faculty of 17,000. Last year the system awarded over 53 percent of the bachelor’s degrees and 34 percent of the master’s degrees granted in California. Over 600,000 persons have been graduated from the nineteen campuses since 1960.
Average Annual Costs and Sources of Funds per Full-time Equivalent* Student in The California State University and Colleges

The nineteen campuses of The California State University and Colleges are financed primarily through funding provided by the taxpayers of California. For the 1976-77 year, the total cost of operation is $740 million, which provides continuing support for 239,410 full-time equivalent (FTE) students. This results in an average cost per FTE student of $3,091 per year. Of this amount, the average student pays $285. Included in this average student payment is the amount paid by nonresident students. The remaining $2,806 in costs are funded by state and federal taxes.

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

### 1976-77 Projection of Total Costs of Campus Operation

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>Cost Per Student (FTE)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Appropriation (Support)</td>
<td>$613,824,941</td>
<td>$2,564</td>
<td>82.9</td>
</tr>
<tr>
<td>State Funding (Capital Outlay)**</td>
<td>30,029,210</td>
<td>125</td>
<td>4.1</td>
</tr>
<tr>
<td>Student Charges</td>
<td>68,260,575</td>
<td>286</td>
<td>9.2</td>
</tr>
<tr>
<td>Federal (Financial Aids)</td>
<td>27,881,227</td>
<td>117</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$739,995,953</td>
<td>$3,091</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* For budgetary purposes, full-time equivalent (FTE) translates total head count into total academic student load. The term assumes that a full-time student in The California State University and Colleges is enrolled for 15 units of academic credit. Some students enroll for more than 15 units; some students enroll for fewer than 15 units.
** The system’s wide range of facilities and equipment on the 19 campuses is currently valued at approximately $1.17 billion, excluding the cost of land. Amortized over a 40-year period, they are valued at $125 per FTE student.
*** The average costs paid by a student include the student services fee, health facilities fee, college union fee, student body fee, and the nonresident tuition. This amount is derived by taking the total of all student fees and dividing by the total full-time equivalent student enrollment. Individual students may pay more or less than $285 depending on whether they are part-time, full-time, resident or nonresident students.
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