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Graduate Bulletin

Announcement of the
Graduate Division
1993-1994

San Diego State University
5300 Campanile Drive
San Diego, California
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Annual Calendar

CALENDAR 1993																				
JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27
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11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
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JULY							AUGUST							SEPTEMBER						
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11	12	13	14	15	16	17	15	16	17	18	19	20	21	12	13	14	15	16	17	18
18	19	20	21	22	23	24	22	23	24	25	26	27	28	19	20	21	22	23	24	25
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CALENDAR 1994																				
JANUARY							FEBRUARY							MARCH						
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16	17	18	19	20	21	22	20	21	22	23	24	25	26	20	21	22	23	24	25	26
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APRIL							MAY							JUNE						
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10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18
17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25
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JULY							AUGUST							SEPTEMBER						
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17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
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31																				
OCTOBER							NOVEMBER							DECEMBER						
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9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17
16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24
23	24	25	26	27	28	29	27	28	29	30				25	26	27	28	29	30	31
30	31																			

1993-1994 Academic Calendar

SUMMER SESSIONS 1993

(Petition for concurrent master's degree credit must be filed during the week of any summer session that concurrent credit is to be earned.)

- May 21 Graduate admissions for fall semester 1993 closed to foreign students.
- June 5 Graduate Record Examination General Test. Applicants should contact the Test Office five weeks in advance of the test date.
- June 1-18 Term A (3 weeks).
- June 1-25 Term B (4 weeks).
- June 1-July 9 Term C (6 weeks).
- June 1-Aug. 20 Term Z (12 weeks).
- June 11 Graduate admissions for fall semester 1993 closed.
- June 14 Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
- June 14 Last day to apply for summer graduation with an advanced degree, Graduate Division.
- June 19 Graduate Management Admission Text. Applicants should contact the Test Office five weeks in advance of the test date.
- June 21-July 23 Term D (5 weeks).
- June 21-July 30 Term E (6 weeks).
- June 21-Aug. 13 Term F (8 weeks).
- July 4-5 Holiday-Independence Day. Staff holiday (no classes).
- July 12-Aug. 20 Term G (6 weeks).
- July 26 Final day for submitting thesis to the Graduate Division prior to being taken to the Thesis Review Service. (Theses will be accepted on an at-risk basis up to the last working day of the term, but unless final processing is completed by noon, August 20, the student will be required to reapply for graduation in any subsequent term in which the student expects to graduate.)
- July 26 Final day for submitting thesis to the Thesis Review Service, to ensure graduation in August.
- August 2-20 Term H (3 weeks).

- August 13 Last day for submission of incomplete and SP grade removals (excluding thesis) for summer graduation with an advanced degree.
- August 13 Last day for reporting results on comprehensive examinations to the Graduate Division by department or college.
- August 19 Final day for depositing approved thesis at Aztec Shops Copy Center. (Noon deadline.)

FALL SEMESTER 1993

(Petition for concurrent master's degree credit must be filed during the first three weeks of the semester that concurrent credit is to be earned.)

- May 21 Graduate admissions for fall semester 1993 closed to foreign students.
- June 5 Graduate Record Examination General and Subject Tests. Applicants should contact the Test Office five weeks in advance of the test date.
- June 11 Graduate admissions for fall semester 1993 closed.
- June 14 Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
- June 19 Graduate Management Admission Test. Applicants should contact the Test Office five weeks in advance of the test date.
- August 1 Applications for admission or readmission to San Diego State University for the spring semester 1994 accepted. Applications are accepted after August 31 only until enrollment quotas are met.
- August 23 First day of fall semester. Opening date of the academic year for faculty.
- August 23-27 Orientation and advising days.
- August 26-27 Testing and advising days.
- August 30 First day of classes.
- Aug. 30-Sept. 13 Late Registration.
- August 31 Graduate admissions for spring semester 1994 closed to foreign students.
- September 6 Holiday-Labor Day. Staff holiday (no classes).
- September 13 Last day to drop classes.



- September 14 Last day to apply for refunds.
- September 17 Last day to file petition for concurrent master's degree credit for fall semester 1993.
- September 20 Last day to apply for December graduation with an advanced degree, Graduate Division.
- September 20 Last day to add classes or change grading basis.
- September 20 Last day to withdraw officially from the University for fall semester 1993.
- September 27 Census.
- October 6 Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
- October 9 Graduate Record Examination General and Subject Tests. Applicants should contact the Test Office five weeks in advance of the test date.

- October 16 Graduate Management Admission Test. Applicants should contact the Test Office five weeks in advance of the test date.
- November 1 Applications for admission or readmission to San Diego State University for the fall semester 1994 accepted. Applications are accepted after November 30 (postmarked) only until enrollment quotas are met.
- November 15 Final day for submitting thesis to the Graduate Division prior to being taken to the Thesis Review Service. (Theses will be accepted on an at-risk basis up to the last working day of the semester, but unless final processing is completed by noon, December 28, the student will be required to reapply for graduation in any subsequent term in which the student expects to graduate.)
- November 15 Final day for submitting thesis to Thesis Review Service to ensure graduation in December.

- November 25-27 Holiday-Thanksgiving recess. Staff holiday (no classes).
- December 1 Graduate admissions for spring semester 1994 closed.
- December 10 Last day of classes before final examinations.
- December 10 Last day for submission of incomplete and SP grade removals (excluding thesis) for mid-year graduation with an advanced degree.
- December 10 Last day for reporting results on comprehensive examinations to the Graduate Division by department or college.
- December 11 Graduate Record Examination General and Subject Tests. Applicants should contact the Test Office five weeks in advance of the test date.
- December 11-18 Final examinations.
- December 20 Winter recess begins.
- December 20-24 Holiday-Winter recess. Staff holiday (no classes).
- December 27 Final day for depositing approved thesis at Aztec Shops Copy Center. (Noon deadline.)
- December 28 Grades due from instructors. (Noon deadline.)
- December 28 Last day to apply for a leave of absence for fall semester 1993.
- December 28 Last day of fall semester.
- December 31 Holiday-New Year's. Staff holiday (no classes).
- January 3-21 Winter Session 1994.
- January 15 Graduate Management Admission Test. Applicants should contact the Test Office five weeks in advance of the test date.

SPRING SEMESTER 1994

(Petition for concurrent master's degree credit must be filed during the first three weeks of the semester that concurrent credit is to be earned.)

- August 31 Graduate admissions for spring semester 1994 closed to foreign students.
- January 15 Graduate Management Admission Test. Applicants should contact the Test Office five weeks in advance of the test date.
- January 17 Holiday-Martin Luther King, Jr. Day. Staff holiday (no classes).
- January 24 First day of spring semester. Opening date of semester for faculty.

- January 24-28 Orientation and advising days.
- January 27-28 Testing and advising days.
- January 31 First day of classes.
- Jan. 31-Feb. 11 Late Registration.
- February 5 Graduate Record Examination General and Subject Tests. Applicants should contact the Test Office five weeks in advance of the test date.
- February 11 Last day to drop classes.
- February 14 Last day to apply for refunds.
- February 18 Last day to file petition for concurrent master's degree credit for spring semester 1994.
- February 18 Last day to add classes or change grading basis.
- February 18 Last day to withdraw officially from the University for spring semester 1994.
- February 15 Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
- February 19 Last day to apply for May graduation with an advanced degree, Graduate Division.
- February 25 Census.
- March 19 Graduate Management Admission Test. Applicants should contact the Test Office five weeks in advance of the test date.
- March 26 Last day of classes before spring recess.
- March 28-April 2 Spring recess.
- April 4 Classes resume.
- April 6 Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.
- April 9 Graduate Record Examination General and Subject Tests. Applicants should contact the Test Office five weeks in advance of the test date.
- April 16 Final day for submitting thesis to the Graduate Division prior to being taken to the Thesis Review Service.
- April 16 Final day for submitting thesis to Thesis Review Service to ensure graduation in May. (Theses will be accepted on an at-risk basis up to the last working day of the semester, but unless final processing is completed by noon on May 27, the student will be required to reapply for graduation in any subsequent term in which the student expects to graduate.)

May 3	Last day for submitting approved doctoral dissertations to the Graduate Division for May commencement.	June 20-July 22	Term D (5 weeks).
May 19	Last day of classes before final examinations.	June 20-July 29	Term E (6 weeks).
May 20	Study and consultation day.	June 20-Aug. 12	Term F (8 weeks).
May 21-28	Final examinations.	July 4	Holiday-Independence Day. Staff holiday (no classes).
May 20	Last day for submission of Incomplete and SP grade removals (excluding thesis) for May graduation with an advanced degree.	July 1	Graduate admissions for fall semester 1994 closed.
May 20	Last day for reporting results on comprehensive examinations to the Graduate Division by department or college for May graduation with an advanced degree.	July 11-Aug. 19	Term G (6 weeks).
May 21	Graduate admissions for fall semester 1994 closed to all foreign students.	July 26	Final day for submitting thesis to the Graduate Division prior to being taken to the Thesis Review Service. (Theses will be accepted on an at-risk basis up to the last working day of the term, but unless final processing is completed by noon on August 19, the student will be required to reapply for graduation in any subsequent term in which the student expects to graduate.
May 28-29	Commencement.	July 26	Final day for submitting thesis to the Thesis Review Service to ensure graduation in August.
May 27	Final day for depositing approved thesis at Aztec Shops Copy Center. (Noon deadline.)	August 1-19	Term H (3 weeks).
May 30	Holiday-Memorial Day. Staff holiday (no classes).	August 13	Last day for submission of Incomplete and SP grade removals (excluding thesis) for summer graduation with an advanced degree.
June 2	Grades due from instructors. (Noon deadline.)	August 13	Last day for reporting results on comprehensive examinations to the Graduate Division by department or college.
June 2	Last day to apply for a leave of absence for spring semester 1994.	August 19	Final day for depositing approved thesis at Aztec Shops Copy Center. (Noon deadline.)
June 2	Last day of spring semester.		
June 4	Graduate Record Examination General Test. Applicants should contact the Test Office five weeks in advance of the test date.		
June 16	Graduate School Foreign Language Test. Applicants should contact the Test Office two weeks in advance of the test date.		
June 18	Graduate Management Admission Test. Applicants should contact the Test Office five weeks in advance of the test date.		

SUMMER SESSIONS 1994

(Petition for concurrent master's degree credit must be filed during the first week of any summer session that concurrent credit is to be earned.)

May 31-June 17	Term A (3 weeks).
May 31-June 24	Term B (4 weeks).
May 31-July 8	Term C (6 weeks).
May 31-August 19	Term Z (12 weeks).
June 14	Last day to apply for summer graduation with an advanced degree, Graduate Division.

1993-1994

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

For updated information regarding the fee structure for 1993-94 refer to the fall Class Schedule.

FEES MUST BE PAID PRIOR TO CALLING REGLINE. CHECKS ACCEPTED FOR EXACT AMOUNT OF FEES. OVERPAYMENTS OF \$5.00 OR LESS ARE REFUNDED ONLY UPON REQUEST. IF YOUR CHECK IS RETURNED BY THE BANK FOR ANY REASON, YOUR REGISTRATION MAY BE CANCELED AND YOU WILL BE BILLED \$30.00 (a dishonored payment charge of \$10.00 and late fee of \$20.00). PAYMENT OF FEES FOR REGLINE OR LATE REGISTRATION SHOULD BE MADE BY CHECK OR MONEY ORDER. THE UNIVERSITY RESERVES THE RIGHT TO REFUSE PAYMENT BY PERSONAL CHECK FROM THOSE INDIVIDUALS WHO HAVE PREVIOUSLY HAD ITEMS RETURNED UN-PAID BY THEIR BANK. REFUNDS MAY BE APPLIED AGAINST OTHER AMOUNTS DUE THE UNIVERSITY. CHECKS TO BE MADE PAYABLE TO SDSU. DO NOT ENCLOSE CASH. (MASTERCARD/VISA IS NO LONGER ACCEPTED FOR PAYMENT OF REGISTRATION FEES, NON-RESIDENT (FOREIGN AND OUT-OF-STATE) TUITION, OR DUPLICATE DEGREE TUITION.)

ADMINISTRATIVE / FINANCIAL HOLDS

All administrative and financial holds must be cleared prior to submittal of payment for registration or other University services. See "Debts Owed to the Institution" below. Acceptance of payment by the University does not constitute completion of registration or guarantee of services if any kind of administrative or financial hold exists.

Payments to clear financial holds must be made by cash, money order, or certified check. Personal checks or charge cards will NOT be accepted.

REGISTRATION FEES - ALL STUDENTS:

(On basis of units carried.)

Fee payment instructions and forms are in the Class Schedule available at the campus bookstore. Additional forms are available at the University Cashiers Office.

Auditors pay same fees as students carrying courses for credit. Nonresident (foreign and out-of-state) and duplicate degree students pay additional fees - see information below.

Units Attempted	Registration Fee
0 units - 6.0 units	\$529.00
6.1 or more units	\$805.00

The above fee also includes a Student Activity Fee of \$15.00, a Student Union Fee of \$63.00, a Facilities Fee of \$3.00, an Instructionally Related Activities Fee of \$15.00, a Health Services Fee of \$55.00, and a State University Fee of either \$378.00 or \$654.00, depending on unit load.

Imperial Valley Campus students pay a Student Union Fee of \$16.00. See Imperial Valley Campus bulletin for details.

The total fee paid per term will be determined by the number of units taken, including those in excess of fifteen.

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.

Legal residents of California are not charged tuition.

REGISTRATION INSTALLMENT PAYMENT PLAN

An installment payment plan is available for students who wish to pay their registration fees in two payments. There is a

Schedule of Fees

\$33.00 service charge for this service, paid at the time the initial registration payment is made. Additional information and instructions are available in the Class Schedule or may be obtained from the University Cashiers Office.

TUITION FOR NONRESIDENT STUDENT (Foreign and Out-of-State)

Tuition will be charged for all units attempted.

Per unit \$246.00
(Tuition is payable in addition to registration fees listed above. For fee-paying purposes, zero unit and half-unit courses are counted as one unit. See **Liability for Payment** section for additional important information.)

Health insurance (mandatory for foreign students)

Per year, approximately 350.00

DUPLICATE DEGREE TUITION

Recent legislation requires that the CSU charge duplicate degree tuition to students pursuing a second bachelor's, second master's, or second doctoral degree.

As this catalog goes to press, credential seeking students are exempt from these fees. Second degree seeking students in any one of the following categories can also be exempted from the duplicate degree tuition by signing an affidavit of eligibility for the exemption available from the University Cashiers Office.

1. Dislocated workers certified by a state agency in accordance with Title 3 of the Federal Job Training Partnership Act.
2. Displaced homemakers as defined in the Higher Education Act of 1964, as amended (20 U.S.C. 1001 *et seq.*).
3. Recipients of benefits under the Aid to Families with Dependent Children Program, The Supplementary Security Income or State Supplementary Program, or a general assistance program.
4. Nonresident students except those for whom nonresident tuition has been waived.

Duplicate degree tuition, per unit 150.00

TUITION INSTALLMENT PAYMENT PLAN

A tuition installment payment plan is available for students required to pay non-resident (foreign and out-of-state) or duplicate degree tuition. Tuition normally must be paid prior to the first day of classes. Students who wish to pay their tuition in installments must sign an installment agreement at the University Cashiers Office prior to the first day of class. A service charge equal to 15% of each installment payment is required. Additional information may be obtained from the University Cashiers Office.

PARKING FEES

Nonreserved parking space, per semester \$72.00
Car pool-see Cashiers Office.
Less than four-wheeled, self-propelled vehicle
(motorcycle, moped) 18.00

MISCELLANEOUS FEES

(Fees payable when service is rendered.)

Application for admission or readmission (nonrefundable), payable by check or money order at time application is made \$55.00
Late registration (nonrefundable) (Refer to Class Schedule for dates when this fee will be assessed.) 25.00
Failure to meet administratively required appointment or time limit (late fee) 20.00

Registration installment payment plan service charge	33.00
Tuition (Foreign, Out-of-State, Duplicate Degree) installment payment plan service charge..... Equal to 15% of each installment payment	
Photo-identification card (one-time cost to both new undergraduate and graduate students at time of registration. Valid only when accompanied by current semester fee receipt card.)	3.00
Lost identification card	
Photo I.D. Card only	2.00
Fee receipt card only	2.00
Transcript of record (official or unofficial)	4.00
Second through tenth transcript, prepared at the same time as the first	each 2.00
Additional copies over ten, prepared at the same time	each 1.00
AFROTC deposit (Unexpended portion is refundable.)	75.00
Check returned for any cause*	10.00
Loss of or damage to library materials Replacement cost plus \$8.00 service charge	
Commencement fee	16.00
(Paid only at time of initial filing.)	
Graduation evaluation and diploma fee	16.00
(You must pay this fee for each graduation date requested.)	
Diploma replacement fee	12.00
Credential application fee	60.00
Credential evaluation fee	25.00
Musical instrument repair fee	20.00
Lock and locker fee (optional)	1.00
Towel fee (optional)	2.00
Lost key fee (per key)	10.00
Miscellaneous course charge (optional)	As established and approved

* Late fee also charged when applicable.

MISCELLANEOUS INSTRUCTIONAL COURSE CHARGES

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

Accountancy 302.
Art 225, 325, 425, 525, 526, 625, 627, 700D.
Educational Technology 532, 540, 541, 544, 553, 572, 644, 671, 775.
Family Studies and Consumer Sciences 205, 301, 302L, 405.
Industrial Technology 115, 121, 131, 140, 151, 161, 171, 181, 315, 321, 331, 341, 351, 361, 371, 381, 422, 432, 443, 444, 452, 462, 472, 482, 498A-498B, 499, 517, 523, 533, 542, 553, 573, 583.
Music 151, 345.
Physical Education 116A-116B, 119A-119B, 124, 138, 145, 146, 147, 150A-150B.

UNIVERSITY CASHIERS FEE RECEIPT CARD

University Cashiers provides students a current semester fee receipt card upon initial payment or authorized deferment of registration fees. This card should be carried with the Photo I.D. Card. You must enter your social security number and sign the card upon receipt. ASB, Student Union and various other campus activities may require that you present this card.

POSSESSION OF A UNIVERSITY CASHIERS FEE RECEIPT CARD DOES NOT CONFIRM ENROLLMENT.

CREDIT CARDS

The University Cashiers Office no longer accepts MasterCard/Visa for payment of registration fees or tuition (foreign, out-of-state or duplicate degree). MasterCard or Visa charge cards will continue to be accepted for other payments, such as housing, parking, health services, continuing education, and miscellaneous over-the-counter payments. Students are reminded that banks will provide cash advanced against credit cards if needed to cover registration payments.

LIABILITY FOR PAYMENT

Whether or not an invoice is received from the University, students are liable for payment of all registration fees related to **units held on or added after the close of business on the fourteenth day** following the commencement of instruction. Foreign, out-of-state and duplicate degree students are liable for tuition related to all units held, except as provided for by the refund policy.

All continuing students participating in **RegLine** must make registration payments by the deadline as instructed. Non-**RegLine** registration payments must be made at the time of registration.

Non-resident (foreign and out-of-state) and duplicate degree tuition must be paid prior to the first day of classes. With the exception of doctoral students and students enrolling for 799A or 799B only, **foreign** students must pay or sign an installment agreement for a minimum of 6 units at the time of registration. **Foreign** students wishing to pay fewer than 6 units must submit written approval to do so from the International Students Office or Graduate Division and Research, as applicable.

IT IS THE STUDENT'S RESPONSIBILITY TO BE AWARE OF TOTAL FEES AND TUITION DUE. (Legal residents of California are not charged non-resident tuition, however, may be liable for duplicate degree tuition.) Additional fees which may become due as a result of units added during the semester must be paid at the Cashiers Office at the time the units are added. Note fee schedule above. LATE PAYMENTS FOR FEES AND TUITION ARE SUBJECT TO AN ADDITIONAL LATE FEE AND APPLICABLE SERVICE CHARGES.

DISHONORED CHECK

If your check is returned or not accepted by the bank FOR ANY REASON, you will be billed for the \$10.00 dishonored payment charge and the \$20.00 late fee when applicable. Non-payment of fees or tuition may result in cancellation of your registration and withholding of further services until all financial liabilities have been resolved.

The University reserves the right to refuse payment by personal check from those individuals who have previously had items returned unpaid by their bank.

REFUND OF FEES

Details concerning fees which may be refunded, the circumstances under which fees may be refunded, and the appropriate procedure to be followed in seeking refunds may be obtained by consulting Section 42201 (parking fees), 41913 (nonresident tuition), 42019 (housing charges), and 41802 (all other fees) of Title 5, **California Code of Regulations**. In all cases it is important to act quickly in applying for a refund. Information concerning any aspect of the refund of fees may be obtained from the Cashiers Office.

Refund of Registration Fees

REFUNDS ARE NOT AUTOMATIC. WHETHER OR NOT YOU RECEIVE CLASSES THROUGH THE REGISTRATION PROCESS, YOU MUST APPLY FOR THE REFUND BY THE REFUND DEADLINE.

Refunds may be applied against other amounts due the University.

Complete Withdrawal. To be eligible for refund of registration fees, a student withdrawing completely from the University (from **all** classes) MUST file a refund application with the Office of Admissions and Records at the time the withdrawal is requested, not later than 14 days following the commencement of instruction (Refund Deadline). All but \$5.00 will be refunded less any amount due to the University. YOUR UNIVERSITY CASHIERS FEE RECEIPT CARD MUST BE RETURNED AT THE TIME YOU FILE YOUR REFUND APPLICATION. (See Class Schedule for deadline dates. Note that the refund deadline is **prior to** the deadline set by Admissions and Records for Official Withdrawal.)

Fees Based on Unit Load. A student dropping from 6.1 units or more to 6.0 units or less, or a student who paid maximum fees but never obtained over 6.0 units, or a student who paid fees but never obtained **any** units, MUST file a refund application with the Cashiers Office, Student Services Building, Room 2620, not later than 14 days following the commencement of instruction (Refund Deadline). All but \$5.00 will be refunded less any amount due to the University. FOR ADDITIONAL INFORMATION, CONTACT THE CASHIERS OFFICE OR TELEPHONE 594-5253.

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

Refund of Nonresident (Foreign and Out-of-State) and Duplicate Degree Student Tuition
REFUNDS ARE NOT AUTOMATIC. WHETHER OR NOT YOU RECEIVE CLASSES THROUGH THE REGISTRATION PROCESS, YOU MUST APPLY FOR THE REFUND.

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

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

Refund of Parking Fees

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

Nonreserved space per semester:

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

Your parking permit or a receipt indicating that the permit was removed from the vehicle by a University Police Officer (Information Booth, Campanile Drive) must be turned in to the Cashiers Office at the time you file your refund application. Refund applications are available at the Cashiers Office. The amount of refund is rounded down to the nearest dollar. No refund is made for amounts of \$5.00 or less. Refunds may be applied against other amounts due to the University.

LATE REGISTRATION FEE

The Late Registration fee (\$25) pertains to those students who register during Late Registration. Newly admitted students **MAY** be exempted from this fee. See registration materials provided by Admissions and Records for details. The registration process is not complete until all fees due are paid and you are officially enrolled in classes through Admissions and Records.

APPEALS PROCESS - CASHIERS OFFICE

An appeals process exists for students who believe that individual circumstances warrant exceptions from published policy. Students should file a "Petition for Special Consideration" obtainable at the Cashiers Office. Petitions must be filed with the Cashiers Office prior to the end of the twelfth week of classes.

Petitions for refunds filed beyond the appropriate refund deadline are approved only when applicants are unable to continue their enrollment for one of the following reasons: compulsory military service; administrative error; campus regulation; or physical disability or death.

SUMMER SESSION FEES

Refer to Summer Sessions Bulletin for schedule of fees.

Parking fees (nonreserved spaces) (per week) \$4.80

EXTENSION COURSE FEES

Refer to Extended Studies Bulletin for schedule of fees.

EXEMPTIONS

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

EXEMPTION FROM PAYING FEE INCREASE

In response to Chapter 1174, approved by the Governor on October 14, 1991, students who were required to leave school for active military service during any term commencing in the fall of 1990 through the spring of 1991 are exempted from paying any increase in fees. This exemption remains in effect for the same number of terms that the student was absent from school as a result of being called to active military service. Contact University Cashiers Office for information on applying for this exemption.

OVER 60 FEE WAIVER PROGRAM

San Diego State University offers a fee waiver program for California residents 60 years of age and older. Both undergraduate and postbaccalaureate students may participate in the program. The program waives the \$55 admission application fee and regular registration fees (except for a nominal \$3 fee); however, recent legislation requires that duplicate degree tuition will be charged if a student has a second bachelor's or advanced degree objective. Participants must apply for admission during the regular application filing period and be admitted under regular admission requirements. Participants register for classes on a space-available basis after regularly matriculated students have completed registration. For additional information, contact the Office of Admissions and Records.

ALAN PATTEE SCHOLARSHIPS

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

Procedure for the Establishment or Change of a Student Activity Fee

The law governing The California State University provides that a student activity fee may, with the approval of the Chancellor, be established by student referendum with the approval of two-thirds of those students voting. The Student Activity Fee was established at San Diego State University by student referendum in 1955. The same fee can be increased or decreased by a similar two-thirds approval of students voting on a referendum called for by a petition signed by 10 percent of the regularly enrolled students (**Education Code**, Section 89300), subject to approval by the Chancellor. An increase or decrease in the student activity fee may be approved by the Chancellor only following a referendum on the fee increase approved by a majority of students voting. Student activity fees support a variety of cultural and recreational programs, child care centers, and special student support programs.

Debts Owed to the Institution

Should a student or former student fail to pay a debt owed to the institution, the institution may "withhold permission to register, to use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid (see Title 5, **California Code of Regulations**, Sections 42380 and 42381). For example, the institution may withhold permission to receive official transcripts of grades from any person owing a debt. If a student believes that he or she does not owe all or part of an unpaid obligation, the student should contact the University Cashiers Office. The Cashiers Office, or another office on campus to which the student may be referred by the Cashiers Office, will review the pertinent information, including information the student may wish to present, and will advise the student of its conclusions with respect to the debt.

Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from the Financial Aid Office, Student Services Building, Room 3605, 594-6323.

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

Information concerning San Diego State University policies regarding any refund due to the federal Title IV student assistance programs as required by the regulations is available from the Financial Aid Office, Student Services Building, Room 3605, 594-6323.

The following information concerning the cost of attending San Diego State University is available from the Financial Aid Office, Student Services Building, Room 3605, 594-6323.

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

Information concerning the refund policy of San Diego State University for the return of unearned tuition and fees or other refundable portions of costs is available from the University Cashiers Office, Student Services Building, Room 2620, 594-5253.

Information concerning San Diego State University policies regarding any refund due to the federal Title IV student assistance programs as required by the regulations is available from the Financial Aid Office, Student Services Building, Room 3605, 594-5253.

Information concerning the academic programs of San Diego State University may be obtained from the Office of the Vice President for Academic Affairs, HH-114, 594-6542, and may include:

1. The current degree programs and other educational and training programs;
2. The instructional laboratory, and other physical plant facilities which relate to the academic program;
3. The faculty and other instructional personnel; and
4. Data regarding student retention at San Diego State University and, if available, the number and percentage of students completing the program in which the student is enrolled or expresses interest; and
5. The names of associations, agencies, or governmental bodies which accredit, approve, or license the institution and its program, and the procedures under which any current or prospective student may obtain or review upon request a copy of the documents describing the institution's accreditation, approval, or licensing.

Information regarding facilities and services available to handicapped students may be obtained from Disabled Student Services, Student Services Building, Room 1661, 594-6473.

Cost of Living

To ensure equity, San Diego State University establishes standard student budgets in coordination with The California State University system. Student budgets, updated annually for inflation are currently:

Costs of Attendance for the 1993-94 Academic Year

	Living off Campus	Living on Campus	Commuting from Home
Registration fee for materials, service, student activity, student union, facilities	\$ 1500	\$1500	\$1500
Books and supplies	576	576	576
Room and board	6116	5106	1512
Transportation	684	576	684
Personal	1728	1728	1728
Total	\$10,604	\$9486	\$6000

In addition to the registration fee, non-resident (foreign and out-of-state) and duplicate degree students pay tuition (see Schedule of Fees section). **All fees and costs are subject to change without notice.**

PART ONE

San Diego State University

San Diego State University



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

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

Under the vigorous administration of the second president, Edward L. Hardy (1910-1935), the School was reorganized as a four-year State Teachers' College in 1921, and control was transferred from a local board of trustees to the State Board of Education. In the same year, the two-year San Diego Junior College, the antecedent institution to the present Community Colleges, was incorporated as a branch of San Diego State, where it remained through 1946.

It became clear early that the only collegiate institution in San Diego would soon outgrow its 17-acre site, and a campaign was begun in the 1920s to build a new campus. The Legislature agreed, provided the city furnish a new site and buy the old one. In 1928 the present campus, on what was then the far eastern border of the city, was approved by the electorate.

In February 1931, the college moved to the seven mission-style buildings of the present campus, surrounding what is still called the Main Quad. In 1935, the Legislature removed the word "Teachers" from the name of the institution and authorized the expansion of degree programs into areas other than teacher preparation. In the same year, Walter R. Hepner (1935-1952) was appointed president, and the institution entered a period of slow growth and then, with the coming of war, of contraction. At the end of World War II, enrollment had fallen to 1,918.

In the next quarter century, under Dr. Hepner and subsequently under Malcolm A. Love (1952-1971), enrollments increased phenomenally to over 25,000 students. In 1960, the College became a part of the newly created California State College system, under a statewide Board of Trustees and a Chancellor. In 1971, recognizing that the institution had in fact achieved the status of a university, the Legislature renamed the system The California State University and Colleges, and shortly afterward renamed this institution San Diego State University.

Acting President Donald E. Walker (1971-1972), President Brage Golding (1972-1977), and Acting President Trevor Colbourn (1977-1978) were followed by the sixth president Thomas B. Day (1978-).

Today, San Diego State University is a major urban comprehensive institution. It is the unquestioned leader in The California State University system. With over 28,000 students it is one of the largest universities in the western United States.

SDSU is a teaching university with strong research programs. Research and scholarship strengthen the instruction SDSU students receive in the classroom and laboratory. SDSU's faculty conducts more than \$45 million in funded research each year. These projects provide unusual opportunities for students who can work alongside faculty using the latest equipment. The excitement of discovery spreads to the classroom, creating a unique learning experience.

To better accommodate its students, the campus continues to add physical facilities. It currently encompasses over 4.5 million square feet in 44 academic buildings. Included are Aztec Center, the first student union building in the CSU system; the Dramatic Arts building with one of the finest theaters in the nation; the Music building, with its Recital Hall; and the 320,000 square foot Malcolm A. Love Library. The Health Services facility, Art and Humanities classroom buildings, and additional residence halls

and parking facilities make up the core of buildings added in the 1970s. Several renovation projects have improved facilities for nursing, physical education, public health, and the sciences in the 1980s. Currently in the construction and planning stages are new buildings to house Student Services, a student financed Activities Center, additional student housing, parking and major additions to the Engineering building and the Library.

The University now offers bachelor's degrees in 74 areas, the master's in 54, and the doctorate in 9.

There are five multidisciplinary honor societies on campus that help to reinforce the high academic standards of the campus. They include Golden Key, Mortar Board, Phi Beta Kappa, Phi Eta Sigma, and Phi Kappa Phi. In addition, there are a number of disciplinary honor societies that recognize superior scholarship and leadership in specific academic fields.

Mission and Goals of San Diego State University

The mission of San Diego State University is to provide well-balanced, high quality education for undergraduate and graduate students and to contribute to knowledge and the solution of problems through excellence and distinction in teaching, research, and service.

San Diego State University provides an environment that encourages the intellectual development of students. Its undergraduate and graduate programs in the liberal arts and sciences are designed to help students learn about themselves, their cultural and social heritage, and their physical environment. Additionally, students are challenged to understand how advances in these areas may influence their present lives and their futures. Professional programs, while including many of these broad goals, are designed to meet the needs of the students who seek specific employment in many diverse fields. The University is concerned with developing leaders in cultural, economic, educational, scientific, social, and technical fields.

Closely related to the teaching mission of the University is student and faculty research. Involvement in research ensures that both students and faculty maintain currency in their disciplines and fosters the advancement of knowledge. Graduate study at San Diego State University at the master's and doctoral levels emphasizes creative scholarship, original research, and the development and utilization of research techniques.

Located in a large and ethnically diverse metropolitan center bordering Mexico and on the Pacific Rim, the University uses the social, cultural, scientific, and technical resources of this region to enrich its teaching and research programs. Through its teaching, research, and service, the University is primarily responsive to the people of California as well as to the needs of the regional, national, and international communities it serves. The University also seeks cooperative programs with other institutions of higher education both in the United States and abroad.

Accreditation

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

San Diego State University's programmatic accreditation is through membership in the following associations:

Accrediting Council on Health Services Administration
American Association of Colleges of Nursing
American Association of Colleges for Teacher Education
American Chemical Society
American Council on Education for Journalism and Mass Communication
American Psychological Association
American Speech-Language-Hearing Association, Educational Standards Board and Professional Services Board
California Commission on Teacher Credentialing
Council on Education for Public Health
Council on Education of the Deaf
Council on Rehabilitation Education
Council on Social Work Education
Foundation for Interior Design Education Research
National Association of School Psychologists
National Association of Schools of Art and Design
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration
National Association of Schools of Theatre
National Council for Accreditation of Teacher Education
National League for Nursing
National Recreation and Parks Association

The University is a member of the Council of Graduate Schools, U.S.A. and the Western Association of Graduate Schools.

The College of Business Administration and the School of Accountancy are accredited by the American Assembly of Collegiate Schools of Business at both the undergraduate and graduate levels. Several College of Business Administration programs are registered with the International Board of Certified Financial Planners.

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

The School of Nursing is accredited by the California Board of Registered Nursing, National League for Nursing, and California Commission on Teacher Credentialing.

The Didactic Program in Dietetics in the School of Family Studies and Consumer Sciences is approved by the American Dietetics Association.

In addition, preparation for many other professions is provided. It is suggested that the student refer to the various courses of study listed in the catalog.

San Diego State University maintains and promotes a policy of nondiscrimination and nonharassment on the basis of race, religion, color, sex, age, handicap, marital status, sexual orientation, and national origin.

The Affirmative Action Program is a University effort affecting every level of activity. The policy stands as a statement of this University's moral commitment to the right of all persons to equal opportunity in a nondiscriminating, harassment-free atmosphere.

San Diego State University places high priority on that objective and expects all members of the University to fully support this policy.

Refer to the Regulations of the Graduate Division section for the California State University policy pertaining to nondiscrimination.

Administration

Principal Officers of Administration

President of the University.....	Thomas B. Day
Vice President for Academic Affairs	Ronald H. Hopkins
Vice President for Business and Financial Affairs	William L. Erickson
Vice President for Student Affairs	Daniel B. Nowak
Vice President for University Relations and Development	Harry R. Albers
Director of University Telecommunications	

President's Advisory Board

Thomas F. Carter, Chair	Ed Quinn
Vincent R. Ciruzzi	Armando M. Rodriguez
Frederick P. "Pat" Crowell	Gerald R. Sanders
Ronald L. Fowler	Thomas C. Stickel
Jack W. Goodall	Robert J. Watkins
Arthur Madrid	Robert E. Williams
Richard W. Meads	Rosalind A. Winstead
Josiah L. Neeper	Elizabeth Yamada

Academic Administration

GRADUATE DIVISION

Dean of the Graduate Division and Research	James W. Cobble
Associate Dean	Lawrence B. Feinberg
Associate Dean	Penny L. Wright
Assistant Dean	Irving Alan Sparks



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, members of the faculty from the various schools and colleges, and two classified graduate students. For the academic year, the membership of the Council was as follows:

James W. Cobble	Dean of the Graduate Division and Research
Ronald H. Hopkins	(ex officio) Vice President for Academic Affairs
Don L. Bosseau	(ex officio) University Librarian
Lawrence B. Feinberg	Associate Dean of the Graduate Division
Penny L. Wright	Associate Dean of the Graduate Division
Irving Alan Sparks	Assistant Dean of the Graduate Division
Lee Brown	Department of Journalism
Deborah G. Chaffin	Department of Philosophy
John F. Conly	Department of Aerospace Engineering and Engineering Mechanics
Larry Fenson	Department of Psychology
Joan M. Flagg	School of Nursing
Gary H. Girty	Department of Geological Sciences
Gary M. Grudnitski	School of Accountancy
Cheryl L. Mason	School of Teacher Education
Mary Jane Moore	Department of Anthropology
Edward Omberg	Department of Finance
Patricia Patterson	Department of Physical Education
William E. Piland	Department of Administration, Rehabilitation and Post-secondary Education
Ida K. Rigby	Department of Art
Andrew Y.J. Szeto	Department of Electrical and Computer Engineering
Donna J. Thal	Department of Communicative Disorders
Ilene Muhlberg	Student Representative

(Membership for 1993-94 will be determined prior to the beginning of the academic year.)

UNIVERSITY RESEARCH COUNCIL

The University Research Council is the faculty policy-making body responsible for promoting, encouraging, and publicizing the research activities of the faculty consistent with the educational mission of the University. The Council is composed of 15 faculty representing the various colleges and is chaired by the Dean of the Graduate Division and Research. Much of the work of the Council is carried out in its Standing Committees which include:

- Biosafety Committee
- Committee on the Protection of Human Subjects
- Copyrights and Patents Committee
- Faculty Grants Committee
- Graduate Research Lecture Committee
- Publications Committee
- Research Administration Policy Committee
- University Animal Subjects Committee

ACADEMIC DEANS

College of Arts and Letters	Paul J. Strand
College of Business Administration	Allan R. Bailey
College of Education	Ann I. Morey
College of Engineering	George T. Craig
College of Health and Human Services	Peter A. Dual
College of Professional Studies and Fine Arts	Joyce M. Gattas
College of Sciences	Donald R. Short
College of Extended Studies	William P. Locke
Division of Undergraduate Studies	Carole A. Scott
Imperial Valley Campus	David Ballesteros

PART TWO

Graduate Division

The Graduate Division Admissions Regulations

Requirements for Doctoral Degrees Requirements for Master's Degrees

Graduate Division

Students who need specific information or assistance are invited to visit the Graduate Division, which is located in Room 220 of the Administration Building, or telephone (619) 594-5213.

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 Graduate Dean is the chief administrative officer of the Graduate Division and is assisted by two associate deans and an 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 intense 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 that can only be achieved through dedicated and persistent scholarship. The University has the necessary faculty and facilities to offer such opportunities in over 50 different areas of knowledge.

Authorized Graduate Degrees

DOCTOR OF PHILOSOPHY

Biology	Engineering Sciences/Applied
Chemistry	Mechanics
Clinical Psychology	Geography
Ecology	Mathematics and Science Education**
Education	Public Health

MASTER OF ARTS

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

Anthropology	Liberal Arts
Art	Linguistics
Asian Studies	Mathematics
Biology	Music
Chemistry	Philosophy
Communicative Disorders	Physical Education
Drama	Physics
Economics	Political Science
Education	Psychology
English	Russian*
French	Sociology
Geography	Spanish
History	Speech Communication
Interdisciplinary Studies	Telecommunications
Latin American Studies	

*Admission suspended for the 1993-94 academic year.

**Program approval pending. Contact Center for Research in Mathematics and Science Education for program information.

MASTER OF SCIENCE

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

Accountancy	Interdisciplinary Studies
Aerospace Engineering	Mass Communication
Applied Mathematics	Mechanical Engineering
Astronomy	Microbiology
Biology	Nursing
Business Administration	Nutritional Sciences
Chemistry	Physics
Child Development	Psychology
Civil Engineering	Public Health
Computer Science	Radiological Health Physics
Counseling	Rehabilitation Counseling
Electrical Engineering	Statistics
Geological Sciences	

Master of Business Administration
Master of City Planning
Master of Fine Arts in Art
Master of Fine Arts in Creative Writing
Master of Fine Arts in Drama
Master of Music
Master of Public Administration
Master of Public Health
Master of Social Work

Graduate Concentrations

A concentration is defined as an aggregate of courses within a degree major designed to give a student specialized knowledge, competence, or skill. Completion of a concentration is noted on the student's transcript.

Art (MA)

Concentrations:

studio arts
art history

Biology (MA or MS)

Concentrations:

ecology
genetics
molecular biology
physiology
plant sciences
systematics and evolutionary biology

Business Administration (MS)

Concentrations:

finance
financial and tax planning
human resource management
information systems
international business
management
marketing
production and operations management
real estate
taxation
total quality management

Communicative Disorders (MA)

Concentrations:

speech-language pathology
audiology
education of the hearing impaired
communicative sciences

Drama (MFA)

Concentrations:

acting*
design and technical theatre
musical theatre

Education (MA)

Concentrations:

counseling
educational leadership
educational research
educational technology
elementary curriculum and instruction
policy studies in language and cross-cultural education
reading education
secondary curriculum and instruction
special education

Geography (MA)

Concentrations:

resources and environmental quality
transportation

Nursing (MS)

Concentrations:

community health nursing
critical care nurse specialist
nursing systems administration

Psychology (MS)

Concentrations:

clinical psychology
industrial and organizational psychology*

Public Administration (MPA)

Concentrations:

city planning
criminal justice administration
public telecommunications
administration

Public Health

Concentrations (MPH):

biometry
environmental health
epidemiology
health promotion
health services administration
maternal and child health
occupational health

Concentrations (MS):

environmental health science
industrial hygiene
toxicology

* Admission suspended for the 1993-94 academic year.

Statistics (MS)

Concentration:

biostatistics

Credentials Offered

Teaching Credentials

Adapted physical education
Multiple subject
Multiple subject bilingual cross-cultural
language and academic development (BCLAD)
Multiple subject with a cross-cultural
language and academic development (CLAD)
Single subject

Specialist Credentials

Bilingual/cross-cultural
Reading/language arts
Resource specialist certificate of competence
Special education:
Communication handicapped
Gifted
Learning handicapped
Physically handicapped
Severely handicapped

Service Credentials

Administrative
Clinical rehabilitative
Health (school nurse)
Pupil personnel (school counseling)
School psychology

Graduate Certificate Programs (nondegree)

Certificate in applied linguistics and English as a second language (ESL)
Certificate in bilingual (Spanish) special education
Certificate in early intervention specialist
Certificate in instructional microcomputer software design
Certificate in instructional technology
Certificate in language development specialist
Certificate in preventive medicine residency
Certificate in professional services bilingual/multicultural
Certificate in rehabilitation administration
Certificate in supported employment and transition specialist
Certificate in teaching the emotionally disturbed

Graduate Certificate Programs

The advanced certificate at the postbaccalaureate entry level provides a program of coursework leading to a specific applied goal. The general educational background of a bachelor's degree with a major in the appropriate field(s) of study is prerequisite to such a certificate.

The advanced certificate at the postmaster's entry level also provides a program of coursework and supplemental practical experience leading to a specific applied goal. The theoretical and methodological subject matter obtained from the master's or doctoral degree is prerequisite to such a certificate. A certificate at this level is an endorsement of the specialized competence beyond that obtained in the student's graduate degree program.

Graduate Teaching Associates

Graduate teaching associates may be obtained by qualified graduate students pursuing a master's degree in the areas of anthropology, art, astronomy, biological sciences, business administration, chemistry, communicative disorders, drama, economics, educational technology, engineering, English, family studies and consumer sciences, French, geography, geological sciences, journalism, linguistics, mathematical sciences, microbiology, music, physical education, physics, psychology, sociology, Spanish, speech communication, and telecommunications and film. In addition, all doctoral programs offer such appointments.

Qualifications for appointment include admission to San Diego State University with classified or conditionally classified graduate standing for the purpose of obtaining an advanced degree. Appointment is for a period of either one semester or the academic year. Reappointment following an appointment of one semester or one academic year is dependent upon satisfactory performance in graduate studies, as prescribed by the Graduate Division, departmental need for the continued service in the department, and upon satisfactory teaching performance.

The combined teaching assignment and coursework permitted during one semester is 15 units unless an excess of this amount is authorized by the Graduate Dean.

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

Graduate Assistantships

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

Appointment to a graduate assistantship is for a period of either one semester or the academic year. Reappointment or continuation of an appointment is dependent upon satisfactory performance in graduate studies, as prescribed by the Graduate Division, satisfactory completion of assigned duties, 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 advanced degree.

Graduate Scholarships and Awards

A scholarship is a monetary award given to outstanding students in recognition of their academic excellence, leadership, achievements, and promise. They are provided by private donors, corporations, professional associations, and alumni.

Students apply on their own initiative. Occasionally, scholarships with requirements and deadlines other than those established for the general University scholarship program are designated for specific majors. Eligible students will be notified

through a faculty announcement or, if time permits, by the Scholarship Office through the mail.

Competition is based on outstanding academic achievement, campus and extracurricular activities, employment, and an essay. Graduate and postbaccalaureate students must have a 3.50 overall graduate GPA for work completed after the bachelor's degree or in the absence of completed postbaccalaureate units, a 3.50 overall undergraduate GPA or a 3.70 in the last 30 units of university work.

Applications for the SDSU scholarship program are available in the Scholarship Office and all department secretaries. You may also write or call the SDSU Scholarship Office, San Diego, CA 92182-0587, (619) 594-6180. Send a self-addressed, stamped envelope and note if you are currently a college or high school student. Long distance return calls are no longer budgeted.

Applications are available each year during one application period November through mid-February. The SDSU scholarship application must be filed or postmarked not later than the established mid-February deadline. Students need to submit only one application for the SDSU scholarship program. Individual results will be mailed to all applicants during June for the following academic year.

The average SDSU scholarship award is \$500. There is no limit to the number of scholarships for which a student may be considered.

In addition to SDSU scholarships, the Marshall, Fulbright, Rhoades, and Rotary scholarships are prestigious international scholarships that are given annually to students pursuing educational goals outside the United States. Eligibility standards for these scholarships are closely related to those established for the SDSU scholarship program, but application forms and deadlines are separate from the program. Students may seek advisement regarding application at the SDSU Scholarship Office during the spring semester.

Fellowships

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

Graduate Equity Fellowship Program

California residents who are members of underrepresented groups at the graduate level (ethnic minority, female, disabled) may apply for this grant administered through the Graduate Division. Applicants must file an Application for Federal Student Aid by the stated deadline (see below, "Applying for Aid"). They must also file an application with the Graduate Division by early June for the annual award that begins with the fall semester.

California State Graduate Fellowship Program

California residents may apply for grants administered by the California Student Aid Commission, 1410 Fifth Street, Sacramento, California, 95814. Applications are available in the Financial Aid Office during the annual application period (December to early February). The deadline to submit applications for the 1993-94 academic year is March 1, 1993.

Financial Aid

Student financial aid programs are intended to provide assistance to students who do not have the necessary financial resources to meet educational costs. For scholarships recognizing academic excellence and not generally based on financial need, see the Scholarships section. Only United States citizens and permanent residents are eligible to apply for financial aid.

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

Information about all state, federal, and institutional aid programs is available from the Financial Aid Office, (619) 594-6323. A financial aid brochure, which describes the available programs and the eligibility requirements, is available from the Financial Aid Office.

Applying for Aid

To be considered for first priority funding, aid applicants must file an **Application for Federal Student Aid** by March 1, and submit all required supporting documents to the Financial Aid Office by April 15 of the calendar year prior to the academic year for which aid is being requested. An application and supporting documents received after these dates will be processed and funds will be awarded to high-need applicants if funds are available. Applications for Federal Student Aid may be obtained from high schools and any college financial aid office in California.

An additional application form is required for the Guaranteed Student Loan which is a student loan made available from a participating lender.

Graduate Study in the Summer Sessions

In San Diego State University summer sessions, a graduate student may earn credit in residence that may be used to satisfy the requirements for an advanced degree or for credentials. Students planning to offer work taken in a summer session only to satisfy the requirements for an advanced degree, must apply for admission to the University with classified graduate standing at the Office of Admissions and Records. No more than 12 units of coursework earned in each summer may be included on a program of study for an advanced degree. Students pursuing an advanced degree in summer only must attend for a minimum of three summers to complete a degree.

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.

The regular *Summer Sessions Bulletin*, which includes the registration form and all necessary information about the summer sessions, is available for distribution after March 15.

Graduate Study for Foreign Students

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

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

Veterans and Graduate Study

San Diego State University is approved to train veterans under the G.I. Bill. Veterans who are interested in graduate work should visit the campus Veterans Affairs Office located in Student Services Building, Room 1510 for information and counseling regarding veterans' benefits prior to the date of registration.

Admission to Postbaccalaureate and Graduate Study

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

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

San Diego State University advises prospective students that they must supply complete and accurate information on the application for admission, residence questionnaire, and financial aid forms. Further, applicants must submit authentic and official transcripts of all previous academic work attempted. Failure to file complete, accurate, and authentic application documents may result in denial of admission, cancellation of academic credit, suspension, or expulsion (Section 41301, Article 1.1, Title 5, **California Code of Regulations**). This requirement is effective from initial contact with the University and throughout the period the academic record is maintained.

Requirement and Use of Social Security Account Number

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

Measles and Rubella Immunizations Health Screening Provisions

All new and readmitted students born after January 1, 1957 must comply with The California State University requirement to present proof of measles and rubella immunizations. This is **not** an admissions requirement but shall be required of students by the beginning of their **second term** of enrollment in CSU. San Diego State University students who have not complied with this CSU mandate will receive an "I" hold on their second term registration materials. The "I" hold restricts students from enrolling in classes until the requirement is fulfilled.

Because of recent changes in the character of measles epidemics on college campuses nationwide all students are encouraged to consider **receiving a second immunization for measles prior to enrollment**.

In addition to demonstrating immunity to measles and rubella at Student Health Services, some students may be further required to present documentation to other campus officials.

Students subject to this additional screening include:

- Students who reside in campus residence halls;
- Students who obtained their primary and secondary schooling outside the United States;
- Students enrolled in dietetics, medical technology, nursing, physical therapy, and any practicum, student teaching, or fieldwork involving preschool-age children and/or school-age children or taking place in a hospital or health care setting.

Immunization documentation should be mailed or brought to SDSU Student Health Services, Immunization Program, 5300 Campanile Drive, San Diego, CA 92182. For those students unable to obtain acceptable proof of immunizations, Student Health Services will provide immunizations at no cost.

Application Procedures

All applicants for any type of postbaccalaureate status (master's degree applicants, those seeking credentials or advanced certificates, and those interested in taking courses for personal or professional growth) must file a complete application within the appropriate filing period. A complete application for postbaccalaureate status includes all of the materials required for undergraduate applicants (Part A) plus the supplementary graduate admissions application (Part B). Postbaccalaureate applicants who graduated from San Diego State University the preceding term are also required to complete and submit an application and the \$55 nonrefundable application fee. Since applicants for postbaccalaureate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus choice will be minimal. In the event that a postbaccalaureate applicant wishes to be assured of initial consideration by more than one campus, it will be necessary to submit separate applications (including fees) to each. Applications may be obtained from the Office of Admissions and Records or the Graduate Division of any California State University campus. Doctoral degree applicants should consult the program director of the specific program for application instructions.

Application and Admission Process

Students seeking classified admission to graduate programs at San Diego State University must submit all of the required documentation in a timely manner to ensure proper processing and evaluation by the Office of Admissions and Records, the school or department, and the Graduate Division. Please consult the specific departmental listing for the admission requirements. After all the documents are received by the Office of Admissions and Records, they are sent to the specific department for an admission recommendation. Even though a student may meet the minimal general standards for admission to the University, each department reserves the right to recommend a denial or conditional acceptance based upon the evaluation of documentation supplied by the applicant as well as the standing of the

applicant relative to others who have applied to the specific graduate program.

The recommendation of the department or school is then sent to the Graduate Dean for an independent evaluation and the actual decision to admit. Where a department's recommendation conflicts with the judgment of the Graduate Dean, consultation will ensue between the Dean and the department, but the final decision remains with the Graduate Dean.

The student will be notified of the decision by the Graduate Dean through the Office of Admissions and Records.

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 Graduate Dean; (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 (this calculation may not include lower division courses taken after award of a baccalaureate degree); and (c) have been in good standing at the last institution attended. Applicants who do not qualify for admission under provisions (a) and (b) may be admitted by special action if the Graduate Dean determines that there is other academic or professional evidence sufficient to warrant 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 degree programs at this University. Faculty may register for courses as unclassified students.

Special Action Admissions

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

- Students holding baccalaureate degrees from accredited institutions that award credit primarily on a pass-fail basis may be admitted providing that:
 - At least 60 semester units of letter-graded coursework with a grade point average of 2.5 are included on the student transcripts. Half of these must be at the upper division level.
 - If the student transcripts include less than 60 semester units of letter-graded coursework as described above, the applicant may be considered for admission on the basis of the following two criteria: A satisfactory score on both the verbal and quantitative sections of the GRE or GMAT with a minimum mean score of not less than the 30th percentile in each category, and determination by the appropriate faculty unit at San Diego State that any written documentation of classroom performance the student submits reflects academic achievement equivalent to at least a grade point average of 2.5. Such documentation should include written coursework evaluations by the faculty of the institution awarding the degree and may include other documentation such as baccalaureate theses, etc. A relative weakness in one of these criteria may be offset by a strong performance in the other.

- Students holding baccalaureate degrees from accredited institutions that award credit for prior experiential learning may be admitted providing that:
 - The student meets the 60-unit requirement as described in 1. above when general admission requirements are not met.
 - At least 24 semester units of credit in the major field are awarded for classroom and laboratory study during a period of matriculation at the degree-granting institution.
 - The student provides from the institution granting the credit full documentation showing how the experiential learning was evaluated and the basis on which such credit was awarded.
- In some circumstances, students holding a baccalaureate degree from an institution with limited accreditation or students holding a degree that requires less than four years for completion may be admitted to postbaccalaureate standing provisionally for the purposes of validating the degree for equivalency. At the determination of the Graduate Dean, the degree may be validated if the student completes or has completed a general education program comparable in scope to the general education requirements of San Diego State University. Students who expect to enter an advanced degree program must have completed all the prerequisites prior to admission to the program. Students in this category may not enroll in 600- or 700-numbered courses; no units completed prior to validation of the baccalaureate degree may be included subsequently on an advanced degree program.

Examination Requirements

The University requires that applicants for admission to most advanced degree programs and advanced certificate programs present satisfactory scores on the Graduate Record Examination (GRE) General Test. In addition, some programs require that applicants also submit satisfactory scores on the appropriate GRE subject matter test. Applicants should consult the program listings for specific information. Applicants for admission to the College of Business Administration will take the Graduate Management Admissions Test (GMAT); students applying for admission to the concentration in Health Services Administration in the Graduate School of Public Health may submit scores from either the GRE or the GMAT.

Students who hold advanced degrees from institutions that are members of the Council of Graduate Schools are exempted from the GRE requirement. Individuals applying for admission to certain graduate programs may petition to waive the GRE General Test requirement if the applicant holds a professional doctoral degree from an institution whose professional program is accredited by an association that is recognized by the Council on Postsecondary Accreditation (COPA). The waiver must be recommended by the graduate adviser and approved by the Graduate Dean. The petitioner must demonstrate that the professional degree is integrally related to the degree program to be pursued at San Diego State University. Normally, such waivers are not approved where the object is admission to an academic as opposed to a professional degree program.

TOEFL Requirement

All graduate and postbaccalaureate applicants, regardless of citizenship, whose preparatory education was principally in a

language other than English must demonstrate competence in English. Those who do not possess a bachelor's degree from a postsecondary institution where English is the principal language of instruction must receive a minimum score of 550 on the Test of English as a Foreign Language (TOEFL). Individual degree programs may prescribe a higher minimum score. Applicants must also submit a score for the Test of Written English (TWE). Individual degree programs may use the score on the TWE as an admission criterion or as an advising tool to identify students who may need further training in English.

Admission Categories

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

Postbaccalaureate Standing (Unclassified)

A student wishing to enroll in courses at the University for personal or professional reasons, but not necessarily with an objective of an advanced degree, credential, or graduate certificate may be considered for admission with postbaccalaureate standing (unclassified) when the student meets the criteria specified under General Admission Requirements. Admission with postbaccalaureate standing (unclassified) does not constitute admission to, or assurance of consideration for admission to, advanced degree curricula. Students with postbaccalaureate standing (unclassified) may not enroll in 600-, 700-, 800-, and 900-numbered courses except by special permission.

Postbaccalaureate Standing (Classified)

A student wishing to be admitted to a program leading to a credential **only** or to an advanced certificate **only** (not an advanced degree) must meet the criteria specified under General Admission Requirements. A student must also meet the professional, personal, scholastic, and other standards prescribed by the appropriate department. The applicant should contact the department or school involved for information concerning specific admission requirements and should submit a departmental application during the appropriate filing period. Admission with postbaccalaureate standing (classified) does not constitute admission to, or assurance of consideration for admission to, advanced degree curricula.

Graduate Standing (Classified)

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

1. Achieve a satisfactory score on the GRE General Test or GMAT as required.
2. Have completed an undergraduate major appropriate to the field in which the student desires to earn an advanced degree.
3. Satisfy the special departmental or college requirements as stated in Part Three of the Graduate Bulletin under "Fields of Study and Courses of Instruction."
4. Meet the professional, personal, and scholastic standards for graduate study established by the department and the Graduate Council.

Students admitted with graduate standing (classified) are admitted to authorized advanced degree curricula and may enroll in 600-, 700-, and 900-numbered courses. Such admission does not imply that a student will be advanced to candidacy for an advanced degree.

Conditional Graduate Standing (Classified)

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

Continuing Students

Students enrolled in the University with postbaccalaureate standing may request acceptance into an advanced degree curriculum with graduate standing (classified or conditionally classified). Applications for such continuing students are available in the Graduate Division. Except in special circumstances, reports of the scores of the GRE General Test or the GMAT where appropriate must be on file at the University before continuing students may apply for graduate standing (classified).

Second Bachelor's Degree

Second bachelor's degrees are awarded by most departments. Currently Business Administration, International Business, Liberal Studies - Emphasis in Three Departments, Mexican American Studies, and Telecommunications and Film do not participate in the second bachelor's degree program. A student wishing to earn a second bachelor's degree must apply for admission to San Diego State University during the filing period for undergraduate applicants unless already enrolled at the University as a postbaccalaureate student. In addition, applicants to the impacted majors (Criminal Justice Administration, Journalism, Nursing, and Public Administration) must apply during the first month of the undergraduate application filing period. Upon receipt of the admission application, students will be sent a separate application for a second bachelor's degree.

Admission to a second bachelor's degree program is based on a review of the second bachelor's degree application and the applicant's academic record. Applicants must be eligible for admission as a postbaccalaureate student, meet all undergraduate admission subject requirements, show strong promise of success in the new field, and have a clearly indicated change in educational objective. Recent legislation requires that duplicate degree tuition will be charged if a student has a second bachelor's degree objective. The tuition is \$150 per unit. Refer to Schedule of Fees section for additional information on duplicate degree tuition.

Classified graduate students are not eligible to apply for a second bachelor's degree. Credit earned while a second bachelor's candidate may not be applied toward an advanced degree at a later date. Candidates for a second bachelor's degree are ineligible to enroll in 600-, 700-, 800-, and 900-numbered courses.

To receive a second bachelor's degree, the student must complete a minimum of 30 postbaccalaureate units in residence with a minimum grade point average of 2.0; at least 15 units must be upper division in the new major. Up to six upper division units

from the previous major may be used in the new major provided the student completed the same number of units above minimum requirements for the first degree. The student must fulfill all current requirements for the bachelor's degree, including but not limited to General Education, major, upper division writing, and foreign language if required by the major. Students are subject to undergraduate policies and procedures, including rules governing deadlines, course forgiveness, and academic probation and disqualification.

The second bachelor's degree is not granted automatically. When eligible for graduation, students must submit an application for graduation with the Office of Admissions and Records. The Class Schedule each semester specifies the exact dates for filing. (Refer to the section on Application for Graduation of the bulletin for additional information and regulations.)

For additional information and second bachelor's degree applications, contact the Office of Admissions and Records.

Filing of Records

The applicant must file promptly with the Office of Admissions and Records official transcripts from EACH college attended (including all extension, correspondence, summer session, or evening courses), even if no courses were completed. Graduate students must file transcripts in duplicate if they plan to enter an advanced degree program.

A transcript will be considered official and accepted to meet the regulations governing admission only if forwarded directly to San Diego State University by the institution attended. The applicant must request the school or college to send the transcript to the Office of Admissions and Records, San Diego State University. All records or transcripts received by the University become the property of the University and **will not be released nor will copies be made.**

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

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

Determination of Residence for Nonresident Tuition Purposes

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

The following statement of the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for tuition purposes by The California State University is found in **Education Code** Sections 68000-68090, 68121, 68123, 68124, and 89705-89707.5, and in Title 5 of the **California Code of Regulations**, Sections 41900-41912. A copy of the statutes and regulations is available for inspection at the Office of Admissions and Records.

Legal residence may be established by an adult who is physically present in the state and who, at the same time, intends to

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

The student who is within the state for educational purposes only does not gain the status of resident regardless of length of the student's stay in California.

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

A married person may establish his or her residence independent of spouse.

An alien may establish his or her residence, unless precluded by the Immigration and Nationality Act from establishing domicile in the United States. An unmarried minor alien derives his or her residence from the parent with whom the minor maintains or last maintained his or her place of abode.

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

The general rule is that a student must have been a California resident for at least one year immediately preceding the residence determination date in order to qualify as a "resident student" for tuition purposes. A residence determination date is set for each academic term and is the date from which residence is determined for that term. The residence determination dates are September 20 for fall and January 25 for spring.

There are exceptions for nonresident tuition, including:

1. Persons below the age of 19 whose parents were residents of California but who left the state while the student, who remained, was still a minor. When the minor reaches age 18, the exception continues for one year to enable the student to qualify as a resident student.
2. Minors who have been present in California with the intent of acquiring residence for more than a year before the residence determination date, and entirely self-supporting for that period of time.
3. Persons below the age of 19 who have lived with and been under the continuous direct care and control of an adult, not a parent, for the two years immediately preceding the residence determination date. Such adult must have been a California resident for the most recent year.
4. Dependent children and spouses of persons in **active** military service stationed in California on the residence determination date. The exception, once attained, is not affected by retirement or transfer of the military person outside the state, if the student is continuously enrolled.
5. Military personnel in active service stationed in California on the residence determination date for purposes other

than education at state-supported institutions of higher education.

6. Dependent offspring of a California resident. The offspring cannot have previously been a California resident. This exception continues until the student has resided in the state the minimum time necessary to become a resident, so long as continuous residence is maintained at an institution.
7. Graduates of any school located in California that is operated by the United States of Indian Affairs, including, but not limited to, the Sherman Indian High School. The exception continues so long as continuous attendance is maintained by the student at an institution.
8. Certain credentialed, full-time employees of California public school districts.
9. Full-time State University employees and their children and spouses; State employees, assigned to work outside the State, and their children and spouses. This exception applies only for the minimum time required for the student to obtain California residency and maintain that residence for one year.
10. Certain exchange students.
11. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties.

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

The California State University
Office of General Counsel
400 Golden Shore
Long Beach, California 90802-4275

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

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

International (Foreign) Student Admission Requirements

San Diego State University must assess the academic preparation of foreign students. For this purpose, "foreign students" include those who hold US visas as students, exchange visitors, or in other nonimmigrant classifications. SDSU uses separate requirements and application filing dates in the admission of foreign students.

Applicants for admission as either graduates or undergraduates whose education has been in a foreign country must file an application for admission, official certificates and detailed transcripts of record from each secondary school and collegiate institution attended. All needed documents, transcripts, and test scores must be received by the Office of Admissions and Records no later than July 1 for the fall semester or December 1 for the spring semester. If certificates and transcripts are not in English, they should be accompanied by certified English translations. Credentials will be evaluated in accordance with the general regulations governing admission to San Diego State University.

All applicants whose major education has been in a language other than English must score 550 or more on the Test of English as a Foreign Language (TOEFL). This test is administered in most foreign countries. The University must receive test scores before admission can be granted. Information as to the time and place at which this test is given may be obtained by writing to: Educational Testing Service (TOEFL), Princeton, New Jersey, 08540, USA.

Upon arrival at San Diego State University, further tests of English may be given for the purpose of placing students in an English language program commensurate with their linguistic ability in English and to assist student advisers in planning an appropriate course of study. Depending upon students' performance on the placement test and their academic background, they may be required to enroll in one or more English language courses during their first semester at San Diego State University. This requirement must be completed as a condition for classified graduate standing. Foreign students admitted to the University will be subject to the same competency and placement examinations and standards that govern the rest of the student population.

Students who do not have an adequate command of English or the required TOEFL score to qualify for admission to the University may enroll in the American Language Institute. The American Language Institute (ALI) offers preparation in the English language reading, writing and listening skills necessary for university success. For those students who are enrolling in the American Language Institute, a program of conditional admission is available. It is for those students who require acceptance to a university in order to obtain a passport, a US visa, or government sponsorship. After transcripts of their academic work have been evaluated by SDSU staff, students may receive an official letter of conditional admission which states that the student has met all University requirements **except** English language proficiency and may enter the University after appropriate training at the American Language Institute and the achievement of acceptable TOEFL scores.

Health insurance coverage is mandatory for international (foreign) students. Acceptable health insurance is available on campus at approximately \$350 per year.

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

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

Limitation of Enrollment

Admission to the University must be restricted to the number of students for whom an adequate education can be provided by

the staff and facilities available. San Diego State University limits 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 as unclassified students.

Registration

San Diego State University students are afforded the opportunity to participate in a touch tone telephone registration system (RegLine). On-campus registration will not be conducted. The Class Schedule and Student Information Handbook, issued each semester and obtainable at the University bookstore prior to the registration period, contains specific information on registration, the courses offered for the term, and a listing of the fees required for registration. Fees are due and payable at the time of registration and depend on the number of units selected. Students will not be permitted to access RegLine until fees are paid. Payment of fees by itself does not constitute registration. For policies governing registration after classes begin, consult the current Class Schedule.

Improper Registration in Graduate Courses. Only students who are completing their bachelor's degree and who have filed a formal request for permission to enroll for concurrent master's degree credit or petition for post baccalaureate concurrently may be authorized to enroll in 600 and higher numbered courses. Undergraduate students who have not received permission for concurrent enrollment may not enroll in 600 or higher numbered courses. The registration for graduate students who have not met the stated prerequisites for Course 799A, Thesis, at the time of registration may be canceled.

Changes in Class Schedule

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

A change in schedule of classes includes the following: withdrawal from a class; adding a class; adding or reducing units to a class for which the student is already registered; changing sections of the same course, and changing from letter grade to credit/no credit or audit. Consult the current Class Schedule for deadline dates for change of schedule.

Concurrent Master's Degree Credit

The bachelor's degree must be completed at the end of the semester or term in which the concurrent credit is earned.

A senior who has met all of the required competencies in writing and mathematics and who is within 12 units of completing requirements for the bachelor's degree and whose grade point

average in the last 60 semester units attempted is 3.0 or above may petition the Graduate Council to take for concurrent master's degree credit 500-numbered courses, and certain 600- and 700-numbered courses approved by the department, with the remaining requirements for the bachelor's degree. Petitions may be obtained from the Graduate Division and must be submitted to the Evaluations Office of Admissions and Records by the end of the third week of classes of the semester or term in which the concurrent credit is earned. The student must have on file a current application for graduation with the bachelor's degree. The maximum number of units that may be earned as concurrent master's degree credit is determined by the difference between the number of units remaining for the bachelor's degree and 15.

Concurrent Postbaccalaureate Credit

Applicable to the "Fifth Year" Credential Requirement only

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

1. Have a minimum grade point average of 2.5 on the last 60 units attempted;
2. Complete coursework in excess of graduation requirements during the semester (or summer session) when graduation occurs;
3. Attempt no more than 18 units during the final undergraduate semester (or 15 units during summer session);
4. Request no more than a maximum of 12 units of 300-, 400-, or 500-numbered courses for postbaccalaureate credit;
5. Submit petition before the end of the first week of classes (or the first week of summer term A) of the final undergraduate semester (or term) when graduation occurs;
6. Petition the Dean of the College of Education;
7. Graduate at the end of the semester (or summer session) the petition is made.

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

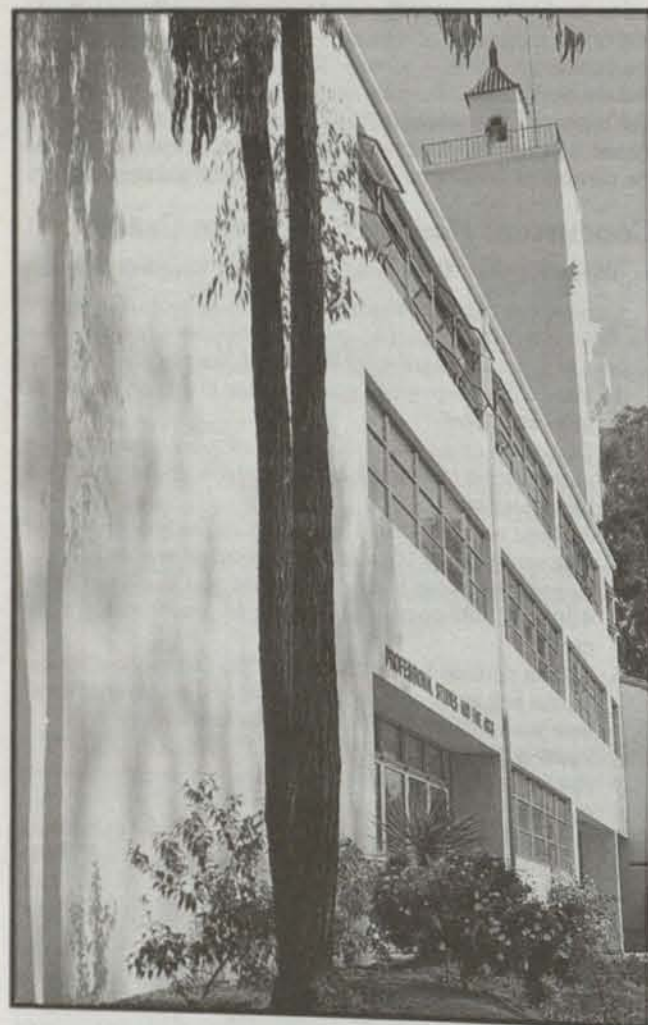
Petition forms are available in the Evaluations Office of Admissions and Records.

Second Master's Degree

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

Recent legislation requires that duplicate degree tuition will be charged if a student has a second master's degree objective. The tuition is \$150 per unit. Refer to Schedule of Fees section for additional information on duplicate degree tuition.

Regulations of the Graduate Division



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

All students beginning graduate study at San Diego State University after August 1992, will be required to follow the procedures and regulations stated in the 1993-94 edition of the Graduate Bulletin. A student who was admitted to a graduate degree curriculum at this university prior to that date and who has been enrolled in one or more courses during each consecutive semester since first enrolling as a graduate student, or whose attendance has not been interrupted by more than two consecutive semesters, will be held responsible for the regulations in effect at the time the official master's degree program of study was approved.

Student Responsibility for Catalog Information

Students are individually responsible for the information contained in this bulletin. Although the Graduate Division attempts to preserve requirements for students subject to this bulletin, information contained herein is subject to change from year to year as university rules, policies, and curricula change. Failure to keep informed of such annual changes will not exempt students from whatever consequences may result.

Changes in Rules and Policies

Although every effort has been made to assure the accuracy of the information in this catalog, students and others who use this bulletin should note that laws, rules, and policies change from time to time and that these changes may alter the information contained in this publication. Changes may come in the form of statutes enacted by the Legislature, rules and policies adopted by the Board of Trustees of The California State University, by the Chancellor or designee of The California State University or by the President or designee of this institution. Further, it is not possible in a publication of this size to include all of the rules, policies and other information that pertain to the student, San Diego State University, and The California State University. Additional information may be obtained from the appropriate department, school, or administrative office. Each semester, the Class Schedule and Student Information Handbook outlines changes in academic policy and procedure and current deadlines that are of importance to students.

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

Privacy Rights of Students in Education Records

The federal Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g) and regulations adopted thereunder (34 C.F.R. 99) and California Education Code Section 67100 et seq, set out requirements designed to protect the privacy of students concerning their records maintained by the campus. Specifically, the statute and regulations govern access to student records maintained by the campus, and the release of such records. In brief, the law provides that the campus must provide students access to records directly related to the student and an opportunity for a hearing to challenge such records on the

grounds that they are inaccurate, misleading or otherwise inappropriate. The right to a hearing under the law does not include any right to challenge the appropriateness of a grade as determined by the instructor. The law generally requires that written consent of the student be received before releasing personally identifiable data about the student from records to other than a specified list of exceptions. The institution has adopted a set of policies and procedures concerning implementation of the statutes and the regulations on the campus. Copies of these policies and procedures may be obtained at the Office of the Vice President of Student Affairs. Among the types of information included in the campus statement of policies and procedures are: (1) the types of student records and the information contained therein; (2) the official responsible for the maintenance of each type of record; (3) the location of access lists which indicate persons requesting or receiving information from the record; (4) policies for reviewing and expunging records; (5) the access rights of students; (6) the procedures for challenging the content of student records; (7) the cost which will be charged for reproducing copies of records; and (8) the right of the student to file a complaint with the Department of Education. An office and review board have been established by the Department to investigate and adjudicate violations and complaints. The office designated for this purpose is The Family Educational Rights and Privacy Act Office (FERPA), U.S. Department of Education, 330 "C" Street, Room 4511, Washington, D.C. 20202.

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

The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons are those who have responsibilities in connection with the campus' academic, administrative, or service functions and who have reason for using student records connected with their campus or other related academic responsibilities. Disclosure may also be made to other persons or organizations under certain conditions (e.g., as part of accreditation or program evaluation; in response to a court order or subpoena; in connection with financial aid; to other institutions to which the student is transferring).

Nondiscrimination Policy

San Diego State University maintains and promotes a policy of nondiscrimination and nonharassment on the basis of race, religion, color, sex, age, handicap, marital status, sexual orientation, and national origin.

The Affirmative Action Program is a University effort affecting every level of activity. The policy stands as a statement of this University's moral commitment to the right of all persons to equal opportunity in a nondiscriminating, harassment-free atmosphere.

San Diego State University prohibits discrimination and harassment on the basis of race, religion, color, sex, age, handicap,

marital status, sexual orientation, and national origin. Students may file a complaint alleging violation of this policy. Detailed procedures for filing a complaint are available in the Office of the Ombudsman.

Handicap

The California State University does not discriminate on the basis of handicap in admission or access to, or treatment or employment in, its programs and activities. Section 504 of the Rehabilitation Act of 1973, as amended, and the regulations adopted thereunder prohibit such discrimination. The Office of Student Affairs has been designated to coordinate the efforts of San Diego State University to comply with the Act in its implementing regulations. Inquiries concerning compliance may be addressed to this office at AD-231; telephone 594-5211.

Race, Color, or National Origin

The California State University complies with the requirements of Title VI of the Civil Rights Act of 1964 and the regulations adopted thereunder. No person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program of The California State University. Inquiries concerning the application of Title VI to program activities of San Diego State University may be referred to the Affirmative Action Officer, ED-156, 594-6464.

Sex

The California State University does not discriminate on the basis of sex in the educational programs or activities it conducts. Title IX of the Education Amendments of 1972, as amended, and the administrative regulations adopted thereunder prohibit discrimination on the basis of sex in education programs and activities operated by San Diego State University. Such programs and activities include admission of students and employment. Inquiries concerning the application of Title IX to programs and activities of San Diego State University may be referred to the Affirmative Action Officer (594-6464), the campus officer assigned the administrative responsibility of reviewing such matters, or to the Regional Director, Office for Civil Rights, Region 9, 50 UN Plaza, Room 239, San Francisco, California 94102.

Numbering of Courses

Courses numbered 80-99 are nonbaccalaureate level and are not acceptable for a bachelor's degree or General Education; those numbered 100 through 299 are in the lower division (freshman and sophomore years); those numbered 300 through 499 are in the upper division (junior and senior years) and intended for undergraduates; those numbered 500 through 599 are in the upper division and are also acceptable for advanced degrees when taken by students admitted to graduate standing; those numbered 600 through 799 are graduate courses; and those numbered 800 through 899 are doctoral courses. Courses numbered at the 900 level are reserved for graduate courses in certain professional curricula as part of advanced certificate, credential, and licensure programs and are specifically intended for students admitted to the University with post-baccalaureate classified standing. Courses numbered at the 900 level are not applicable to other graduate programs.

Courses numbered X-01 through X-79 and X-397 are those offered only through Extension to meet specific academic needs of community groups. Courses numbered X-01 through X-79

are applicable as general elective credit toward an undergraduate degree at SDSU. Courses X-01 through X-49 are designated as lower division and X-50 through X-79 and X-397 are designated as upper division. It is the prerogative of the academic department/college to determine if X-01 through X-79 level courses are applicable to a major, a minor, or toward specified electives. The X-01 through X-79 level courses are offered in conjunction with certificate programs only. Courses at the X-01 through X-79 level are not acceptable on advanced degree programs. Courses offered as X-397 are not acceptable toward an undergraduate or graduate degree.

Grading System

Grades and grade points per unit used in reporting are as follows: Grade of **A** (outstanding achievement; available for the highest accomplishment), 4 points; **B** (average; awarded for satisfactory performance), 3 points; **C** (minimally passing), 2 points; **D** (unacceptable for graduate credit, course must be repeated), 1 point; **F** (failing), 0 points; **SP** (satisfactory progress), not counted in the grade point average; **W** (withdrawal), not counted in the grade point average; **AU** (audit), no credit earned and not counted in the grade point average; **Cr** (credit), signifying units earned, but not counted in the grade point average; **NC** (no credit), no credit earned and not counted in the grade point average; **I** (authorized incomplete), no credit earned and not counted in the grade point average until one calendar year has expired at which time it will count as an "F" for grade point average computation; **U** (unauthorized incomplete), counted as "F" for grade point average computation.

Plus/Minus Grading

A plus/minus grading system is utilized at San Diego State University. Plus/minus grading is not mandatory but is utilized at the discretion of the individual instructor. The grades of A+, F+ and F- are not issued. The decimal values of plus and/or minus grades are utilized in the calculation of grade point averages as follows:

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

Satisfactory Progress Grade - "SP"

The "SP" symbol is used in connection with courses that extend beyond one academic term. It indicates that work is in progress and has been evaluated and found to be satisfactory to date, but that assignment of a precise grade must await completion of additional work. Work is to be completed within a stipulated time period not to exceed one calendar year except for graduate thesis (799A), or dissertation (899). Failure to complete the assigned work within one calendar year except for courses 799A, 899 and Academic Skills 90A, 92A, 94, 97A, and 99A will result in the course being computed into the grade point average as an "F" (or a "NC" if the course was taken for a credit/no credit grade). Graduate courses for which the "SP" symbol is appropriate are specifically designated in the departmental listings of this bulletin.

Candidates for graduation whose record carries a grade of SP will be graduated provided they are otherwise eligible for

graduation. However, the SP cannot be made up after the degree has been granted. If students do not wish to be graduated with the grade of SP on their record, they must officially cancel their application for graduation.

Withdrawal Grade - "W"

The symbol "W" indicates that the student was permitted to drop a course after the first four weeks of instruction because of a verified serious and compelling reason.

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

Auditing - "AU"

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

Credit/No Credit Courses "Cr/NC"

Students may enroll for credit/no credit only in those courses designated in the Graduate Bulletin for credit/no credit only.

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

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

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

Authorized Incomplete Grade "I"

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

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

Candidates for graduation whose record carries a grade of Incomplete will be graduated provided they are otherwise eligible for graduation. However, the Incomplete cannot be made up after the degree has been granted, and it will be counted as an "F" for grade point purposes at the time of graduation. If students do not wish to be graduated with the grade of Incomplete on their record, they must officially cancel their application for graduation.

Unauthorized Incomplete Grade "U"

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

Assignment of Grades and Grade Appeals

1. Faculty have the right and responsibility to provide careful evaluation and timely assignment of appropriate grades.
2. There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise.
3. Students who believe that an appropriate grade has not been assigned should first seek to resolve the matter informally with the instructor of record. If the matter cannot be resolved informally, the student may present the case to the Office of the Ombudsman for advice on appropriate procedures.

Computation of Grade Point Average

To compute the grade point average, divide the total number of grade points earned by the total number of units attempted in

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

Uncompleted Theses

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

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

Withdrawals

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

Official Withdrawal

Students who wish to withdraw from the University must initiate action formally through the Office of Admissions and Records. Failure to withdraw will result in a failing grade in all courses. A student who is not enrolled in at least one class (other than for audit) at the end of the fourth week of instruction (census date) is considered to have withdrawn from the University for that semester. Refunds are obtainable only for the first 14 days after the semester begins. In order to receive a refund, the student must file an official withdrawal form and refund request at the Office of Admissions and Records within the first 14 days of the term.

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

Dropping a course, or courses, after the end of the tenth day of classes and prior to the last three weeks of instruction is permissible only with the signature of each instructor and the approval of the college dean or designee. Withdrawal from the University after the end of the fifteenth day of classes and prior to the last three weeks of instruction is permissible only with the signature of each instructor and the approval of the college dean or designee of the student's major. Postbaccalaureate (unclassified) students wishing to withdraw from the University must have the signature of each instructor and the approval of the Graduate Dean or his designee. To be permitted to drop from a course or courses, or withdraw from the University during this period, the student must have serious and compelling reasons and documentation of those reasons must be provided. Poor academic

performance is not an acceptable reason for dropping a course or for withdrawal from the University.

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

Withdraw Retroactively. After the last day of the semester, a graduate student who wishes to withdraw retroactively should request withdrawal from the full semester's work. Such requests may be granted only in verified cases such as accident or serious illness where the cause for substandard performance was due to circumstances clearly beyond the student's control. Ordinarily, requests for changes in individual classes will not be accepted.

Unofficial Withdrawal

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

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

Leaves of Absence

One-Semester Stop Out

With certain exceptions, graduate students may stop out of San Diego State University one semester in a calendar year and maintain continuing student status. Continuing status includes the maintenance of bulletin requirements for graduation. Disqualified students, students absent for more than one semester without an approved leave of absence, and those who attend another institution for more than one semester must apply for readmission should they wish to return to San Diego State University. Students who are disqualified or are subject to disqualification are not eligible for a one semester stop-out.

Educational Leave of Absence

Students are permitted to take up to four consecutive semesters of approved leave of absence. An educational leave application is appropriate in those cases where students will be engaged for the majority of the leave time in an activity, other than attending an accredited college or university, that is directly related to their formal academic careers or otherwise contributes to specific academic goals. Students must apply for the particular semester(s) they wish to be absent from school. If they wish to extend a leave for additional semesters, a separate application must be filed previous to the deadline for submitting leaves as outlined in the Academic Calendar.

A student must file an application for the leave at the Office of Admissions and Records, SS-1551. Requests will be reviewed by appropriate officials designated by the Vice President for Academic Affairs. Students wishing to cancel a leave must do so prior to the first day of classes. The Class Schedule and Student Information Handbook contains specific procedures and deadlines. For students participating in the CSU visitors' program, units completed at the visitor campus will be considered resident units;

they will not, however, be calculated into the San Diego State University grade point average.

Approval for educational leaves of absence will be granted only to graduate students who have completed a minimum of one semester at San Diego State University and who are in good academic standing. Leaves will not be granted to students on probation, students who are subject to disqualification or have been disqualified, or students who qualify for a change from undergraduate to graduate status.

Readmission

An enrolled student is eligible (if not disqualified) to stay out one semester without penalty. No application is necessary and advance registration materials will automatically be mailed to the last address on file.

A student who withdraws from the University for more than one semester must file an application for readmission with a \$55 application fee. If the student was enrolled at another institution subsequent to the last attendance at San Diego State University, an official transcript showing work completed must be sent by the transfer institution directly to the Office of Admissions and Records before readmission can be completed. SDSU students in good academic standing will retain their original catalog status if they are absent from the University for no more than one semester.

Repeated Courses

Ordinarily, a graduate student may not repeat courses which have been taken as part of the official master's degree program. With prior permission of the graduate adviser, however, a graduate student may repeat one course on the official program of study in which a grade of C, D, F or U has been received. When a graduate student in any category of admission repeats a course in which a C, D, or F has been earned, both grades will remain on the student's permanent record and both grades will be calculated in the grade point average. If a student repeats a course in which a U has been earned, the original U grade will remain on the permanent record, but only the second grade will be used in computation of the grade point average. A course in which a U has been earned may be repeated only once. Repeated courses may not be taken for credit/no credit. Students who have successfully repeated a "U" graded course should notify the Office of Admissions and Records if they wish immediate adjustment of their grade point average.

Probation and Disqualification

Scholastic Probation

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

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

Scholastic Disqualification

A graduate student in any admission category shall be subject to disqualification from further attendance at the University if,

while on academic probation, the student fails to earn sufficient grade points to warrant removal from probationary status.

Any graduate student who has been admitted to an advanced degree program and whose performance therein is judged to be unsatisfactory, with respect to scholastic or professional standards established by the Graduate Council, may be academically disqualified from further attendance at the University by the Graduate Dean in consultation with the department (examples: failure to fulfill conditions for fully classified admission within the time specified; denial of advancement to candidacy for a degree; failure in presentation of a thesis or comprehensive examination).

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

Petition for Readmission

A graduate student disqualified from further attendance at the University for any academic or professional reason may request reinstatement by filing a petition with the Graduate Division. A student who has not attended the University for one or more semesters after disqualification will also be required to apply for readmission during the specified filing period. Petition forms are available at the Graduate Division.

Reinstated students who were disqualified for failure to meet the scholastic or professional standards in a particular program may not subsequently enroll in courses carrying graduate credit in that program without approval of the program graduate adviser and the consent of the Graduate Dean. If reinstated students enroll in such courses without prior approval, the corresponding academic credit may not be used to meet the curricular requirements of that program.

Administrative Academic Probation and Disqualification

Administrative Academic Probation

A student may be placed on administrative academic probation by action of the Graduate Dean for any of the following reasons:

1. Withdrawal from all or a substantial portion of a program of studies in two successive terms or in any three terms.
2. Repeated failure to progress toward the stated degree or objective or other program objective when such failure appears to be due to circumstances within the control of the student.
3. Failure to comply, after due notice, with an academic requirement or regulation which is routine for all students or a defined group of students (examples: failure to list all colleges attended on the application for admission, failure to take placement tests, failure to complete a required practicum).

Administrative Academic Disqualification

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

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

Student Discipline and Grievances

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

41301. Expulsion, Suspension and Probation of Students.

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

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

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

41302. Disposition of Fees: Campus Emergency; Interim Suspension.

The President of the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension.

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

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

sion of the President or designated representative, enter any campus of The California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

41303. Conduct by Applicants for Admission.

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

41304. Student Disciplinary Procedures for The California State University.

The Chancellor shall prescribe, and may from time to time revise, a code of student disciplinary procedures for The California State University. Subject to other applicable law, this code shall provide for determinations of fact and sanctions to be applied for conduct which is a ground of discipline under Sections 41301 or 41302, and for qualified admission or denial of admission under Section 41303; the authority of the campus President in such matters; conduct related determinations on financial aid eligibility and termination; alternative kinds of proceedings, including proceedings conducted by a Hearing Officer; time limitations; notice; conduct of hearings, including provisions governing evidence, a record, and review; and such other related matters as may be appropriate. The Chancellor shall report to the Board actions taken under this section.

Student Grievances

If a student believes that a professor's treatment is grossly unfair or that a professor's behavior is clearly unprofessional, the student may bring the complaint to the proper University authorities and official reviewing bodies by following the *Procedures for Handling Student Grievances Against Members of the Faculty*, adopted by the Faculty Senate. A copy of the procedures may be obtained from the Ombudsman's Office in Aztec Center.

Plagiarism

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

Lindley, Alexander. *Plagiarism and Originality*, 1952.

San Diego State University is a publicly assisted institution legislatively empowered to certify competence and accomplishment in general and discrete categories of knowledge. The President and faculty of this University are therefore obligated not only to society at large but to the citizenry of the State of California to guarantee honest and substantive knowledge in those to whom they assign grades and whom they recommend for degrees. Wittingly or willfully to ignore or to allow students' ascription of others' work to themselves is to condone dishonesty, to deny the purpose of formal education, and to fail the public trust.

The objective of university endeavor is to advance humanity by increasing and refining knowledge and is, therefore, ill served by students who indulge in plagiarism. Accordingly, one who is suspected or accused of disregarding, concealing, aiding, or committing plagiarism must, because of the gravity of the offense, be assured of thorough, impartial, and conclusive investigation of any accusation. Likewise, one must be liable to an appropriate penalty, even severance from the University and in some cases revocation of an advanced degree, should the demonstrated plagiarism clearly call into question one's general competence or accomplishments.

Transcripts of Record

A student may obtain an official academic transcript by filing an application at the Cashiers Office. A fee is charged for all transcripts and must be paid in advance. Ten to fifteen days should be allowed for the processing and mailing of the transcript. Transcripts from other schools or colleges become the property of this University and will not be released or copied.

Unofficial Transcripts

Students may obtain an unofficial copy of their SDSU transcript by paying the unofficial transcript fee at the Office of Admissions and Records. These transcripts are usually available on an immediate basis. However, during peak periods, the Office of Admissions and Records reserves the right to offer a 48-hour turnaround. These records do not bear the seal of the University and are not suitable for transfer purposes. Unofficial copies will be made ONLY of the SDSU transcript.

Final Examinations

No final examination shall be given to individual students before the time specified in the Class Schedule. 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, Extension, Foreign, or Open University Course Credit

Subject to lower limitations for individual programs, as indicated in Part Three of this bulletin, the maximum amount of transfer and San Diego State University extension course credit acceptable on master's degree programs is 9 units. Exceptions are the Master of Public Health degree, which permits 6 units; Master of Science degree in Nursing, which permits 12 units (including a maximum of 12 units of extension credit); Master of City Planning degree, which permits 27 units (including a maximum of 9 units of extension credit); the Master of Fine Arts degree in Art and the Master of Fine Arts degree in Drama,

which permits 30 units (including a maximum of 9 units of extension credit); the Master of Fine Arts in Creative Writing which permits 18 units (including a maximum of 9 units of extension credit); the Master of Social Work degree which permits 28 units (including a maximum of 9 units of extension credit); and the Master of Science degree in Rehabilitation Counseling which permits 30 units (including a maximum of 9 units of extension credit). All credit earned in other colleges and universities including foreign universities or in San Diego State University extension courses is subject to approval by the appropriate graduate adviser and the Graduate Dean. Credit earned by correspondence, by examination, or by extension at other institutions is not accepted as satisfying advanced degree requirements.

Credit earned by first-time students through one semester of enrollment in Open University may be considered residence credit for the master's degree. Such enrollment allows nonmatriculated students, who have completed individual course prerequisites and who meet the standards for regular enrollment, to enroll in regular campus classes on a space-available basis with the approval of the course instructor and department chair. Enrollment in 600-, 700-, and 900-numbered courses also requires approval of the departmental graduate adviser. Matriculated students are ineligible for enrollment in Open University.

Study List Limits in the Graduate Division

"Full-time enrollment" means that a student is enrolled for not less than 12 units per semester. For purposes of computing units for graduate credit courses taken by graduate students, a weighting factor of 1.5 shall be applied to each unit. Thus, full-time enrollment for a graduate student is eight units of coursework numbered 500 to 899. Enrollment in Thesis (799A) or Doctoral Dissertation (899) is also considered full-time enrollment.

Graduate students are advised that 12 units of 600-900 numbered courses or 15 units of a combination of 500-, 600-, 700-, 800-, 900-numbered courses are the recommended maximum for one semester. Graduate students who are employed full time should not attempt to earn more than 6 units per semester.

Graduate students who are employed as graduate teaching associates 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 Graduate Dean. Graduate teaching associates who enroll for more units than authorized will not receive credit on their official degree programs for the excess number of units completed.

Graduate students employed as graduate assistants are limited to 20 hours of work per week combined with a maximum of 8 units of coursework. Any excess load must be approved by the department chair and the Graduate Dean. Graduate assistants who enroll for more units than authorized will not receive credit on their official programs for the excess number of units completed.

General Requirements for Doctoral Degrees

The degree Doctor of Philosophy (Ph.D.) is offered jointly by San Diego State University and cooperating universities in biology, chemistry, clinical psychology, engineering sciences/applied mechanics, mathematics and science education, and public health with the University of California, San Diego; in ecology with the University of California, Davis; in education with the Claremont Graduate School; and in geography with the University of California, Santa Barbara. The general requirements in these programs are identical; however, each program has some specific requirements that will be found in Part Three of this bulletin under Biology, Chemistry, Ecology, Education, Engineering, Geography, Mathematics and Science Education, Psychology, and Public Health.

Students who wish to become candidates for the degree Doctor of Philosophy should understand that the degree is granted for original, independent, imaginative, and self-critical research rather than for the fulfillment of residence or course requirements alone. For those candidates who wish to prepare for a career in an academic institution the degree is also oriented toward excellence and enthusiasm in teaching. Students with acceptable baccalaureate degrees will normally spend at least three years of full-time study in earning the degree. Except for those in the education program, doctoral students must be enrolled on at least one of the cooperating campuses each term they are in the program unless granted an official leave of absence.

Admission to Graduate Study

An applicant for admission to a doctoral program must be admitted to regular graduate standing in the appropriate campus of the University of California or the Claremont Graduate School and to San Diego State University. Fees and regulations governing the doctoral programs are found in the Graduate Division Bulletin of San Diego State University and in the Graduate Studies Bulletins of each of the cooperating campuses of the University of California or of Claremont Graduate School. Formal admission to the two universities with appropriate graduate standing occurs when the student is formally accepted by the graduate deans of each of the two universities. Applicants are advised to consult the appropriate director at San Diego State University for specific details on application procedures.

Residency Requirements

After formal admission to a doctoral program, the student must spend at least one year in full-time residence on each of the two campuses. The definition of residence must be in accord with the regulations of the university cooperating with SDSU. At San Diego State University the minimum of one year of full-time residence consists of registration in and completion of at least six semester units each semester of the required year's residence. Except for the program in education, students must be enrolled at one campus or the other each semester or quarter in order to maintain good standing.

Financial Support

Doctoral students are eligible to apply for financial aid through the Financial Aid Office at San Diego State University. The

SDSU Foundation provides some scholarship funds to cover all or part of the fees and tuition required by each institution for students in many of the doctoral programs. These funds are partially derived from the Richard G. Ahrens Memorial Scholarship and Reuben C. Marks Endowment Funds. In addition, most programs offer doctoral students financial support by providing them with appointments as research assistants, graduate assistants, or graduate teaching associates.

Procedures

Doctoral students are expected to make steady progress toward completion of requirements for the degree. The time required is not expressed as units of credit or semesters of attendance but rather depends on the mastery of the subject matter field and completion of a satisfactory dissertation at a minimum. Doctoral students must maintain a 3.0 grade point average in all coursework attempted to remain in good standing. Some programs may have additional GPA requirements.

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.

Qualifying Examinations, Advancement to Candidacy, and the Dissertation

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

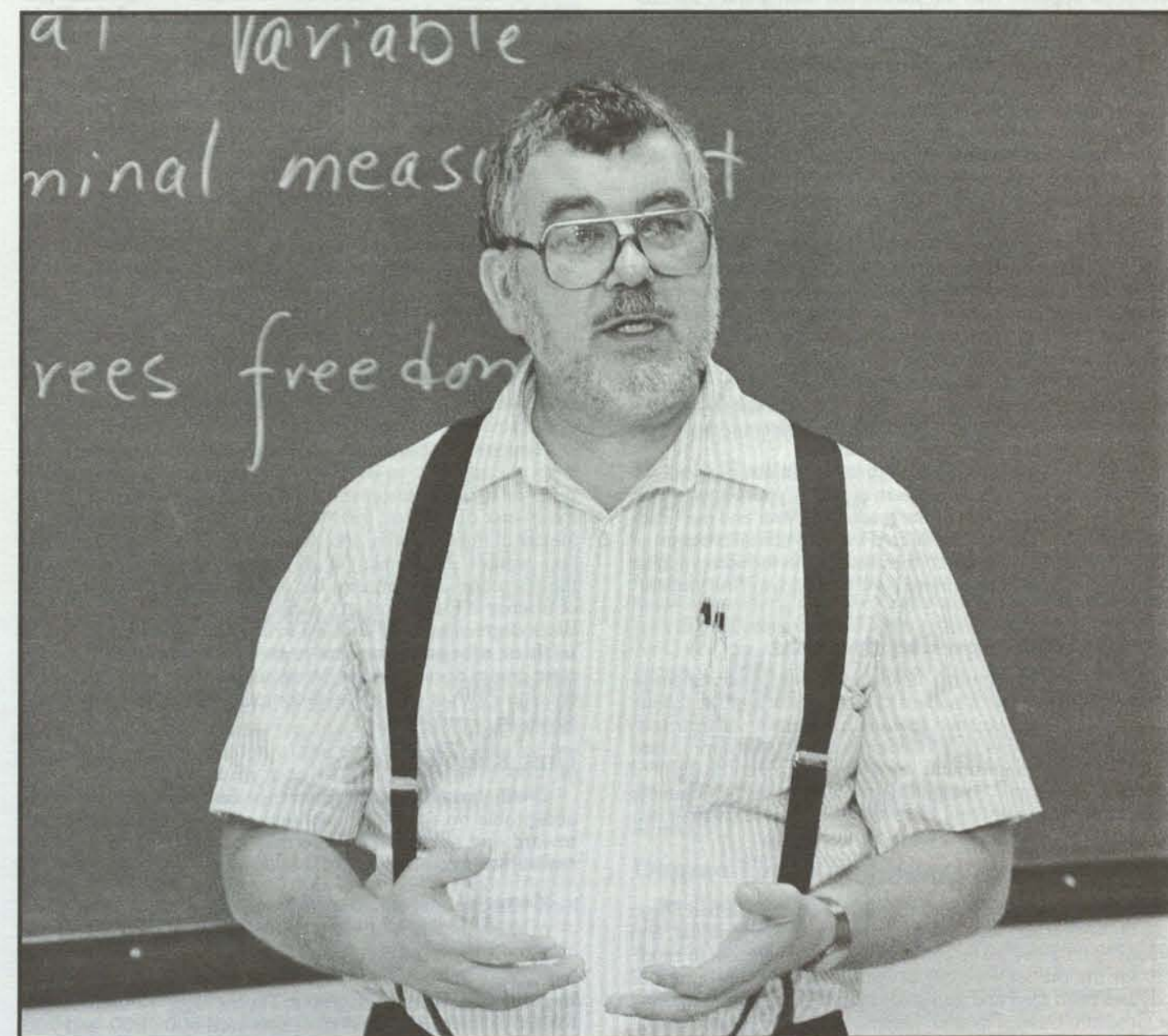
1. The student is examined by a committee representing the faculty of the cooperating institutions for knowledge of the field of study. This examination, called a Qualifying Examination, ordinarily consists of both written and oral parts. The purpose of this examination is to satisfy the faculty of the cooperating departments that the student is adequately prepared in the discipline to warrant continuation in the program.
2. After passing the Qualifying Examination the student apply to the graduate dean at the cooperating campus with which the student is associated for advancement to candidacy. After approval by both graduate deans, the student will be notified of advancement to candidacy by the graduate dean, University of California campus or Claremont Graduate School.
3. A dissertation (or thesis) on a subject chosen by the candidate and approved by a committee chosen by the Graduate Councils of the cooperating institutions is required of every candidate. Approval of the dissertation by this committee affirms that the candidate has conducted an organized, independent investigation that has added significantly to the body of knowledge in the particular field and that has been reported in a satisfactory manner. Upon completion of the dissertation, the candidate must pass an oral examination conducted by a joint committee in which the student

is required to show the relationship of the dissertation to the general field in which the subject lies and to answer specific questions concerning the investigations. In addition to meeting the dissertation filing requirement of the cooperating campus, doctoral students are required to provide one bound copy of the dissertation for deposit in the San Diego State University library. Binding must meet the ALA library standard.

Award of Degree

The degree Doctor of Philosophy in Biology, Chemistry, Clinical Psychology, Ecology, Education, Engineering Sciences/Applied Mechanics, Geography, Mathematics and Science Education, or Public Health will be awarded jointly by the Regents or

Trustees of the cooperating institution and the Trustees of the California State University in the names of San Diego State University and the appropriate cooperating university campus. Students may participate in the commencement ceremonies of both institutions providing they have completed all degree requirements, including the submission of copies of the approved dissertation to the two graduate offices, by the deadlines of the respective institutions. The deadline dates of the cooperating institutions will vary. Students who intend to participate in the commencement ceremonies at San Diego State University should consult the academic calendar for the last date to submit an approved copy of the dissertation to the Graduate Division. San Diego State University also requires that the students apply for graduation in any term they intend to graduate. Consult the academic calendar for the deadline date.



Basic Requirements for the Master's Degrees

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

Official Programs of Study

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

Official master's degree programs of study, as recommended by the graduate adviser and approved by the Graduate Dean, 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 or her original official program of study or may be required to submit a new program that complies with the requirements of the current **Graduate Bulletin**.

When course requirements listed on an official master's degree program deviate from those prescribed in the **Graduate Bulletin**, the student must submit to the Graduate Dean a petition for adjustment of academic requirements.

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 Graduate Dean. No course can be deleted from an official program of study after the course has been completed. This includes a course for which a student has registered and received an "Incomplete" or "SP" grade.

Foreign Language Requirement

Departments that require students to pass a foreign language examination may direct a student to complete one of the following options or a combination thereof: a departmental examination administered either by the department or by the appropriate foreign language department; the appropriate part or parts of the MLA-Cooperative Foreign Language Test; or the Graduate School Foreign Language Test (GSFLT). Students may not attempt the MLA test or GSFLT more than twice.

Advancement to Candidacy

A student who holds classified graduate standing at San Diego State University and who meets its scholastic, professional, and personal standards may be considered for advancement to candidacy for the master's degree provided an official program of study has been filed and approved by the graduate adviser and the Graduate Dean. For the Master of Arts, the Master of Science, the Master of Business Administration, the Master of

Music, the Master of Public Administration, and the Master of Public Health degrees, a student may be advanced to candidacy after completing at least 12 units of coursework listed on the official program of study with a minimum grade point average of 3.0 (B); for the Master of City Planning, the Master of Science in Counseling, the Master of Science in Rehabilitation Counseling, and the Master of Social Work degrees, the student must have earned at least 24 units of coursework listed on the official program of study with a minimum grade point average of 3.0 (B); for the degree of Master of Fine Arts in Art, or the degree of Master of Fine Arts in Drama, the student must have earned at least 30 units of coursework listed on the official program of study with a minimum grade point average of 3.0 (B); for the degree of Master of Fine Arts in Creative Writing, the student must have earned at least 30 units of coursework listed on the official program of study with a minimum grade point average of 3.25.

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 below in this section; (2) have completed all the undergraduate deficiencies and the special requirements of the department or school concerned; (3) have passed the foreign language examination if required; (4) have been recommended for advancement to candidacy by the department or school concerned; and (5) have been approved for advancement by the Graduate Council. Written notification of advancement to candidacy will be sent to the student from the Graduate Division.

A minimum of nine units of courses listed on the official program of study must be enrolled in and completed **concurrently with or after** advancement to candidacy for the Master of Arts, the Master of Science, the Master of Public Administration, the Master of Public Health, 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, 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. A student may not enroll in 799A or take a Plan B comprehensive examination until advanced to candidacy.

Unit Requirements

Credit earned by correspondence or by examination is not acceptable on advanced degree programs. Courses applied toward one advanced degree may not be used to fulfill the requirements of another advanced degree.

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

Thirty units (60-62 units for the Master of Science in Counseling degree; 36 units for the Master of Public Administration and the Master of Science degree in Psychology; 42 units for the Master of Science in Nursing) of approved 500-, 600- and 700-numbered courses earned in graduate standing, at least 21 of

which must be completed in residence. At least half of the units required must be in 600- and 700-numbered courses. Not more than a total of nine units in approved extension and transfer courses may be used to satisfy the minimum units required for the degree. Courses required to remove undergraduate deficiencies are in addition to the minimum 30 units required for the degree. **Not more than a total of six units in courses numbered 797 and 798 will be accepted for credit toward the degree.**

Master of Business Administration Degree

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

Master of City Planning Degree

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

Master of Fine Arts in Art Degree

Sixty units of 500-, 600- and 700-numbered courses specified by the Department of Art 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. **No more than a total of nine units in course 798 will be accepted for credit toward the degree.**

Master of Fine Arts in Creative Writing Degree

Fifty-four units of 500-, 600- and 700-numbered courses specified by the Department of English and Comparative Literature, at least 36 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 54 units for the degree. **No more than a total of six units in course 798 will be accepted for credit toward the degree.**

Master of Fine Arts in Drama Degree

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

Master of Public Health Degree

Forty-eight units (55 units for Health Services Administration) of approved 500- 600- and 700-numbered courses earned in graduate standing, at least 39 (except for the Maternal and Child Health concentration) of which must be earned in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 48 units required for the degree. The concentration in Maternal and Child Health requires 36 units of residence credit. Twelve additional units of field experience are required unless the student has previous equivalent experience as

determined by the graduate adviser. **Not more than a total of six units in courses numbered 797 and 798 will be accepted for degree credit.**

Master of Science in Rehabilitation Counseling Degree

Sixty units of 600- and 700-numbered courses specified by the Rehabilitation Counselor Program, at least 30 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 60 units for the degree. **Not more than a total of nine units in course 744 will be accepted; not more than a total of nine units in courses numbered 743 and 745 will be accepted.**

Master of Social Work Degree

Fifty-eight units of 500-, 600- and 700-numbered courses specified by the School of Social Work at least 28 of which must be completed in residence. Courses required to remove undergraduate deficiencies are in addition to the minimum 58 units for the degree.

Grade Point Averages

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

1. All courses listed on the official degree program required to complete undergraduate deficiencies.
2. All courses listed on the official degree program.
3. All courses, 300-level and above, taken at San Diego State University concurrently with or subsequent to the earliest course listed on the official degree program, including courses accepted for transfer credit.

No transfer or extension credit may be used to improve the grade point average of units completed at San Diego State University whether computed to determine the average on the official degree program or the overall average.

Grade Restrictions for Master's Degree Programs

No course in which a final grade below "C" (2.0) was earned may be used to satisfy the requirements for an advanced degree. No 500-numbered courses graded Credit/No Credit except those offered for Credit/No Credit only are acceptable on a master's degree program. No undergraduate courses graded Credit/No Credit may be assigned to the deficiencies listed on a master's degree program. At least 70 percent of the units used to fulfill the minimum requirements on a master's degree program shall be letter graded.

Units graded Credit/No Credit earned in practica, field experiences, and internships explicitly stated as specific requirements for a graduate degree will not be included in the determination of the number of non-lettergraded units allowable on the program of study.

Degree Time Limitations

In all advanced degree curricula offered at San Diego State University, any course completed more than seven years prior to the date on which all requirements for the degree are completed cannot be used to satisfy unit requirements of the official program of study. This includes a course for which a student has registered and received an "Incomplete" or "SP" grade. On the recommendation of the department or school concerned, the

Graduate Council may extend the time for students who pass an examination covering the content of each outdated course. With the approval of the graduate adviser and the Graduate Dean, an outdated course may be repeated, a more recently completed course substituted, or additional coursework of equal unit value assigned. Specifically required courses must either be repeated or validated by examination. In some instances, the graduate adviser and the Graduate Council may authorize students in Plan A to validate outdated courses by passing a comprehensive examination in the subject field of the degree.

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

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

Thesis, Plan A and Non-Thesis, Plan B

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

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

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

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

Plan A, requiring a thesis or project, may be selected by a student seeking the master's degree provided the department or school concerned approves the listing of Course 799A, Thesis, on the official program of study. Three units of "Cr" are granted for the satisfactory completion of the thesis or project following its acceptance by the student's thesis committee, the department or school concerned, and the Graduate Council. Assigning of "Cr" grade for the thesis is the responsibility of the Graduate Division. 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 and have an officially approved thesis or project committee form on file in the Graduate Division.

The student must obtain clearance for registration in Thesis from the Graduate Division. Failure to obtain this clearance may result in cancellation of enrollment in 799A.

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

Plan B, requiring a comprehensive written examination in lieu of a thesis, may be followed in certain graduate degree curricula as indicated in Part Three of this bulletin. Dates on which comprehensive examinations in lieu of theses are given are determined by the department or school concerned. Results of comprehensive examinations must be reported to the Graduate Division by the department or school. Refer to the academic calendar in Part One of this bulletin for deadline dates. To be eligible to take the Plan B comprehensive examination, the student must have been advanced to candidacy.

Thesis Committee

In consultation with the graduate adviser, a student will select a chair for the thesis committee. The student, the graduate adviser, and the thesis committee chair select the other faculty members who will be asked to serve on the thesis committee. The student needs to obtain the signature of the thesis chair, the other committee members, and the graduate adviser on the Appointment of Thesis Committee Form and submit it to the Graduate Division and Research. After the committee is approved, the student may enroll in Course 799A, Thesis, through the Graduate Division and Research.

Normally, the thesis committee is composed of three full-time faculty members. At least two of the members of the thesis committee, including the chair of the committee, must hold permanent faculty appointments. Two of the committee members should be members of the department or of the interdisciplinary faculty group in which the thesis is written. The third committee member should be from a department other than the department in which the thesis is written.

Thesis Research Involving Human Subjects and Animal Subjects

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

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

Students planning to conduct research involving live animals housed on campus must receive approval of the research from

the Animal Welfare Coordinator. Upon written approval of the coordinator, students may begin their research and register for thesis.

Theses in Foreign Languages

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

Submission of Theses

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

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

Manuscripts deemed unready for submission, as determined by the Graduate Dean, will be rejected and returned to the student. Manuscripts will be rejected if there are gross deficiencies of format or presentation or if they are incomplete. Students who

cannot meet the final deadline for submission because of such rejection will be required to reenroll in Thesis as well as to reapply for graduation.

Students are expected to make all required changes and submit the final revised manuscript within 30 days following the date of the initial review by the Thesis Review Service. Students who fail to complete the submission process within this period may be required to repeat the process in the term in which the thesis is completed.

Final Approval

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

Writing Competency

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

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

Application for Graduation

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

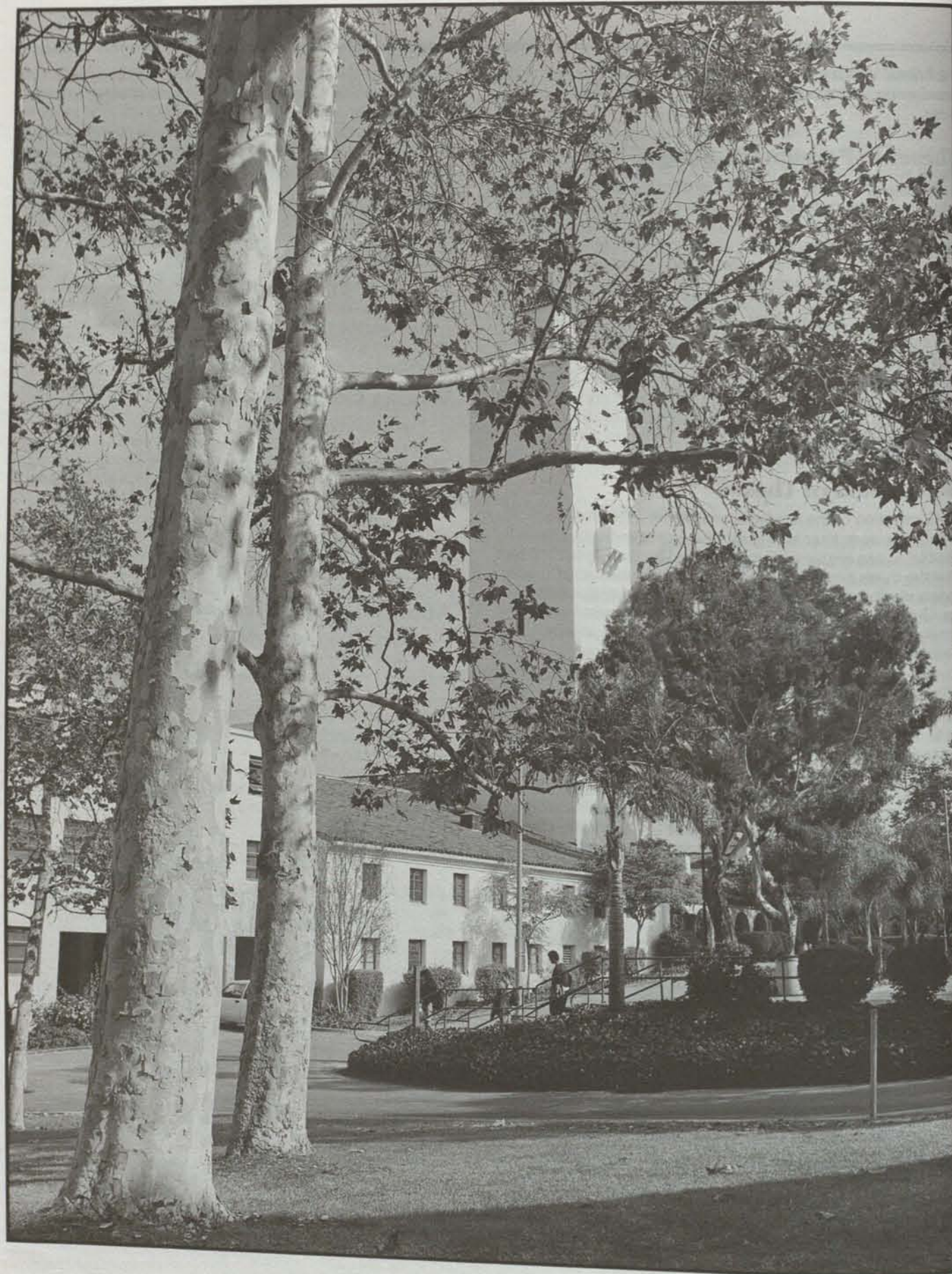
There is a \$16 commencement fee and a \$16 graduation evaluation and diploma fee. Students who do not graduate in the semester or term for which they have applied must reapply (and pay the \$16 graduation evaluation and diploma fee) in the subsequent semester or term in which they expect to be graduated.

Award of Degrees

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

Diploma

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



PART THREE

Courses and Curricula

Courses and Curricula

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

In addition, courses acceptable for credit toward an advanced degree are listed under major fields and areas of concentration. Each course is listed by department number, title, and units. Not all courses are offered every semester or every academic year. Ordinarily each listed course will be offered not less than once during a two-year period. Refer to the **Class Schedule** or the Summer Session Bulletin for a listing of course offerings.

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.

Postbaccalaureate (Unclassified) Enrollment

A postbaccalaureate student (unclassified) is not eligible to enroll in 600-, 700-, 800-, and 900-numbered courses except by special permission. 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. Classified or conditionally classified students whose status is changed to postbaccalaureate (unclassified) for any reason may not enroll in any 600-, 700-, 800-, or 900-numbered course in the program in which they were previously classified without the consent of the graduate adviser of the program and the Graduate Dean. Students who enroll in such courses without consent may be administratively disenrolled or, if they complete any courses, those courses may not be used subsequently to meet any degree requirements.

Prerequisites for Graduate Courses

Graduate level (600-, 700-, 800-, and 900-numbered) courses require, as general prerequisites, graduate standing, and competence in the specified field as indicated by a substantial amount of upper division study in the field or in a closely related field. Unless otherwise specified in the course description, graduate level courses are open to classified graduate students with the permission of the instructor. Undergraduate students are not permitted to enroll in 600-, 700-, 800-, and 900-numbered courses except under special circumstances (see section "Concurrent Master's Degree Credit"). Unauthorized enrollment of

undergraduate students in 600-, 700-, 800-, and 900-numbered courses may be canceled or, if the course is completed before graduate standing is attained, only undergraduate credit will be earned for the course.

Prerequisites for each course are stated in the course description.

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

Special Prerequisites for Registration in 798 and 799A

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

Only those students who have been advanced to candidacy and who have an officially appointed thesis committee are permitted to register for course 799A, Thesis. The student must obtain clearance for registration in this course from the Graduate Division. Failure to obtain this clearance may result in cancellation of enrollment.

Special Prerequisite for Registration in 899

Registration in course 899, Doctoral Dissertation, is limited to those doctoral students who have been advanced to candidacy and who have an officially appointed dissertation committee.

Thesis Extension (799B)

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

Unit or Credit Hour

In the listing of courses that follows, figures in parentheses indicate the unit value of the course. One unit or credit hour represents 50 minutes of recitation or lecture, together with the required preparation, or three hours of laboratory work or two hours of activities, each week for a semester.

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Faculty

Dan Whitney, Ph.D., Professor of Anthropology, Chair of Department

Joseph W. Ball, Ph.D., Professor of Anthropology

Philip J. Greenfeld, Ph.D., Professor of Anthropology

Edward O. Henry, Ph.D., Professor of Anthropology

Ronald S. Himes, Ph.D., Professor of Anthropology

Larry L. Leach, Ph.D., Professor of Anthropology

(Undergraduate Adviser)

Lois K. Lippold, Ph.D., Professor of Anthropology

Wade C. Pendleton, Ph.D., Professor of Anthropology

Vivian J. Rohrl, Ph.D., Professor of Anthropology

Dan Whitney, Ph.D., Professor of Anthropology

Mary Jane Moore, Ph.D., Associate Professor of Anthropology

(Graduate Adviser)

Alexander Sonek Jr., Ph.D., Assistant Professor of Anthropology

Assistantships

Sources of financial assistance available to qualified graduate students in anthropology each academic year include two Norton Allen Scholarships, the Paul Ezell Internship in Archaeology, graduate teaching assistantships. Application forms and additional information may be obtained from the chair of the department.

General Information

The Department of Anthropology, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in anthropology. The Master of Arts degree in anthropology provides systematic training through two specializations; (1) general anthropology specialization, with a strong theoretical component, for students who anticipate additional work leading to the doctoral degree in anthropology, or direct placement in an academic setting; (2) an applied anthropology specialization primarily for those who plan to seek employment in the nonacademic sector. This specialization is concerned with the application of anthropological method and theory to practical problems in business, government, and other settings.

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, the San Diego Zoo, and various internship sites for applied research.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in anthropology must have

Anthropology

In the College of Arts and Letters

completed or complete at least 15 upper division units including Anthropology 301, Principles of Physical Anthropology; Anthropology 302, Principles of Archaeology; Anthropology 303, History of Ethnological Theory; and Anthropology 304, Principles of Anthropological Linguistics, 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 General Test scores are to be sent to the Office of Admissions and Records. In addition to these documents and the University admission forms, students applying to the department are asked to submit (1) at least three letters of recommendation from persons in a position to judge academic ability; and (2) at least one typewritten example of their previous work (e.g., a term paper or an original experiment). Materials should be submitted by December 1 for admission for spring semester and May 1 for the fall semester.

Advancement to Candidacy

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

(a) foreign language recommended by the department, or

(b) Anthropology 580 (Anthropological Data Analysis) or one of the following sequences in statistics: Sociology 201 and 406 or 407; Psychology 270 and 472; Biology 215 and 597B; Mathematics 250 and 350A.

Those students who choose the Applied Anthropology specialization must: (1) satisfactorily complete three core seminars (601, 602, 603, or 604) selected with the approval of the graduate coordinator with a minimum grade point average of 3.0, and no less than a B- grade in each of the three core seminars; (2) satisfactorily complete Anthropology 701 (Seminar in Applied Anthropology); and (3) satisfactorily complete a lower division course in quantitative methods (Biology 215, Psychology 270, Sociology 201, or Mathematics 250) and Anthropology 580 (Anthropological Data Analysis) with no less than a B- in each course. After having been advanced to candidacy, students in either the General Anthropology or Applied Anthropology specializations must submit a thesis proposal for approval by the departmental graduate advisory committee.



Specific Requirements for the Master of Arts Degree

(Major Code: 22021)

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

1. Anthropology 601, 602, 603, and 604 (with a minimum grade point average of 3.0, and no less than a B- grade in each of these core seminars);
2. Anthropology 797, Research (3) (to be taken after advancement to candidacy);
3. Anthropology 799A, Thesis (3).

Students selecting the Applied Anthropology specialization must complete a graduate program of at least 30 units, of which at least 21 units must be in the 600- and 700-numbered courses

in anthropology, or with the approval of the graduate coordinator, in related disciplines. The coursework for this specialization must include:

1. Nine units of core seminars chosen from Anthropology 601, 602, 603, or 604 with the approval of the graduate coordinator (with a minimum grade point average of 3.0, and no less than a B- grade in each of these core seminars);
2. Anthropology 580 (3) and Anthropology 701 (3) (both courses to be taken prior to advancement to candidacy and prior to internship placement);
3. Anthropology 795 (6) (to be taken after advancement to candidacy);
4. Anthropology 799A, Thesis (3).

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

Courses Acceptable on Master's Degree Programs in Anthropology

UPPER DIVISION COURSES

500. Primate Social Behavior (3)

Two lectures and three hours of laboratory.

Prerequisite: Anthropology 101.

Analysis of modes of primate socialization and development of social behavior with emphases on communication, group structure, aggression, and sex. Various methods of analysis and observation practiced utilizing primate collection at the San Diego Zoo.

501. Paleoanthropology (3)

Prerequisite: Anthropology 101. Recommended: Anthropology 301.

Fossil evidence for human evolution. Comparative and functional anatomy of fossil human and infrahuman primates; geochronology, paleoecology, and cultural associations; taxonomic implications.

502. Microevolution (3)

Prerequisite: Anthropology 101. Recommended: Anthropology 301.

The evolution of human populations over a short period of time. Interaction of the evolutionary forces of mutation, selection, drift and gene flow with the cultural systems of human populations.

503. Human Variation (3)

Prerequisite: Anthropology 101.

Morphological, physiological and genetic aspects of human variability. Significance of this diversity in the biological adaptations of human populations.

504. Primate Anatomy (3)

Two lectures and three hours of laboratory.

Prerequisite: Anthropology 101.

Primate anatomy both regional and systemic, including skeletal, cardiovascular and digestive systems; the integument and otolaryngology of primates.

505. Human Osteology (3)

Two lectures and three hours of laboratory.

Prerequisite: Anthropology 101. Recommended: Anthropology 301 and/or Biology 150.

Identification of individual bones and teeth; sex, age, and racial variation; stature reconstruction; continuous and discontinuous morphological variations; paleopathology. Training in observations, measurements, and analyses.

506. Physical Anthropology of the Living (3)

Two lectures and three hours of laboratory.

Prerequisite: Anthropology 101. Recommended: Anthropology 301.

Theory and practice of techniques in measurement and description of biological variations in modern populations.

507. Genetic Markers and Anthropology (3)

Two lectures and three hours of laboratory.

Prerequisite: Anthropology 101.

Use of genetic markers in the study of human populations. Biology of blood groups, serum proteins, enzymes, etc., and analyses of gene frequencies. Significance of genetic markers in evolutionary studies.

508. Medical Anthropology (3)

Prerequisite: Anthropology 101 or 102.

Evolution and ecology of disease, medical beliefs and practices in non-Western cultures, and complexities of health care delivery in pluralistic societies.

509. Culture and Biological Aging (3)

Prerequisites: Anthropology 101 or 102.

Do different cultures age at different rates? Theories of biological aging, genetics of longevity and cultural influences on biological aging. Process of aging and roles of the aged in various cultures.

520. Ethnographic Field Methods (3)

Two lectures and three hours of laboratory.

Prerequisite: Anthropology 102.

The problems and techniques of obtaining data in ethnological and social anthropological fieldwork; preparation, gaining and maintaining rapport, evaluating data, participant observation. A review of literature followed by work with informants.

526. Cultural Change and Processes (3)

Prerequisites: Anthropology 102 and six upper division units in anthropology.

Patterns of change in subsistence, social structure, and belief systems. Processes of change including diffusion, acculturation, individual innovation, and directed change among contemporary and historic peoples.

529. Urban Anthropology (3)

Prerequisites: Anthropology 102 and six upper division units in anthropology.

Urban adaptations of past and present societies. Descriptive topics and applied concerns regarding urban origins, migrations, kinship, family, ethnicity, stratification, and change. Ethnographic examples drawn from Western and non-Western societies.

532. Culture and Personality (3)

Prerequisite: Anthropology 102.

The relationship of individual personality to culture in a variety of cultures. A consideration of various theories and studies in the social and personality sciences.

560. Advanced Archaeological Field Methods (3)

One lecture and six hours of laboratory.

Prerequisite: Anthropology 312.

Advanced projects in excavation and stabilization of ruins, archaeological surveys, laboratory analysis and preparation of reports.

561. Archaeological Laboratory Methods (3)

Two lectures and three hours of laboratory.

Prerequisite: Anthropology 560.

Application of palynology, paleontology and relevant technologies. Individual laboratory research project required. (Formerly numbered Anthropology 561A).

580. Anthropological Data Analysis (3)

Two lectures and three hours of laboratory.

Prerequisites: Anthropology 101 or 102 and a statistics course. Recommended: Psychology 270 or Sociology 201.

Computer oriented data analysis class utilizing anthropological data sets. Special section of the SPSS computer workshop is required.

582. Regional Anthropology (3)

Prerequisite: Anthropology 102.

Study of societies in a major geographical region of the world such as Africa, the Arctic, East Asia, Europe, Latin America, the Middle East, North America, Oceania, or South Asia. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units.

583. Topical Anthropology (3)

Prerequisite: Anthropology 102.

Study of a major subdiscipline such as applied anthropology, economic anthropology, political anthropology, psychological anthropology, social anthropology, cultural ecology, anthropological genetics, or environmental archaeology. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units.

GRADUATE COURSES

600. Seminar (3)

An intensive study in advanced anthropology. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

601. Seminar in Physical Anthropology (3)

Prerequisite: Twelve upper division units in anthropology.

History and theory in physical anthropology stressing the significant literature on such topics as functional anatomy, human paleontology, population genetics, and primatology.

602. Seminar in Archaeology (3)

Prerequisite: Twelve upper division units in anthropology.

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

603. Seminar in Ethnology (3)

Prerequisite: Twelve upper division units in anthropology.

History and theory in ethnology stressing the significant literature on such topics as cross-cultural comparison, structural-functional analysis and description, personality and culture, and sociocultural change.

604. Seminar in Linguistics (3)

Prerequisite: Twelve upper division units in anthropology.

History and theory of linguistics stressing the significant literature on such topics as cultural cognition, descriptive linguistics, lexicostatistics, and transformational analysis.

620. Seminar in Regional Anthropology (3)

Prerequisite: Twelve upper division units in anthropology.

Study of a major world region such as Africa, the Arctic, East Asia, Europe, Latin America, the Middle East, North America, Oceania, or South Asia. Maximum credit six units applicable to a master's degree. May be repeated with new content. See Class Schedule for specific content.

621. Seminar in Topical Anthropology (3)

Prerequisite: Twelve upper division units in anthropology.

Study of a major subdiscipline such as political anthropology, economic anthropology, social anthropology, psychological anthropology, cultural ecology, applied anthropology, race and variation, or environmental archaeology. Maximum credit six units applicable to a master's degree. May be repeated with new content. See Class Schedule for specific content.

701. Seminar in Applied Anthropology (3)

Prerequisite: Classified graduate standing.

Applied research, social impact assessment, policy analysis, planning, teaching, and decision making. Practical knowledge gained by doing applied research in nonacademic settings.

795. Internship in Anthropology (3-9) Cr/NC

Prerequisites: Classified graduate standing and/or consent of staff.

Students will be assigned to various government and private agencies in which anthropological theory can be applied. Supervision will be shared by departmental graduate advisory committee and on-the-job supervisor. Maximum credit nine units; three units applicable to a master's degree.

797. Research (3) Cr/NC/SP

Prerequisite: Advancement to candidacy.

Independent investigation in the general field of the thesis.

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

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

Individual study directed toward the preparation of a paper on a specific problem. May be repeated with variable content, with a maximum credit of three units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

OFFICE: Art 505

TELEPHONE: (619) 594-6511

Faculty

Fredrick J. Orth, M.F.A., Professor of Art, Chair of Department

Joan F. Austin, M.F.A., Professor of Art

Richard J. Baker, M.F.A., Professor of Art

Walter E. Cotten, M.F.A., Professor of Art

Jesus Y. Dominguez, M.F.A., Professor of Art

Janet B. Esser, Ph.D., Professor of Art

Arlene M. Fisch, M.A., Professor of Art

Allan W. Miller, M.F.A., Professor of Art

Eugene Ray, M.F.A., Professor of Art

Ida K. Rigby, Ph.D., Professor of Art, Graduate Adviser, Art

History

Gail C. Roberts-Fields, M.A., Professor of Art, Graduate

Coordinator, Studio Arts

John J. Rogers, M.S., Professor of Art

Helen Z. Shirk, M.F.A., Professor of Art

Janet L. Cooling, M.F.A., Associate Professor of Art

Gerald C. Dumlao, M.F.A., Associate Professor of Art

Joanne Hayakawa, M.F.A., Associate Professor of Art

Robert A. Mansfield, M.F.A., Associate Professor of Art

Susan C. Merritt, M.A., Associate Professor of Art

Richard A. Burkett, M.F.A., Assistant Professor of Art

Eric R. Moaney, M.F.A., Assistant Professor of Art

Kerry Ann Nelson, M.S., Assistant Professor of Art

Tina Marie Yapelli, M.A., Assistant Professor of Art

Assistantships

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

General Information

The Department of Art, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Fine Arts degree in art and the Master of Arts degree in art. The objectives of the graduate program in all areas of specialization are to provide the essential education, technical training and creative experience necessary for professional activity or college-level teaching in the visual arts.

The Master of Arts degree is a 30-unit graduate program requiring one to two years to complete. The M.A. degree in studio arts is designed to prepare students for proficient and successful practice as professional artists and is offered in the following areas: applied design, environmental design, graphic design, interior design, painting, printmaking, and sculpture. The M.A. degree with an emphasis in art history is designed to prepare students for professional positions in galleries and museums and for doctoral degree programs.

The Master of Fine Arts degree requires an additional 30 units in the area of specialization and professional seminars, with the expectation that the student will achieve a higher level of excellence and distinction in the chosen area of specialization.

Art

In the College of Professional Studies and Fine Arts

The M.F.A. degree requires 60 units and can be completed in three years. The degree is offered in applied design, environmental design, graphic design, painting, printmaking, and sculpture.

The Art building has expansive facilities offering the student excellent studio space and equipment. In addition, the San Diego Museum of Art, the San Diego Museum of Contemporary Art, the Putnam Foundation collection in the Timken Gallery, and the Museum of Man in Balboa Park offer valuable original materials as well as specialized libraries for research. There are also numerous community college galleries and commercial galleries with a wide variety of offerings.

Master of Fine Arts Degree in Art

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In general, the student must have completed a bachelor's degree in studio art or the equivalent from an accredited institution, including twelve units of art history, six units of which comprise a survey of the history of Western art. A grade point average of 3.25 or better in upper division art courses is required.

Students must also be able to show that they are adequately advanced to carry out projects which measure up to graduate standards. This requirement will be measured by a formal presentation of a portfolio of work to the graduate faculty in the area of emphasis.

Students seeking admission for the fall semester must submit graduate review applications and portfolios to the graduate coordinator by March 1. Applications and portfolios for the spring semester are due October 1.

Advancement to Candidacy

In addition to meeting the requirements for advancement to candidacy as described in Part Two of this bulletin, all students must have (1) completed a minimum of 30 units on the official program with a minimum grade point average of 3.0 [B]; and (2) been reviewed by the graduate faculty of the emphasis area and received approval of an acceptable body of graduate work completed since classified standing fulfilling the requirements of the area of emphasis.

Specific Requirements for the Master of Fine Arts Degree

(Major Code: 10022)

Candidates for the M.F.A., in addition to meeting the requirements for classified graduate standing, must complete a 60-unit graduate program which includes a minimum of 45 units at the 600- and 700-level. Art 694, 760, 791, and 792 are required. Normally, a student will focus on one of the studio art fields (applied design, painting, environmental design, graphic design,

sculpture, and printmaking). With approval of the Chair and graduate coordinator a student may focus on a program of study combining two studio art fields. Six units must be included in art history, art criticism, and aesthetics courses. Nine units must be included on the program from studio electives outside the area of emphasis or electives in other departments. Art 799A, Thesis must be included on the program. In addition, there will be an oral examination of each candidate by the graduate faculty of the Department of Art. This examination will occur at the time of the candidate's master's exhibition, and will encompass an in-depth discussion of the candidate's thesis project.

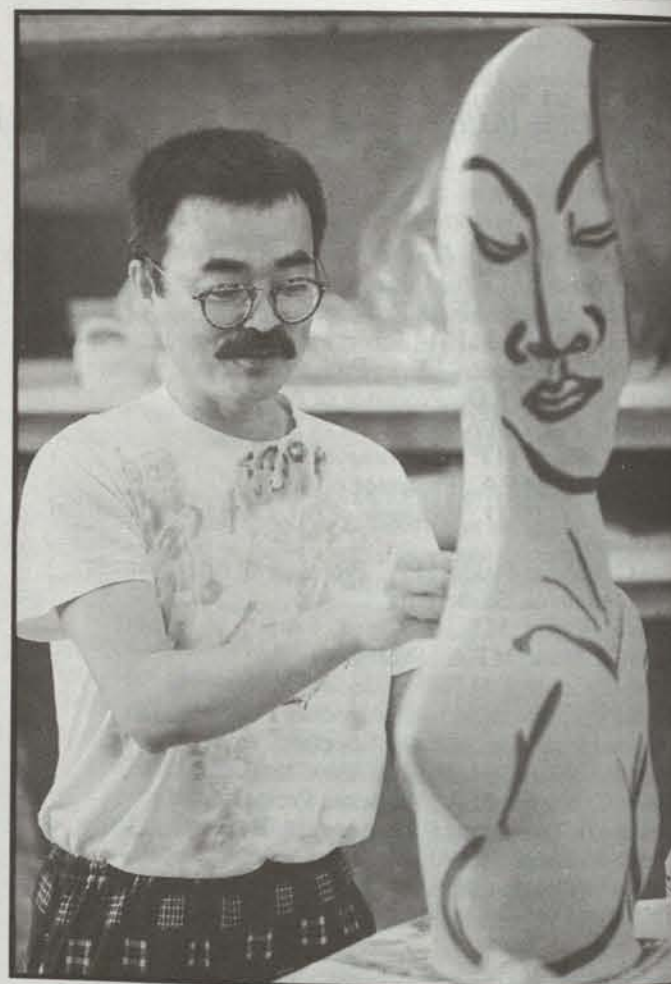
No more than 15 units of graduate work may be transferred from another institution. Requests for more than six units must be approved by a committee of representatives from the area of emphasis. Applicants holding an M.A. degree in studio art from an accredited institution may transfer up to 30 units upon review and recommendation of the faculty in the area of emphasis, and approval of the graduate coordinator of the Art Department. Candidates must be prepared to spend at least two semesters (24 units) in residence as full-time students. Course-work taken as a graduate student to fulfill undergraduate deficiencies may not be used to satisfy any unit requirement for the M.F.A. degree program. A 3.0 grade point average must be maintained at all times. Continuation in the program will be determined by a review of each candidate by the graduate faculty in the emphasis area. This review will be held upon completion of 30 units in the M.F.A. program, or at any time upon request of the graduate coordinator.

Master of Arts Degree in Art

Admission to Graduate Study

Studio Arts

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



Art History

In addition to meeting the requirements for admission to the University, students wishing to be admitted to the art history graduate program with a classified graduate standing must complete the equivalent of the graduation requirements as specified in the current General Catalog (a minimum of 39 units of art history to include Art 593), with a GPA of 3.0 on a 4.0 scale in the last 60 units attempted.

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

Art history applications, obtainable from the graduate coordinator, are due on March 1 or October 1 for the following semester and should be accompanied by transcripts of all undergraduate or postbaccalaureate work.

Advancement to Candidacy

Studio Arts

In addition to meeting the requirements for advancement to candidacy as described in Part Two of this bulletin, all students will be required to pass a comprehensive examination covering the fields of history of art of western civilization, the principles of

art appreciation, and the techniques and materials of the artist, or to have completed a year course in the history of art of Western civilization and six undergraduate units of art history.

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

Art History

Classified graduate students working for the Master of Arts degree with a concentration in art history must pass a comprehensive examination in art history (Western and non-Western) no later than the second semester as classified graduate students before advancement to candidacy. Classified graduates should contact the graduate adviser to sign up for the comprehensive examination and to discuss their individual graduate programs before their third week of the first semester.

Before advancement to candidacy graduate students in art history must have completed four semesters of college level French or German. Alternatively, with the consent of the graduate adviser, students may demonstrate a reading knowledge of the appropriate language by passing either the Graduate School Foreign Language Examination, the Modern Language Association Examination (the French MLA examination is given by the Test Office during the beginning of each semester; contact the Art Department for permission to take the examination) or under exceptional circumstances a reading proficiency examination administered by the art history area. The language requirement must be met before the add/drop date of the student's first semester as a classified graduate student, or the student must enroll for appropriate language courses.

Specific Requirements for the Master of Arts Degree

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

Studio Arts

(Major Code: 10021)

Those electing studio arts must complete a minimum of 18 units in the area of specialization. One course in the Art 760 or 770 series, Art 694, and Art 799A are required. Not more than a total of six units in Art 798 will be accepted. A creative project accompanied by a written report is required as fulfillment of Art 799A. In conjunction with this project, each candidate for the degree must present an exhibition of representative graduate work.

Art History

(Major Code: 10031)

Those electing art history must complete at least 18 units from the 600- and 700-numbered courses in art history to

include Art 799A, selected in consultation with the art history adviser. Students may select up to 12 units of 500-level courses in art, nine units of which must be in art history and approved by the graduate adviser. A written thesis is required as fulfillment of Art 799A. Master's candidates in art history will also be required to give an open lecture on their thesis subject, to be scheduled with the approval of the thesis chair.

Thesis and Projects in Art

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

Courses Acceptable on Master's Degree Programs in Art

UPPER DIVISION COURSES

500. Advanced Drawing (3)

Six hours.

Prerequisites: Art 203 and 204.

Drawing emphasizing the qualitative aspect of visual subject matter. Maximum credit six units.

501. Professional Orientation in the Arts (3) I, II

Prerequisite: Twelve units of upper division art or graduate standing in art.

Conditions met in professional art world as well as opportunities available: Exhibitions, marketing system, legal and tax responsibilities, public and private collections, grants, fellowships and professional positions investigated.

502. Inter-Media (1-3) I, II

Two hours for each unit of credit.

Prerequisites: Art 102 and 103.

Process and materials in plane and space. Maximum credit six units.

503. Life Drawing and Painting (3) I, II

Six hours.

Prerequisites: Art 204 and 403.

Drawing and painting from nude and costumed models. Maximum credit six units.

504. Advanced Painting (3) I, II

Six hours.

Prerequisite: Art 404.

Approaches to contemporary concepts in painting. Maximum credit six units.

505. Advanced Waterbase Media (3) I, II

Six hours.

Prerequisite: Art 405.

Approaches to contemporary concepts in waterbase painting. Maximum credit six units.

506. Contemporary Issues for Studio Artists (3) I

Prerequisites: Upper division or graduate standing in art and consent of instructor.

Theory, practice, and philosophy of being an artist. Independent research on current art concepts and issues. Material will encompass the past five years. Field trips.

509. Relief Printmaking (3) I, II

Six hours.

Prerequisites: Art 203 and 210.

Woodcut, wood engraving, gessocut, linoleum, collograph, and relief printmaking processes. Emphasis on fine print quality and technical development using mixed media. Maximum credit six units.

510. Intaglio Printmaking in Color (3) I, II

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) I, II

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) (Offered only at IVC)

Six hours.

Prerequisites: Art 203 and 210.

Techniques of reproducing original prints by means of the silkscreen process. Maximum credit six units.

516. Advanced Sculpture (3) I, II

Six hours.

Prerequisite: Art 416.

Individual investigations into sculpture ideas, methods and materials. Individual development in sculpture. Maximum credit six units.

- | | |
|----------------------------|-------------------|
| A. Ceramic Sculpture | D. Handmade Paper |
| B. Plastic Sculpture | Sculpture |
| C. Foundry/Metal Sculpture | E. Wood Sculpture |

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.

523. Advanced Furniture Design (3) I, II

Six hours.

Prerequisite: Art 423.

Advanced individual design; exploration of materials, process and function. Maximum credit six units. Maximum combined credit of 12 units in Art 323, 423, and 523.

525. Advanced Ceramics (3) I, II

Six hours.

Prerequisite: Art 425.

Study of ceramic design through creative projects of clay forms. Maximum credit six units.

526. Clay and Glaze Technology in Ceramic Design (3)

Six hours.

Prerequisite: Art 425.

Experimentation and application of research concerning the use of ceramic materials and techniques as an integral part of the design process. Maximum credit six units.

531. Advanced Jewelry and Metalwork (3) I, II

Six hours.

Prerequisite: Art 431.

Problems involving fabrication processes already studied in order to increase technical competence while exploring personal design statements; specialized techniques such as photo-etching and electroforming. Maximum credit six units.

532. Advanced Metalsmithing (3) I, II

Six hours.

Prerequisite: Art 431.

Advanced problems involving metalsmithing processes already studied in order to increase technical competence while exploring personal design statements. Maximum credit six units.

533. Textile Techniques in Metal (3)

Six hours.

Prerequisite: Art 331 or 435.

Textile structures as applied to precious and nonprecious metals. Individually designed projects utilizing information acquired through samples and documentation. For students of fiber, metal and sculpture.

534. Advanced Weaving (3) I, II

Six hours.

Prerequisite: Art 334.

Advanced individual problems in weaving. Maximum credit six units. Maximum combined credit of nine units in Art 234, 334, and 534.

535. Advanced Nonwoven Textile Construction (3) I, II

Six hours.

Prerequisite: Art 435.

Advanced study in nonloom techniques. Techniques to include: looping, braiding, plaiting, and special fabricating techniques. Experimentation with new man-made fibers and with synthetic commercial dyes. Maximum credit six units.

536. Advanced Textile Design (3) I, II

Six hours.

Prerequisite: Art 436.

Application of design for the textile surface, appropriate for both the individual designer and commercial reproduction. Maximum credit six units.

540. Advanced Graphic Imagery (3) I, II, S

Six hours.

Prerequisite: Art 240 or 340.

Investigation of experimental photographic and technical reproductive media.

541. Advanced Graphic Design - Communication Systems (3) I, II

Six hours.

Prerequisite: Art 441. **Proof of completion of prerequisite required:** Grade report or copy of transcript.

Symbolic processes, materials and structures, visual communications systems relating to corporate and visual identification programs. Maximum credit six units.

542. Advanced Professional Problems in Graphic Design (3) I, II

Six hours.

Prerequisite: Art 441 or 541; or consent of instructor by portfolio review.

Refinement of personal visual imagery and the application of design concepts to production situations. Study of professional responsibilities, conduct and business procedures. Development of a professional level portfolio.

543. Advanced Drawing and Illustration for Graphic Design (3) II

Six hours.

Prerequisite: Art 443.

Refinement of visual imagery and advanced illustration problems.

544. Advanced Visual Communication Media (3)

Six hours.

Prerequisite: Art 444.

Experimental, creative and practical exploration of contemporary communication as related to advanced sequential visual imagery in multimedia formats.

547. Environmental Theory (3) I, II

Prerequisite: Art 247 or 347.

Survey of alternative solutions to the problem of design of the physical environment.

550. Environmental Prototypes (3) I

Six hours.

Prerequisites: Art 247, 250 and 450.

Research and development of creative architectural concepts with emphasis in space enclosure systems and cybernetics.

552. Interior Design IV (3) I, II

Six hours.

Prerequisites: Art 451, 453, and completion of portfolio requirement. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Projects in architectural interiors involving the use and perception of enclosed spaces. Space planning systems analysis. Maximum credit six units.

553. Interior Design V (3) I, II

Six hours.

Prerequisite: Art 552. **Proof of completion of prerequisite required:** Grade report or copy of transcript.

Projects in interiors involving space planning analysis, specification writing, materials selection and furnishing design appropriate to commercial needs. Maximum credit six units.

557. Art of the Nineteenth Century (3) I, II

Prerequisites: Art 258 and 259.

Development of painting, sculpture, and architecture from the French Revolution to 1900.

558. Twentieth Century European Art to 1945 (3) I, II

Prerequisite: Art 259.

Major developments in the visual arts and art criticism from 1880 to 1945 (Post-Impressionism through Surrealism).

559. Twentieth Century European and American Art Since 1945 (3) I, II

Prerequisite: Art 558.

Major developments in the visual arts and art criticism since 1945.

560. History of American Art (3)

Prerequisites: Art 258 and 259.

Development of painting, sculpture, and architecture from the Native American art and Colonial Period to the present.

561. Art of Pre-Hispanic America (3)

Prerequisite: Upper division standing.

Art of ancient Meso-America, Central America, Caribbean and South America from earliest times until contact with Europe.

562. Art of Latin America (3)

Prerequisite: Upper division standing.

Art and architecture of Latin America from the colonial period to the present. Field trips included.

564. Art of China (3) II

Prerequisite: Art 263.

History of Chinese art from prehistoric times through the Ching Dynasty.

565. Art of Japan (3) II

Prerequisite: Art 263.

History of Japanese art from prehistoric times to the Meiji Restoration.

568. Art of Crete, Mycenae, Greece, and Rome (3)

Prerequisite: Art 258.

Development of painting, sculpture, architecture, and crafts from prehistoric times to the fifth century A.D.

572. Coptic and Byzantine Art (3)

Prerequisites: Art 258 and 259.

The art of the Eastern Church from the reign of Justinian to the Russian Revolution.

573A. Early Renaissance Art in Italy (3)

Prerequisites: Art 258 and 259.

Italian arts, architecture, artists, and patrons from fourteenth century Proto-Renaissance period through fifteenth century revival of classical humanism in city states of Florence, Siena, Bologna, Mantua, and Padua.

573B. Late Renaissance Art in Italy (3)

Prerequisites: Art 258 and 259.

High Renaissance in Florence and Rome, followed by disintegration of classical principles and domination of Mannerism in Central and Northern Italy and history of arts of Venice in sixteenth century.

574. Northern Renaissance Art (3)

Prerequisites: Art 258 and 259.

Architecture, sculpture, and painting north of the Alps during the Renaissance period.

575. Baroque and Rococo Art (3)

Prerequisites: Art 258 and 259.

Architecture, sculpture, and painting of the Baroque and Rococo periods.

576. Arts of Native North America (3)

Prerequisite: Upper division standing.

Form and content of the arts of North American Indians viewed within a cultural context. Field trips.

577. History of Architecture (3)

Prerequisites: Art 258 and 259.

Architecture from primitive times to the present.

581. History and Theory of Environmental Design (3) II

Prerequisites: Art 258 and 259.

Environmental arts in the nineteenth and twentieth centuries.

586. Art Practicum Seminar (3) I

Prerequisites: Twenty upper division units in art and concurrent assignment to student teaching.

Discussion, readings, and research study related to art presentation strategies.

591. Gallery Exhibition Design (3) I, II

Six hours.

Prerequisite: Fifteen units of art.

Fundamental art elements and principles applied to the theories and techniques of gallery exhibition design.

592. Gallery Exhibition Design (3) I, II

Six hours.

Prerequisite: Art 591.

Advanced problems in the theories and techniques of gallery exhibition design.

593. History and Methodology of Art History (3)

Prerequisites: Upper division standing; art history major or minor.

Readings and discussions on the historiography of art and on modern methodologies for art historical research.

596. Advanced Studies in Art and Art History (1-4)

Prerequisites: Twelve units of art and art history and consent of instructor.

Advanced topics in art and art history. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum credit of three units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES**600. Drawing (3)**

Six hours.

Prerequisite: Art 500.

Concepts and approaches to drawing. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

604. Painting (3)

Six hours.

Prerequisites: Art 405, 504 and 506.

Issues and concepts relating to contemporary painting. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

609. Printmaking (1-3)

Two hours for each unit of credit.

Advanced creative work in selected printmaking media based upon the analysis of the history and philosophies of printmaking from its inception through contemporary concepts. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

616. Sculpture (3)

Six hours.

Prerequisite: Art 516.

Aesthetic organization of selected subject matter in the media of sculpture. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

623. Advanced Furniture Design (3)

Six hours.

Prerequisite: Art 523.

Problems in the design and construction of furniture. Projects determined by the individual students in conference with the instructor. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

625. Crafts (1-3)

Two hours for each unit of credit.

Prerequisite: Six units completed in upper division courses in sculpture or ceramics or printmaking or a combination of these courses.

Advanced creative work in selected craft media. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

627. Advanced Clay and Glaze Technology in Ceramic Design (3)

Six hours.

Prerequisite: Art 425.

Experimentation with the use of ceramic material and techniques as an integral part of the design process. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

631. Seminar in Jewelry and Metalwork (3)

Prerequisite: Art 331.

Problems in the design and execution of works in precious metals. Projects will be determined by the individual student in conference with the instructor. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

634. Seminar in Textile Design (3)

Prerequisite: Art 334.

Problems in textile design and technology. Projects will be determined by the individual student in consultation with the instructor. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

641. Graphic Communication (1-3)

Two hours for each unit of credit.

Prerequisite: Art 541.

Advanced individual study in graphic design. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

650. Creative Environmental Design (1-3)

Prerequisite: Six upper division units in interior design, architecture or city planning.

Creative work in interior design, architecture and civic design. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

694. Seminar in the Principles of Design in the Space Arts (3)

Prerequisite: A semester course in art appreciation.

An intensive study of the activity of creative expression and aesthetic appreciation in the area of visual experience. The aesthetic analysis of original works of art. Maximum credit six units applicable to the M.A. degree.

700. Studio Art Experience (3)

Six hours.

Independent research in specified areas, which may require the presentation of a paper with its oral defense.

Each course may be taken to a maximum of six units. Maximum credit six units of 700 applicable to the M.A. degree; nine units of 700 applicable to the M.F.A. degree in art.

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

G. Studio Art in

Communication

Environmental Design

716. Individual Research Problems in Sculpture (3)

Prerequisite: Art 616 (six units).

Graduate research problems including independent research in sculpture. Projects will be determined by the individual student in conference with the instructor. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

760. Seminar in Twentieth Century Art (3)

Prerequisites: Art 558 and 559.

Visual arts and art criticism since 1900.

767. Seminar in Art of Native America, Africa and Oceania (3)

Studies in problems of the development of art styles, concepts, imagery, and artists within one of the following areas: Art of the Americas, Africa, or Oceania.

771. Seminar in Medieval Art (3)

Prerequisites: Art 258 and 259.

Studies in problems of the development of art styles or important artists within broad limits of medieval art.

773. Seminar in Renaissance Art (3)

Prerequisites: Art 258 and 259.

Studies in problems of the development of art styles or important artists within broad limits of renaissance art.

775. Seminar in Baroque and Rococo Art (3)

Prerequisites: Art 258 and 259.

Studies in problems of the development of art styles or important artists within broad limits of baroque and rococo art.

791. Seminar in Professional Practices (3)

Reading and discussion about subjects of direct concern to the professional artist. Open only to classified graduate students in studio art. This is an art forum for the practicing artist.

792. Seminar in Professional Problems (3)

Reading and discussion pertinent to professional activities in specific media. Open only to classified graduate students.

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

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

Individual study. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

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

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

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

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

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

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

Asian Studies

In the College of Arts and Letters

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Faculty Members of the Center for Asian Studies

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Marcia K. Hermansen, Ph.D., Associate Professor of Religious
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Willard L. Johnson, Ph.D., Associate Professor of Religious
Studies
Rizalino A. Oades, Ph.D., Associate Professor of History
Lillian L. Chan, M.A.L.S., Librarian
Gloria H. Rogers, M.L.S., M.A., Associate Librarian

General Information

The Master of Arts degree in Asian studies is an interdisciplinary degree offered by designated faculty members in the Departments of Anthropology, Art, Business Administration, Classics and Humanities, Comparative Literature, Economics, Education, English, Geography, History, Linguistics and Oriental Languages, Philosophy, Political Science, Religious Studies, and Sociology. It is administered by the Center for Asian Studies through a graduate committee consisting of the director, the graduate adviser, 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; (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; and (c) for those who plan to pursue further graduate study in Asian studies beyond the Master of Arts degree.

Admission to Graduate Study

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

Advancement to Candidacy

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

Specific Requirements for the Master of Arts Degree

(Major Code: 03011)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Two of this bulletin, the student must complete a minimum of 30 units from courses acceptable on master's degree programs, including Asian Studies 600 and 799A, with not less than 24 units in courses of Asian content, distributed as shown below.

	600- and 700-level Courses	500-, 600- and 700-level Courses
Asian Studies	6 units	3 units
Department A	6 units	3 units
Department B	3 units	3 units
	15 units	9 units

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

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

All programs will be approved by the graduate committee of the Center for Asian Studies.

Courses Acceptable on Master's Degree Programs in Asian Studies

UPPER DIVISION COURSES

Asian Studies Courses

560. History of Japanese Business and Trade (3) I, II
Prerequisites: Upper division standing and consent of instructor. Japanese business and trade from 1600 to present. Emphasis on Japan's rapid economic development since 1868, interplay of social and economic forces, structure of Japanese business system, and problems of international trade.

596. Selected Studies in Asian Cultures (3)

Topics on various aspects of Asian studies. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

Anthropology Course

582. Regional Anthropology (3)*

Geography Courses

554. World Cities: Comparative Approaches to Urbanization (3)

596. Advanced Topics in Geography (1-3)*

History Courses

561A-561B. Asia and the West (3-3)

562. Civilization of India: The Great Traditions (3)

563. Modern India and Its Neighbors (3)

564A-564B. Southeast Asia (3-3)

565. Revolution and Social Change in Asia (3)

566. Chinese Civilization: The Great Traditions (3)

567. China's Century of Modernization (3)

568. Communist Party and the Chinese Revolution (3)

569. Japanese Civilization (3)

570. Modern Japan (3)

596. Selected Studies in History (1-4)*

Philosophy Course

575. A Major Philosopher (3)*

Religious Studies Courses

506. Spiritual Traditions of India (3)

580. A Major Figure (3)*

581. Major Theme (3)*

Sociology Course

556. Topics in Comparative Societies (3)*

GRADUATE COURSES

Asian Studies Courses

600. Seminar in Interdisciplinary Methods (3)

Theory and practice of interdisciplinary studies. Bibliography, research tools and presentation of findings in Asian studies.

690. Seminar in Asian Studies (3)

Intensive study of an aspect of Asian studies. Maximum credit six units applicable to a master's degree.

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

Research in one of the aspects of Asian studies. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

Anthropology Courses

600. Seminar (3)*

620. Seminar in Regional Anthropology (3)*

Economics Courses

720. Seminar in Development and Planning (3)*

750. Seminar in Economic History and Institutions (3)*

Finance Course

654. Seminar in International Business Finance (3)*

Geography Courses

654. Topics in Comparative Urbanization (3)*

701. Seminar in Development of Geographic Thought (3)*

720. Seminar in Regional Geography (3)*

740. Seminar in Human Geography (3)*

750. Seminar in Urban Geography (3)*

History Courses

601. Seminar in Historical Method (3)**

650. Directed Reading in Asian History (3)

655. Seminar in Asian History (3)

Linguistics Course

795. Seminar in Linguistics (3)*

Management Courses

723. Seminar in International Strategic Management (3)*

728. Seminar in Business Planning (3)*

Marketing Course

769. Seminar in International Marketing (3)*

Philosophy Course

696. Seminar in Selected Topics (3)*

Political Science Courses

655. Seminar in General Comparative Political Systems (3)*

658. Seminar in Communist Political Systems (3)*

661. Seminar in the Political Systems of the Developing Nations (3)*

675. Seminar in International Relations (3)*

Sociology Course

770. Seminar in Population and Demography (3)*

Teacher Education Course

656. Comparative Education (3)

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

* Acceptable when of relevant content.

** Required of all students who offer history as Department A.

Astronomy

In the College of Sciences

Faculty

Ronald J. Angione, Ph.D., Professor of Astronomy, Chair of Department, Director of Mount Laguna Observatory
C. T. Daub Jr., Ph.D., Professor of Astronomy (Graduate Adviser)
Arthur Young, Ph.D., Professor of Astronomy
Paul B. Etzel, Ph.D., Associate Professor of Astronomy
Thomas L. May, Ph.D., Associate Professor of Astronomy
Allen W. Shafter, Ph.D., Associate Professor of Astronomy
Freddie D. Talbert, Ph.D., Associate Professor of Astronomy
Robert Leach, Ph.D., Senior Staff Scientist (equivalent rank of Senior Professor)

Adjunct Faculty

William S. Kovach, Ph.D., Astronomy
Andrew T. Young, Ph.D., Astronomy

Assistantships

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

General Information

The Department of Astronomy, in the College of Sciences, offers graduate study leading to the Master of Science degree in astronomy. The degree is designed to prepare students either for further graduate work leading to the doctorate, or for a professional career in teaching or in industry.

San Diego State University operates the Mount Laguna Observatory which is located 45 road miles east of the campus at an elevation of 6100 feet. The research telescopes at the observatory include three reflectors with apertures of 40, 24 and 16 inches. The 40-inch telescope is operated jointly with the University of Illinois. Auxiliary equipment for the telescopes includes photoelectric photometers, spectrographs, and photographic and CCD cameras for direct imaging. A dormitory for observers and a shop-laboratory building complete the main research facilities at the observatory. Additionally, each telescope dome has an AT&T 6300 PC for data collection and on-line reduction. A central, general-purpose, Sun Sparc station computer provides on-line data bases as well as reduction and analysis capabilities. Associated with the observatory is the Awona Harrington Visitor Center which provides facilities for educational programs and for visiting astronomers.

On campus are a Grant measuring engine, Joyce/Loebl isodensitracer, and an iris photometer/microdensitometer. In addition there are three domes housing small telescopes, twelve to sixteen inches in aperture, for student training. Campus computing facilities include a VAX II/780. There is also access to the statewide CYBER 730/760 computer. The Astronomy Department has both CRT and graphics terminals and a plotter for use with these computers. The department's on-campus image processing facility consists of a Sun 4/670MP, with graphics peripherals, connected via Ethernet. In addition, approximately 20 PCs are connected to the Sun via STARLAN.

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TELEPHONE: (619) 594-6182



A main research interest in the department is the study of the structure and evolution of stars derived from the investigation of eclipsing and interacting binary stars. These studies make use of both photometry and spectroscopy at the observatory. Stellar evolution is further studied with photometry of star clusters. Information on the late stages of stellar evolution comes from both theoretical and observational studies of planetary nebulae. Galaxies are investigated through surface photometry using direct photography and the isodensitracer. Theoretical and observational studies are underway on planetary atmospheres and the optical properties of the earth's atmosphere.

Graduate students are extensively involved in many of these research programs. Students also may make use of observatory facilities in support of their own research.

Admission to Graduate Study

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

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree

(Major Code: 19111)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must also meet the following departmental requirements in a 30-unit program:

1. Complete at least 18 units of 600- and 700-numbered courses in astronomy including 799A (Thesis, 3 units).
2. Complete at least 12 additional units of graduate level or approved 500 level courses in astronomy or related fields as approved by departmental committee.
3. Pass a final oral examination on thesis.
4. 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

530. Celestial Mechanics (3)

Prerequisite: Physics 350.

Fundamental dynamics of celestial bodies, the central force motion, two-body motion, restricted 3-body and n-body problems. Orbit calculations. First order perturbations of orbital elements and the motion and dynamics of earth satellites.

596. Advanced Topics in Astronomy (2 or 3) I, II

Prerequisite: Consent of instructor.

Selected topics in theoretical astronomy or astrophysics. May be repeated with new content upon approval of instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

600. Seminar (2 or 3)

Prerequisite: Consent of instructor.

An intensive study in advanced astronomy. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

610. Binary Stars (3)

Prerequisite: Astronomy 450.

Visual, spectroscopic, and eclipsing binary stars. Review of observational techniques. Methods of orbital analysis with applications emphasizing determination of fundamental stellar properties, such as mass, radius, temperature, and luminosity. Implications for stellar evolution.

620. Galactic Structure (3)

Prerequisite: Astronomy 450.

Survey of basic observational data for determining structure of Milky Way Galaxy. Includes luminosity functions, stellar distributions, solar motion, stellar populations, kinematics and dynamics of general and peculiar stellar motions.

630. Stellar Atmospheres and Interiors (3)

Prerequisite: Astronomy 450.

Gas thermodynamics and equations of state. Production of stellar continuum radiation and spectral lines. Theories of radiative and convective energy transport. Interior structure and evolution of stars.

640. Interstellar Matter (3)

Prerequisites: Astronomy 450 and Mathematics 537.

Atomic radiative and collisional processes. Gas, dust, grains, and dynamics of the interstellar medium. Emission and planetary nebulae. Active galactic nuclei.

660. Extragalactic Astronomy (3)

Prerequisite: Astronomy 450.

Morphology, photometric, and spectroscopic properties, dynamics, and evolution of normal galaxies. Current interpretations of peculiar galaxies and QSO's. Observational cosmology.

680. Astronomical Techniques (3) I

Prerequisites: Astronomy 350 and 450.

Basic methods of data acquisition and analysis. Emphasis is given to CCD direct imaging, spectroscopy, and photometry. Direct experience with telescopes and instruments at Mount Laguna Observatory, as well as with the department computing and image processing facility. (Formerly numbered Astronomy 617.)

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

Prerequisite: Classified graduate standing.

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

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

Biology

In the College of Sciences

Faculty

Carol A. Barnett, Ph.D., Professor of Biology, Chair of Department
 Michael F. Allen, Ph.D., Professor of Biology (Graduate Coordinator, Biology)
 J. David Archibald, Ph.D., Professor of Biology
 Frank T. Awbrey, Ph.D., Professor of Biology
 Sanford I. Bernstein, Ph.D., Professor of Biology
 Richard L. Bizzoco, Ph.D., Professor of Biology
 Michael J. Breindl, Ph.D., Professor of Biology (Graduate Adviser, Microbiology)
 Roger E. Carpenter, Ph.D., Professor of Biology
 Lo-chai Chen, Ph.D., Professor of Biology
 Boyd D. Collier, Ph.D., Professor of Biology
 Gerald Collier, Ph.D., Professor of Biology
 George W. Cox, Ph.D., Professor of Biology
 Roger A. Davis, Ph.D., Professor of Biology
 Deborah M. Dexter, Ph.D., Professor of Biology
 Thomas A. Ebert, Ph.D., Professor of Biology
 Richard F. Ford, Ph.D., Professor of Biology
 Terrence G. Frey, Ph.D., Professor of Biology
 Christopher C. Glembofski, Ph.D., Professor of Biology
 Barbara B. Hemmingsen, Ph.D., Professor of Biology
 Don Hunsaker II, Ph.D., Professor of Biology
 Stuart H. Hurlbert, Ph.D., Professor of Biology
 Gerald G. Johnson, Ph.D., Professor of Biology
 Kenneth D. Johnson, Ph.D., Professor of Biology
 Neil Kjekorjian, Ph.D., Professor of Biology
 Skaidrite Krisans, Ph.D., Professor of Biology
 Leroy R. McClenaghan Jr., Ph.D., Professor of Biology

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 graduate coordinator in biology.

General Information

The Department of Biology in the College of Sciences, offers graduate study leading to the degrees of Master of Arts and Master of Science in biology and the Master of Science degree in microbiology. In addition, the Department of Biology offers a joint doctoral program with the University of California, San Diego, and the ecology group offers a joint doctoral program with the graduate group in ecology at the University of California, Davis.

A modern life science building provides facilities for graduate study in the biological sciences. Additional facilities available in the community include the San Diego Zoo hospital, the United States Department of Agriculture, Fish and Game Commission, the Hubbs-Sea World Research Institute, the San Diego Natural History Museum, and the Naval Underseas Center. San Diego State University also operates a marine laboratory on Mission

OFFICE: Life Sciences 104
 TELEPHONE: (619) 594-6767

Ronald E. Monroe, Ph.D., Professor of Biology
 James W. Neel, Ph.D., Professor of Biology, Associate Dean of the College of Sciences
 Walter C. Oechel, Ph.D., Professor of Biology
 Paul J. Paolini Jr., Ph.D., Professor of Biology
 Jacques Perrault, Ph.D., Professor of Biology
 David L. Rayle, Ph.D., Professor of Biology
 Robert R. Rinehart, Ph.D., Professor of Biology
 Roger A. Sabbadini, Ph.D., Professor of Biology
 Michael G. Simpson, Ph.D., Professor of Biology
 James F. Steenbergen, Ph.D., Professor of Biology
 Constantine Tsoukas, Ph.D., Professor of Biology
 Joy B. Zedler, Ph.D., Professor of Biology
 Paul H. Zedler, Ph.D., Professor of Biology
 Judith W. Zyskind, Ph.D., Professor of Biology
 Vernon L. Avila, Ph.D., Associate Professor of Biology
 Annalisa Berta, Ph.D., Associate Professor of Biology
 Carol Beuchat, Ph.D., Associate Professor of Biology
 Wayne F. Daugherty Jr., Ph.D., Associate Professor of Biology
 William P. Diehl, Ph.D., Associate Professor of Biology
 David G. Futch, Ph.D., Associate Professor of Biology
 Zac Hanscom III, Ph.D., Associate Professor of Biology
 William M. Thwaites, Ph.D., Associate Professor of Biology
 Kathy S. Williams, Ph.D., Associate Professor of Biology
 Susan L. Williams, Ph.D., Associate Professor of Biology
 Nancy M. Carmichael, Ph.D., Assistant Professor of Biology
 Steven D. Clouse, Ph.D., Assistant Professor of Biology
 Greg L. Harris, Ph.D., Assistant Professor of Biology
 Kaius Helenurm, Ph.D., Assistant Professor of Biology
 Paula M. Mabee, Ph.D., Assistant Professor of Biology
 Kathleen L. McGuire, Ph.D., Assistant Professor of Biology

Bay and has access to research sites in the Chihuahu Valley, Fortuna Mountain, and Temecula (Riverside County).

Section I: Master's Degree Programs

The Master of Arts degree in biology 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 degrees in biology and microbiology are applied or more technical degrees, but are also acceptable as preparatory to many more advanced degree programs. Study concentration for degrees in biology must be completed in one of the research programs listed below.

Admission to Graduate Study

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

1. Meet the requirements equivalent to a baccalaureate degree in biology or microbiology at San Diego State University.

2. Have a grade point average of 2.75 or better on work taken for the baccalaureate degree.
3. Have a grade point average of 3.0 or better in upper division courses (at least 24 units) acceptable for the major.
4. Meet biology departmental expectations on the GRE General Test.
5. Have a score above the 60th percentile rank on the GRE Subject (Advanced) Test in Biology. The student should take this test during the last semester in his undergraduate major. Applicants for the master's degree in microbiology must pass the GRE subject examination in biology or cell biology and biochemistry.
6. Be considered as capable of graduate work in the biological sciences by two references submitted to the graduate coordinator (biology) or to the graduate adviser (microbiology).
7. Be accepted by a research program and be sponsored by a faculty member of the area.

NOTE: Admission to a research program within the biology graduate program will be limited to the number of students for which adequate facilities and faculty sponsorship are available. Students should therefore be as specific as possible in their indication of research interests and career goals. Individual research programs will admit students solely on the basis of merit in relation to space and faculty availability.

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

Biology

Advancement to Candidacy

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

Specific Requirements for the Master of Arts Degree in Biology

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

Specific Requirements for the Master of Science Degree in Biology

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units of upper division and graduate

courses selected, with the approval of the graduate adviser, from the biological sciences as listed below or from closely related fields. At least 15 of the units selected must be in 600- and 700-numbered courses, including course 799A, Thesis. A maximum of six units of the required 30 units may be selected from acceptable courses offered in the College of Education. A final oral examination on the field of the thesis and its implication in the broad fields of biology is also required.

The department expects students to complete all degree requirements within seven years. The graduate adviser, in some circumstances, may permit a student to validate a course for recency only by repeating the outdated course or an equivalent course (see section of this Bulletin on "Degree Time Limitations").

Master's Degree Research Programs

Ecology (Major Code: 04201): 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, ecological genetics, ecosystems management, and systems ecology. Program adviser, K. Williams.

Genetics (Major Code: 04221): The genetics program offers an opportunity for graduate study in population genetics, biochemical and molecular genetics, developmental genetics, cytogenetics, and mutagenesis. Program adviser, Daugherty.

Microbiology (Major Code: 04111): A separate graduate degree is offered in microbiology. Graduate adviser, Breindl.

Molecular Biology (Major Code: 04161): The program area is concerned with approaches which aim to explain biology at a molecular level, with particular emphasis on the correlation of structure and function of macromolecules, catalysis and control, molecular genetics and regulation of gene expression, and the molecular basis of cellular architecture, cell movement, bioenergetics and membrane function (administered through Molecular Biology Institute). Program adviser, Sabbadini.

Physiology (Major Code: 04101): The major subareas of interest represented by the faculty in the physiology program area include comparative cellular physiology (especially osmoregulation, endocrinology and sensory physiology) photobiology, radiation biology and radioisotope technique, nerve and muscle physiology, and plant ecophysiology. Program adviser, Brandt.

Plant Sciences (Major Code: 04021): The areas of emphasis for graduate study in the botany program include plant morphology, plant physiology, mycology, plant pathology, phyecology, plant evolution, and plant systematics. Program adviser, K. Johnson.

Systematics, Evolutionary, and Organismal Biology (Major Code: 04071): This research program is broadly concerned with the biology, systematics, and evolution of whole organisms. The student has a wide variety of research areas from which to choose, including morphology, systematics, paleontology, natural history, behavior, comparative physiology, developmental biology, population genetics, coevolution, and evolutionary theory. Many groups of organisms are studied, including marine and terrestrial invertebrates, vertebrates, and plants. Program adviser, Futch.

In addition to the emphases described above, a number of faculty have active research programs in marine biology and accept graduate students in this area.

Microbiology

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree in Microbiology

(Major Code: 04111)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units of upper division and graduate courses selected, with the approval of the graduate adviser, from the biological sciences and closely related fields.

Not less than 18 units must be selected from courses in the area 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 Biology 799A, Thesis or Project; and at least four units of seminar. A maximum of six units of the required 30 units may be selected from acceptable courses offered in other related areas including the College of Education.

A final oral examination on the field of the thesis and its implication in the broad fields of microbiology is required.

Section II: Doctoral Programs

Biology (Cell and Molecular)

(Major Code: 04011)

The cooperating faculties of the Departments of Biology at the University of California, San Diego and at San Diego State University offer a joint doctoral program in biology (cell and molecular). The research interests of the participating faculty members cover a wide range of biological problems which represent the interdisciplinary nature of modern biology.

At SDSU, the major areas of research at the graduate level and the participating faculty members include:

Membrane transport and energy transduction:

A. Dahms, R. Sabbadini.

Biochemical genetics and gene expression:

G. Johnson, H. Leberz. (Chemistry Department)

Molecular biology of RNA viruses and bacteriophage:

M. Breindl, J. Perrault.

Regulation of metabolic pathways:

M. Abbott (Chemistry Department), S. Krisans.

Regulation of plant growth and development:

S. Clouse, D. Rayle.

Substructure and function in motile cells:

P. Paolini, R. Weiss.

Cloning and gene mapping:

S. Bernstein, W. Stumph, J. Zyskind.

Cell and molecular immunology:

C. Tsoukas.

Molecular endocrinology:

C. Barnett, C. Glembotski.

Program

Undergraduate Preparation for Admission

Applicants for admission to the doctoral program offered jointly by UCSD and SDSU must present evidence of adequate

preparation and capacity for advanced work in biology. There are no inflexible requirements for entrance to graduate study in this program, but a strong background in biology, mathematics, chemistry, and physics is recommended. The applicant must have a bachelor's degree or the equivalent from an accredited institution of higher learning with training comparable to that provided by the University of California's and San Diego State University's undergraduate programs. Admission to the program requires acceptance by each institution on recommendation of the participating departments at UCSD and SDSU. It is understood that acceptance of a student into the joint program by each of the departments will be conditioned by their respective standards for graduate admissions and also by available facilities.

Application

Students seeking admission to the joint doctoral program in biology should write directly to the doctoral program adviser, Department of Biology, requesting application materials. A complete application requires that the following information be provided:

The appropriate application form.

Three letters of recommendation (send directly to the doctoral program adviser, SDSU).

Transcripts of academic work already completed.

Results of the Graduate Record Examination scores (including advanced biology, chemistry or physics test score).

Residency Requirements

After formal admission to the joint doctoral program, the student must spend at least one academic 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, San Diego, and San Diego State University.

Advising Committee

Upon admission to the program the joint doctoral graduate advisers of the two institutions will establish an advising committee for the student. This committee will consist of three faculty members chosen jointly from the two cooperating institutions. In consultation with the student, the committee will develop the student's course of study and will establish the student's joint qualifying committee. At least one member of the advising committee must be from SDSU and one from UCSD.

Course Requirements

There is no specific number of courses required for the doctoral program in biology, except a one-year graduate course including genetics, cellular and molecular biology. Prior to taking the qualifying examination, every student is expected to have a firm understanding of modern biological principles. Usually students will be expected to complete a set of at least four laboratory rotations, and such rotations may be fulfilled on either campus.

Coursework may be selected from offerings at either UCSD or SDSU.

Qualifying Examinations

Joint Qualifying Committee

A five-member committee, composed of appropriate numbers of faculty members from each of the cooperating institutions, will be recommended by the advising committee for each student and approved by the graduate deans from each institution. The

student's dissertation adviser cannot be a member of the joint qualifying committee.

The joint qualifying committee will conduct an oral comprehensive qualifying examination, which will evaluate the student's understanding of modern biological principles. The examination will focus on four areas related to the major research interest of the student. These topics will be selected in consultation with the advising committee. The purpose of this examination is for the student to demonstrate competence not only in the major research field but also in related areas of biology.

The joint qualifying committee may specify a course of study to strengthen any weaknesses identified during the qualifying examination. Upon successful completion of the qualifying examination the student must make application to the Graduate Division at UCSD for advancement to candidacy. Upon payment of the candidacy fee to UCSD, and after approval by the graduate deans on both campuses, the student will be notified of his advancement to candidacy by the UCSD Graduate Division.

Joint Dissertation Committee

After a student is admitted to candidacy, a joint dissertation committee consisting of at least three faculty members is nominated by the graduate advisers and appointed jointly by the Graduate Deans at SDSU and UCSD. The student's dissertation research adviser will be the chair of this committee. At least one member of this committee must be from SDSU and one member from UCSD.

Dissertation

Following successful completion of the qualifying examination, the major remaining requirement for the Ph.D. degree will be satisfactory completion of a dissertation consisting of original and significant research carried out under the guidance of a faculty member. Requirements currently in force at UCSD and SDSU must be met for completing and filing the dissertation.

Award of the Degree

The Doctor of Philosophy degree in biology will be awarded jointly by the Regents of the University of California and the Trustees of The California State University in the names of both cooperating institutions.

Financial Support

The Department of Biology at SDSU endeavors to provide adequate support for all students, so that full time can be devoted to research, training, and study. During 1992-93, the support package included tuition support, a stipend for the year, and funds for research supplies. All students are required to obtain teaching experience, which normally means that a student will perform limited duties as a graduate teaching assistant.

Faculty

The following faculty members of the cooperating institutions participate in the joint doctoral program being available for direction for research and as members of joint doctoral committees.

San Diego State University:

Graduate Adviser: S. Krisans

Faculty: Abbott (Chemistry), Barnett, Bernstein, Breindl, Clouse, Dahms (Chemistry), C. Glembotski, G. Johnson, Krisans, Leberz (Chemistry), Paolini, Perrault, Rayle, Sabbadini, Stumph, Tsoukas, Weiss, Zyskind.

University of California, San Diego:

Graduate Adviser: D.L. Lindsley

Faculty: Brody, Carpenter, Chrispeels, Firtel, Forbes, Green, Hayashi, Helinski, Holland, Howell, Lindsley, Loomis, Nesbitt, Newport, Pinon, Posakony, Saier, Scheffler, Smith, Spector, Stern, Subramani, Wang, Wills, Yaffe.

Ecology

(Major Code: 04201)

The cooperating faculties of the Department of Biology, San Diego State University and the Graduate Group in Ecology, University of California, Davis offer a Joint Doctoral Program in ecology. The research interests of the participating faculty members cover a wide range of problems and represent the interdisciplinary nature of modern biology.

At SDSU, the major areas of research include:

Systems ecology: The application of mathematical modeling to ecosystem studies, especially primary production processes in terrestrial and aquatic environments.

Coastal marine ecology: Emphasizing population dynamics of invertebrates, community ecology of rocky and sandy beaches.

Estuarine ecology: Including study of salt marshes and tidal channels, especially the community structure of algal mats and salt marsh vegetation and their productivity, and the impact of human disturbance on estuarine functioning.

Animal population ecology: The dynamics of competitive and predator-prey interactions and their significance in community organizations.

Public policy: Studies concerned with applying ecological principles to managing natural resources and regional development.

Plant ecology: Including the study of chaparral and desert species in relation to environmental variability.

Aquaculture: Of marine plants and animals.

A complete list of the participating faculty from SDSU can be obtained from the coordinator of the program.

Program

Undergraduate Preparation for Admission

Applicants for admission to the doctoral program must present evidence of adequate preparation and capacity for advanced work in ecology. Preparation should include a strong background in biology, physics, chemistry, and mathematics. Applicants must have a bachelor's degree from an accredited college or university. Acceptance of a student into the joint program by each institution depends on meeting the standards of admission of the respective institutions and by available facilities for research and instruction.

Application

Application for admission must be made simultaneously to the Graduate Division at San Diego State University and to the Graduate Division at the University of California, Davis. A complete application requires:

The appropriate application form.

Three letters of recommendation (send directly to Graduate Coordinator, SDSU).

Transcripts of academic work already completed.

Results of the Graduate Record Examination, including the Advanced Biology Test score.

Residency Requirements

After formal admission to the joint doctoral program, the student must spend at least one academic 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, Davis, and San Diego State University.

Advising Committee

Upon admission to the program the Joint Doctoral Graduate Advisers of the two institutions will establish an advising committee for the student. This committee will consist of three faculty members chosen jointly from the two cooperating institutions. In consultation with the student, the committee will develop the student's course of study and will establish the student's Joint Qualifying Committee. At least one member of the advising committee must be from SDSU and one from UCD.

Course Requirements

There is no specific number of courses required for the joint doctoral program in ecology. Prior to taking the qualifying examination, every student is expected to have a firm understanding of modern biological principles, and to be conversant with several areas of ecology. Students are expected to fulfill course requirements in human ecology and physics-chemical ecology, as well as in biological ecology.

Coursework may be selected from offerings at either UCD or SDSU.

Qualifying Examinations**Joint Qualifying Committee**

A five-member committee, composed of appropriate numbers of faculty members from each of the cooperating institutions, will be recommended by the advising committee for each student and approved by the Graduate Deans from each institution. The student's dissertation adviser cannot be a member of the joint qualifying committee.

The joint qualifying committee will conduct an oral comprehensive qualifying examination, which will evaluate the student's understanding of modern biological principles. The examination will focus on four areas related to the major research interest of the student. The purpose of this examination is for the student to demonstrate competence not only in the major research field but also in related areas of ecology.

The joint qualifying committee may specify a course of study to strengthen any weaknesses identified during the qualifying examination. Upon successful completion of the qualifying examination, the student must make application to the Graduate Division at UCD for advancement to candidacy. Upon payment of the candidacy fee to UCD, and after approval by the Graduate Deans on both campuses, the student will be notified of his advancement to candidacy by the UCD Graduate Division.

Joint Dissertation Committee

After a student is admitted to candidacy, a joint dissertation committee consisting of at least three faculty members is nominated by the Graduate Advisers and appointed jointly by the Graduate Deans at SDSU and UCD. The student's dissertation research adviser will be the chair of this committee. At least one member of this committee must be from SDSU and one member from UCD.

Dissertation

Following successful completion of the qualifying examination, the major remaining requirement for the Ph.D. degree will be satisfactory completion of a dissertation consisting of original

and significant research carried out under the guidance of a faculty member. Requirements currently in force at UCD and SDSU must be met for completing and filing the dissertation.

Award of the Degree

The Doctor of Philosophy degree in ecology will be awarded jointly by the Regents of the University of California and the Trustees of The California State University in the names of both cooperating institutions.

Financial Support

The Department of Biology at SDSU endeavors to provide adequate support for all students, so that full time can be devoted to research training and study. During 1992-93, the support package included tuition support, a stipend for the year, and funds for research supplies. All students are required to obtain teaching experience, which normally means that a student will perform limited duties as a graduate teaching assistant.

Graduate coordinators:

San Diego State University: B. Collier
University of California, Davis: T. Fong

Courses Acceptable on Master's and Doctoral Degree Programs in Biology**UPPER DIVISION COURSES****506. Special Topics in Entomology (3-4)**

Prerequisite: Biology 462.

Treatment of some aspect of entomology, such as biological control, microbial control or forest entomology, not covered in regularly scheduled courses. See Class Schedule for specific content. Maximum credit nine units. Maximum credit six units applicable to a master's degree. (Formerly numbered Biology 506A.)

512. Evolution and Ecology of Marine Mammals (3)

Two lectures and three hours of laboratory.

Prerequisite: Biology 354.

Biology of marine mammals to include pinniped, cetacean and sirenian evolution, diet and foraging strategies, social organization, reproductive strategies, echolocation, diving physiology, and conservation.

513. Marine Microbiology (2)

Prerequisites: Biology 350 or an introductory course in microbiology and consent of instructor.

Microbiological population of estuary and ocean waters; interrelationships with other organisms and the physical and chemical environment.

513L. Marine Microbiology Laboratory (2)

Six hours of laboratory.

Prerequisite: Credit or concurrent registration in Biology 513.

Field and laboratory methods and techniques used in the study of marine microorganisms with emphasis on bacteria.

514. Marine Plant Biology (4)

Three lectures and three hours of laboratory.

Prerequisite: Biology 201.

Biology of algae and seagrasses, including identification, life histories, evolution, morphology, physiology and ecology.

515. Marine Invertebrate Biology (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 201.

Structure and function, ecology, behavior, physiology and phyletic relationships of marine invertebrate animals.

516. Intertidal Ecology (3-4)

Three units = Three lectures per week.

Four units = Three lectures and three hours of laboratory.

Prerequisite: Biology 354 or 515.

Intertidal ecology with emphasis on marine invertebrates. Abiotic and biotic characteristics of rocky coasts, sandy beaches, and muddy shores with discussion of adaptive strategies for survival in intertidal environment.

517. Biological Oceanography (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 354 or 515.

Ecological concepts as applied to pelagic and benthic marine organisms and their environment. Field and laboratory experience in oceanographic techniques, particularly the coastal environment.

518. Fisheries Biology (3)

Two lectures and three hours of laboratory.

Prerequisite: Biology 354.

Fisheries of commercial importance. The dynamics of exploited populations.

519. Aquaculture (3)

Prerequisite: Biology 201.

Principles and practices of the farming of aquatic organisms.

520. Ichthyology (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 201.

Identification, systematics, evolution, structure, physiology, behavior and ecology of fishes.

521. Advanced General Microbiology (2)

Prerequisite: Biology 350 or an introductory course in microbiology and consent of instructor.

Taxonomy, comparative physiology and ecology of representative microorganisms found in various natural environments.

521L. Advanced General Microbiology Laboratory (2)

Six hours of laboratory.

Prerequisite: Credit or concurrent registration in Biology 521.

Methods and procedures for the selective isolation and characterization of important groups of soil and water bacteria.

522. Evolution of Vertebrate Structure (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 201.

Structural changes that have occurred in organ systems of vertebrates during the course of evolution.

523. Herpetology (4)

Three lectures and three hours of laboratory.

Prerequisite: Biology 522.

Origin, evolution, distribution and systematics of amphibians and reptiles of the world.

524. Ornithology (4)

Two lectures, six hours of laboratory or field excursions, and a field project.

Prerequisite: Biology 201.

Study and identification of birds, especially those of the Pacific coast and the San Diego region.

525. Mammalogy (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 201.

Evolution, systematics, distribution and ecology of mammals of the world.

527. Animal Behavior (4)

Two lectures and six hours of laboratory.

Prerequisites: Biology 215; Biology 201 or Psychology 211 and 260 for psychology majors.

Biological bases of animal behavior with emphasis on the ethological approach, including the evolution and adaptive significance of behavior.

528. Mycology (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 201.

The structure, food relations, and classification of fungi.

530. Plant Systematics (4)

Two lectures and six hours of laboratory, field trips.

Prerequisite: Biology 201.

Plant description, identification, classification and nomenclature with emphasis on evolutionary patterns, interdisciplinary data acquisition, and phylogenetic analysis.

533. Plant Structure and Function (3)

Two lectures and three hours of laboratory.

Prerequisite: Biology 201.

Relationships between plant structure and function. Morphology and anatomy of vascular plants considering specific function of plant organs. Approaches to solve plant morphological problems. Techniques of plant anatomy.

534. Plant-Soil Ecology (3)

Prerequisite: Biology 201. Recommended: Geography 505.

Plant-soil relationships from an ecological perspective. Biotic interactions controlling soil fertility and plant growth.

535. Plant Ecology (4)

Three lectures and three hours of laboratory.

Prerequisite: Biology 201.

Plant adaptation and response to living and non-living environment including aspects of plant evolution, demography, ecophysiology, community and ecosystem dynamics and soil-plant relationships. Terrestrial systems emphasized.

536. Plant-Microbe Interactions: From Molecules to Ecosystems (3)

Prerequisites: Biology 352 and 354; Chemistry 361A.

Current theories of plant-microbe interactions including recognition, specificity, and regulation of ecosystem structure and function. Emphasis on modern molecular and population theories.

539. Restoration Ecology (3)

Two lectures and three hours of laboratory.

Prerequisite: Biology 354.

Ecological concepts pertaining to the restoration of disturbed ecosystems, including plant establishment, stability of man-made ecosystems, below-ground biota, mineral cycling, succession, and other organisms and processes on disturbed lands.

540. Conservation Ecology (3)

Two lectures and three hours of laboratory.

Prerequisite: Biology 354.

Human impacts on ecosystems, the resultant endangerment and extinction of plant and animal species, and strategies for the protection and recovery of threatened forms.

542. Ecology of Genetically Engineered Organisms (3)

Two lectures and one hour of colloquium.

Prerequisites: Biology 201 and 202. Recommended: Biology 350 and 354.

Engineered organisms in agriculture and pollution abatement, basic procedures used to develop engineered organisms, and ecological and sociological implications of their use.

543. Ecological Methods (1-3)

Three hours of laboratory per unit.

Prerequisites: Biology 215 and 354 or 454.

Modular course in vegetation sampling, ecophysiological methods, plankton sampling, benthic community/population analysis, and ecological data analysis. See Class Schedule for specific content. Maximum credit three units.

547. Regional Field Studies in Biology (1-3)

One- to three-week periods during vacations and summer sessions; may be combined with class meetings during academic year.

Prerequisites: At least twelve units in the biological sciences, including Biology 201, and consent of instructor.

Extended field studies of the flora, fauna, and biotic communities of major natural regions of western North America. May be repeated with new content. Maximum credit six units.

548. Systems Ecology (4)

Three lectures and three hours of laboratory.

Prerequisites: Biology 354, Mathematics 122 or 150 or 156, and consent of instructor.

Theory and techniques of systems analysis and mathematical modeling as applied to ecological problems.

549. Microbial Genetics and Physiology (2)

Prerequisites: Biology 350 and 352; Chemistry 361A.

Physiology of microbial growth, bacterial structure and function, genetics of bacteriophages and bacteria.

550. Prokaryotic and Eukaryotic Molecular Biology (4) I, II 2

Prerequisites: Biology 352 and 356; Chemistry 361A and 361B.

Gene structure, organization and regulation in prokaryotes and eukaryotes. Mechanisms of RNA and protein synthesis. Dynamic aspects of the genome.

551. Recombinant DNA (3) I, II

Prerequisites: Chemistry 361A; Biology 350, 352, 356, and 550.

Theory and practice of recombinant DNA techniques.

551L. Recombinant DNA Laboratory (2)

Six hours of laboratory.

Prerequisites: Biology 350 and 550.

A laboratory course in recombinant DNA techniques.

552. General Virology (2)

Prerequisite: Biology 350. Recommended: Biology 585 and 589.

Viruses, their structure, function, culture, and methods of study.

552L. General Virology Laboratory (2)

Six hours of laboratory.

Prerequisite: Credit or concurrent registration in Biology 552. The culture, isolation, and characterization of viruses.

553. Molecular Approaches in the Medical Laboratory (3)

One lecture and six hours of laboratory.

Prerequisites: Biology 350 and 356; Chemistry 361A and 361B.

Application of recombinant DNA and molecular cell biology techniques in modern medical laboratory: theory and practice.

554. Molecular Virology (2)

Prerequisite: Biology 356. Recommended: Biology 550.

Molecular aspects of structure, genetics, and replication of viruses, virus-host interactions, pathogenesis of virus infections, diagnostic virology, and antiviral vaccines and drugs; emphasis on human pathogens.

560. Animal Physiology (3)

Prerequisites: Biology 201 and 202; Chemistry 230 or 231.

Physiology of vertebrate and invertebrate animals with emphasis on diversity of solutions to physiological problems and on functional integration of organ systems.

561. Radiation Biology (3)

Prerequisites: Biology 100 or 201 and 202; Physics 180B and 182B. Recommended: Biology 356.

Principles underlying radiological reactions of ionizing radiations. Effects of ionizing radiations at the biochemical, cell, organ, and organism levels.

561L. Radiation Biology Laboratory (2)

Six hours of laboratory.

Prerequisite: Credit or concurrent registration in Biology 561. The laboratory determination of the effects of ionizing radiation on biological systems.

563. Plant Physiology (3)

Prerequisites: Biology 201 and 202; Chemistry 361A and 560A.

Activities of plants, including photosynthesis, ion transport, translocation, water relations, growth and development.

564. Topics in Cellular Biology (3)

Prerequisite: Biology 356 or Chemistry 361A and 361B or Chemistry 560A and 560B.

Topics selected from chromatin structure function and regulation; cell cycle analysis and regulation; cellular membrane formation, structure and function. Other topics irregularly scheduled. Maximum credit six units.

565. Topics in Comparative Physiology (3)

Prerequisite: Biology 356 or with consent of instructor other prerequisites may be substituted.

Topics vary each semester and are chosen from three areas: digestion, nutrition, respiration, metabolism, blood, circulation, osmoregulation, excretion; sensory reception, neural integration and muscle function; endocrine mechanisms. Maximum credit six units. See Class Schedule for specific content.

566. Plant Molecular Biology (2)

Prerequisites: Biology 352 and Chemistry 361A. Recommended: Biology 550 or 563.

Problems in plant growth, development and adaptation from modern molecular biology perspective including techniques of plant biotechnology and applications of genetic engineering to agriculture.

567. Molecular Endocrinology (3)

Prerequisite: Biology 356.

Molecular mechanisms of endocrine hormone biosynthesis, secretion, and actions.

569. Molecular Pharmacology (3)

Prerequisite: Biology 356. Recommended: Biology 567.

Molecular mechanisms of pharmaceutical agents. Emphasis on drugs that interact with nervous and endocrine systems.

570. Neurobiology (3)

Prerequisite: Biology 356 or 590 or Psychology 260.

Structure and function of the nervous system to include cellular and molecular mechanisms underlying neuronal excitability and synaptic function, nervous system development, cellular and systems analysis of sensory, motor and higher brain functions. Emphasis on experimental approaches.

576. Developmental Biology (3)

Prerequisite: Biology 352.

Analysis of development with emphasis on embryonic differentiation.

577. Embryology (4)

Two lectures and six hours of laboratory.

Prerequisites: Biology 201 and 202.

Studies in comparative gametogenesis, morphogenesis, and reproductive physiology.

578. Immunohematology (2)

Prerequisite: Biology 350. Recommended: Biology 585.

Theory of blood grouping and typing with emphasis on recent advances. Procedures for identification of immune disorders and tests to determine compatibility.

580. Advanced Human Anatomy (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 150 or 522.

Comprehensive dissection and study of human cadavers with major emphasis on the regional approach.

582. Hematology (3)

Two lectures and three hours of laboratory.

Prerequisite: Biology 350.

Study of normal and pathological blood with chemical, physical and microscopic methods.

585. Cellular and Molecular Immunology (3)

Prerequisites: Biology 202 and Chemistry 361A. Recommended: Biology 352 and 356.

Cellular and molecular aspects of the immune response. Genetics of immunoglobulins, major histocompatibility complex, lymphocyte development and their manifestations on immune responsiveness, lymphokines immunopathologies including AIDS, and contemporary immunological techniques.

585L. Cellular and Molecular Immunology Laboratory (1)

Three hours of laboratory.

Prerequisites: Biology 350 and credit or concurrent registration in Biology 585.

Cellular immunological techniques.

586. Medical Entomology (4)

Three lectures and three hours of laboratory. See Class Schedule for lecture/lab format.

Prerequisite: Biology 201.

Role of insects and other arthropods in the transmission and causation of human diseases and the important diseases of domesticated animals.

588. Parasitology (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 201.

Study of animal parasites with special reference to those of humans. Laboratory including identification of important human parasites, and collection and preservation of local forms.

589. Pathogenic Bacteriology (4)

Two lectures and six hours of laboratory.

Prerequisite: Biology 350 with a minimum grade of C.

Bacterial and rickettsial agents of disease in man and other animals. Consideration of host-parasite relationships, the biology of the inciting agents and mechanisms of host resistance. Laboratory experience in isolation and identification of bacterial pathogens.

590. Physiology of Human Systems (4)

Three lectures and one hour of discussion.

Prerequisites: Biology 201 and 202; Physics 180B and 182B. Recommended: Chemistry 361A and 361B or Biology 356.

Human physiology presented at cellular and organ system levels: membrane transport, nerve excitation, muscle contraction, cardiovascular physiology, kidney function, hormone function, reproduction and digestion. For students majoring in a natural science or engineering.

591. Advanced Immunology (3)

Prerequisites: Biology 356 and 585; Chemistry 361B.

Cellular and molecular aspects of the immune response. Genetics of immunoglobulins, major histocompatibility complex, lymphocyte activation and its manifestations on the immune response, and contemporary immunological research techniques.

593. Scanning Electron Microscopy (2)

One lecture and three hours of laboratory.

Prerequisite: Biology 201.

Theory and use of a scanning electron microscope for biological research. Laboratory is project oriented.

594. Radioisotope Techniques in Biology (4)

Two lectures and six hours of laboratory.

Prerequisites: Biology 100 or 201 and 202; Physics 180B and 182B. Recommended: Biology 356 and Chemistry 251.

Principles and application of radioisotopes in biology. Radio-nuclide measurement, safe handling, tracer and radioautography techniques.

595. Computers in Biomedical Research (3)

Prerequisite: Biology 356 or 590. Recommended: Computer Science 107.

Application of micro- and minicomputers to tasks encountered by biomedical scientists in research laboratory (data acquisition and reduction, experiment control) and by physicians in medical care delivery (noninvasive imaging, clinical laboratory automation, patient file processing).

596. Special Topics in Biology (1-3)

Prerequisite: Consent of instructor.

Advanced selected topics in modern biology. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree. Additional units acceptable with the approval of the graduate adviser.

597A. Univariate Statistical Methods in Biology (3)

Two lectures and three hours of laboratory.
Prerequisites: Biology 215 and 350 or 352 or 354 or 356.
Application of univariate statistical techniques to biological sciences.

597B. Multivariate Statistical Methods in Biology (3)

(Same course as Mathematics 555.)
Two lectures and three hours of laboratory.
Prerequisites: Biology 215 and 350 or 352 or 354 or 356.
Application of multivariate statistical methods in biological sciences.

598. Cardiovascular Physiology (3)

Two lectures and three hours of laboratory.
Prerequisite: Biology 356. Recommended: Biology 590.
Physiology of human heart and circulatory system in health and disease; processes are considered at molecular, cellular, and systemic levels. Topics include cardiac cell ultrastructure, cell energetics, vascular and cardiac dynamics, electrophysiology, pathology, diagnosis and treatment of disease.

GRADUATE COURSES**600. Seminar (2-3)**

Prerequisite: Consent of instructor.
An intensive study in advanced biology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

604. Seminar in Aquatic Ecology (2)

Prerequisite: Biology 354.
Ecological concepts as applied to the fresh water and marine environment. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable to a master's degree.

647. Introduction to Ecological Research (2) Cr/NC

Six hours of fieldwork.
Prerequisite: Biology 354.
Ecology of the San Diego region, research facilities at SDSU and potential thesis topics. May be taken for credit only during the first or second semester as a graduate student.

648. Seminar in Immunology (2-3)

Prerequisite: Biology 585 or 591.
May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable to a master's degree.

652. Seminar in Marine Biology (2-3)

Prerequisites: Biology 354 and consent of instructor.
Advanced topics in marine biology. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable to a master's degree.

684. Seminar in Systematic Botany (2)

Prerequisite: Biology 530.
Current problems in the systematics of vascular plants. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable to a master's degree.

688. Seminar in Terrestrial Ecology (2)

Prerequisite: Biology 354.
Ecological concepts as applied to the terrestrial environment. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable to a master's degree.

694. Advanced Topics in Virology (1-4)

Prerequisites: Biology 550 and 554.
May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable to a master's degree.

696. Advanced Topics in Biology (1-3)

Prerequisite: Consent of instructor.
Intensive study in specific areas of biology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

710. Advanced Topics in Ecology (2-4)

Prerequisites: Biology 354 and consent of instructor.
Selected topics in ecology. May be repeated with new content and consent of the graduate adviser in ecology. Maximum credit six units applicable to a master's degree.

725. Aquatic Ecology (3)

Two lectures and three hours of laboratory.
Prerequisites: Biology 354 and consent of instructor. Application for collecting permit must be made at least six weeks before class begins at the Coastal and Marine Institute (LS-239).
Ecological concepts as applied to benthic and pelagic populations and communities in fresh water and marine environments.

730. Behavioral Ecology (3)

Two lectures and three hours of laboratory.
Prerequisites: Biology 354, 354L and consent of instructor. Recommended: Biology 527.
Behavioral mechanisms relating animals to their physical and biotic environment.

735. Biogeography (3)

Prerequisite: Biology 354.
Concepts and principles of the distributional history of plant and animal groups, and the origins and dispersal of modern faunas and floras.

740. Seminar in Phylogenetic Systematics (3)

Prerequisite: Biology 354.
Theory and practice in systematics utilizing cladistic approach to elucidating phylogenetic relationships.

750. Molecular Biophysics (3)

Prerequisites: Biology 356; Chemistry 410A or 561.
Description and analysis of biological processes and systems in terms of properties of molecules and of basic principles.

755. Physiological Ecology (3)

Two lectures and three hours of laboratory.
Prerequisites: Biology 354 and consent of instructor.
Comparative physiological characteristics of natural plant and animal populations in relation to their habitats and environments.

765. Population and Community Ecology (3)

Two lectures and three hours of laboratory.
Prerequisite: Biology 354.
Formulation, analysis and experimental testing of the theories of the structure and dynamics of ecological systems at the population and community level.

770. Seminar in Systematics and Evolution (2-3)

Prerequisite: Consent of instructor.
Selected topics in systematics and evolution. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units applicable to a master's degree.

772. Seminar in Macroevolution (2)

Prerequisite: Biology 354.
Examination of evolutionary processes and patterns at and above the species level.

795. Laboratory Techniques (2) Cr/NC

Six hours of laboratory.
Prerequisite: Consent of instructor.
Current laboratory techniques and procedures in various biology disciplines. Maximum credit six units applicable to a master's degree.

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

Research in one of the fields of biology. Maximum credit six units of 797 and 798 applicable to a master's degree.

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

Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units of 797 and 798 applicable to a master's degree.

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

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

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

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

897. Doctoral Research (1-6) Cr/NC/SP

Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.

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

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

Preparation of the dissertation for the doctoral degree. Enrollment is required during the term in which the dissertation is approved.



Molecular Biology

Faculty

Sanford I. Bernstein, Ph.D., Professor of Biology (Molecular Biology Institute Director)
 Judith W. Zyskind, Ph.D., Professor of Biology (MBI Associate Director)
 Carol A. Barnett, Ph.D., Professor of Biology
 Richard L. Bizzoco, Ph.D., Professor of Biology
 Michael J. Breindl, Ph.D., Professor of Biology (Graduate Adviser)
 A. Stephen Dahms, Ph.D., Professor of Chemistry
 Roger A. Davis, Ph.D., Professor of Biology
 Terrence G. Frey, Ph.D., Professor of Biology
 Christopher C. Glembotski, Ph.D., Professor of Biology
 Barbara B. Hemmingsen, Ph.D., Professor of Biology
 Gerald G. Johnson, Ph.D., Professor of Biology
 Kenneth D. Johnson, Ph.D., Professor of Biology
 Skaidrite Krisans, Ph.D., Professor of Biology
 Richard J. Laub, Ph.D., Professor of Chemistry
 Robert P. Metzger, Ph.D., Professor of Chemistry
 Paul J. Paolini Jr., Ph.D., Professor of Biology
 Jacques Perrault, Ph.D., Professor of Biology
 David L. Rayle, Ph.D., Professor of Biology
 Roger A. Sabbadini, Ph.D., Professor of Biology (Graduate Adviser)
 William E. Stumph, Ph.D., Professor of Chemistry (Graduate Adviser)
 Constantine Tsoukas, Ph.D., Professor of Biology
 Steven D. Clouse, Ph.D., Assistant Professor of Biology (Graduate Adviser)
 Greg L. Harris, Ph.D., Assistant Professor of Biology
 Kathleen L. McGuire, Ph.D., Assistant Professor of Biology

Adjunct Faculty

Robert A. Bohrer, J.D., LL.M., Professor of Law, California Western School of Law

General Information

The Molecular Biology Institute (MBI) administers the Master of Arts and Master of Science degrees in biology with an emphasis in molecular biology. The MBI is currently composed of members from the Departments of Biology and Chemistry and is designed to serve these departments in the coordination, support and enhancement of research and training in the molecular biological sciences.

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

Admission to Graduate Study

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

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

1. Possess a bachelor's degree with a major in a biological or physical science equivalent to that offered at San Diego State University.
2. Have a grade point average of 2.75 or better in work taken for the baccalaureate degree.
3. Meet biology departmental expectations on the GRE General Test.
4. Have a score in the 60th percentile or better on the GRE Subject (Advanced) Test. This includes the test in biology or chemistry or the tests in biochemistry, cell biology, and molecular biology. Subject examinations in other natural science disciplines will be considered.
5. Supply three letters of reference that describe the applicant's potential for graduate work and research capabilities.

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

Advancement to Candidacy

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

Specific Requirements for the Master of Arts or Master of Science Degree

(Major Code: 04161)

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

Emphasis in Molecular Biology

Courses Acceptable for the Emphasis in Molecular Biology

UPPER DIVISION COURSES

Biology

- 536. Plant-Microbe Interactions: From Molecules to Ecosystems (3)
- 549. Microbial Genetics and Physiology (2)
- 550. Prokaryotic and Eukaryotic Molecular Biology (4)
- 551. Recombinant DNA (3)
- 551L. Recombinant DNA Laboratory (2)
- 552. General Virology (2)
- 552L. General Virology Laboratory (2)
- 553. Molecular Approaches in the Medical Laboratory (3)
- 554. Molecular Virology (2)
- 561. Radiation Biology (3)
- 563. Plant Physiology (3)
- 564. Topics in Cellular Biology (3)
- 566. Plant Molecular Biology (2)
- 567. Molecular Endocrinology (3)
- 569. Molecular Pharmacology (3)
- 570. Neurobiology (3)
- 576. Developmental Biology (3)
- 577. Embryology (4)
- 585. Cellular and Molecular Immunology (3)
- 585L. Immunology Laboratory (1)
- 590. Physiology of Human Systems (4)
- 591. Advanced Immunology (3)
- 593. Scanning Electron Microscopy (2)
- 594. Radioisotope Techniques in Biology (4)
- 595. Computers in Biomedical Research (3)
- 596. Special Topics in Biology (1-3)
- 597A. Univariate Statistical Methods in Biology (3)
- 597B. Multivariate Statistical Methods in Biology (3)
- 598. Cardiovascular Physiology (3)

Chemistry

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

GRADUATE COURSES

Biology

- 600. Seminar (2-3)
- 648. Seminar in Immunology (2-3)
- 694. Advanced Topics in Virology (1-4)
- 696. Advanced Topics in Biology (1-3)
- 750. Molecular Biophysics (3)
- 795. Laboratory Techniques (2) Cr/NC
- 797. Research (1-3) Cr/NC/SP
- 798. Special Study (1-3) Cr/NC/SP

Chemistry

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

GRADUATE COURSES IN MOLECULAR BIOLOGY

600. Seminar in Molecular Biology (1-3)

Prerequisite: Consent of instructor.

Evaluation of current literature in molecular biology. May be repeated with new content. Maximum credit six units applicable to a master's degree.

601. Colloquium in Molecular Biology Research (1) Cr/NC/SP

Recent research advances in selected areas of modern molecular biology presented by faculty of the Molecular Biology Institute and established outside investigators. May be repeated with new content. Open only to students admitted to the molecular biology program or by permission of the graduate adviser for molecular biology. Maximum credit six units, three of which are applicable to a master's degree.

610. Advanced Topics in Molecular and Cell Biology (1-4)

Prerequisite: Graduate standing in a life or physical science.

Intensive study in specific areas of molecular and cell biology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

Biostatistics and Biometry

In the College of Sciences and the College of Health and Human Services

Faculty Committee for Biostatistics and Biometry

Boyd D. Collier, Ph.D., Professor of Biology
Amanda L. Golbeck, Ph.D., Professor of Mathematical Sciences
Craig A. Molgaard, Ph.D., M.P.H., Professor of Public Health
Kung-Jong Lui, Ph.D., Associate Professor of Mathematical Sciences
David W. Macky, Ph.D., Associate Professor of Mathematical Sciences
Donald J. Slymen, Ph.D., Associate Professor of Public Health
Duane L. Steffey, Ph.D., Assistant Professor of Mathematical Sciences

General Information

San Diego State University provides preparation for biostatistically oriented careers by offering biostatistics related coursework, research opportunities and biostatistical consulting experience within regular degree programs in the Departments of Biology, Mathematical Sciences, and Graduate School of Public Health. A Master of Science degree in statistics with concentration in biostatistics may be earned in the Department of Mathematical Sciences; and a Master of Public Health degree with concentration in biometry may be earned in the Graduate School of Public Health. Degrees in general biostatistics or biometry are not offered by the University. However, a Master of Science degree in biostatistics or biometry may be earned as a special major (see the appropriate section in this bulletin).

Specific courses in biostatistics and biometry (listed below) are offered with the cooperation of faculty from the participating departments. Biostatistics and biometry courses that specialize in applications to biology are offered in the Department of Biology; similarly, courses that specialize in applications to public health are offered in the Graduate School of Public Health. Courses that cover a variety of areas of application (including biology and public health) are offered by the Department of Mathematical Sciences. The Department of Mathematical Sciences offers, in addition to these applied courses, some courses in statistics and biostatistics that are more mathematically oriented.

Courses

Biology Course

(Adviser: Collier, 594-6448)

597B. Multivariate Statistical Methods in Biology (3)

Mathematics Courses

(Adviser: Lui, 594-7245)

249. Introduction to Biometry (3)
550. Probability (3)
551A. Mathematical Statistics (3)
551B. Mathematical Statistics (3)
553. Stochastic Processes (3)
554A. Computer Oriented Statistical Analysis (3)



554B. Advanced Computer Oriented Statistical Analysis (3)
555. Multivariate Statistical Methods in Biology (3)
670A. Advanced Mathematical Statistics (3)
670B. Advanced Mathematical Statistics (3)
671. Statistical Computing (3)
672. Nonparametric Statistics (3)
673. Sample Surveys (3)
674. Multivariate Analysis (3)
675. Linear Statistical Hypothesis Testing (3)
677. Design of Experiments (3)
678. Survival Analysis (3)
679. Discrete Data (3)
680A. Advanced Biostatistical Methods (3)
680B. Advanced Biostatistical Methods (3)

Public Health Courses

(Adviser: Slymen, 594-6439)

602. Biostatistics (3)
627. Advanced Statistical Methods in Public Health (3)
628. Applications of Multivariate Statistics in Public Health (3)

Business Administration

OFFICE: Business Administration/Mathematics 448
TELEPHONE: (619) 594-5217

A Member of the American Assembly of College Schools of Business

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 departmental offices of the College of Business Administration.

General Information

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

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

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

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

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

Admission to the Graduate Program in the College of Business Administration

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

Admission will be determined by the applicant's ranking based on the following factors: overall GPA as an undergraduate,

the Graduate Management Admission Test (GMAT) scores, the quality and field of undergraduate study, a minimum TOEFL of 570, when required, and other factors. The student must meet minimum University grade point requirements. Before enrolling in one of the College's graduate courses, students must be competent in the operation of personal computers, including word processing and spreadsheets. These skills are required in graduate business courses.

Transcripts and test scores must be on file at San Diego State University sufficiently in advance of the expected date of registration for a decision to be made. For fall admission the GMAT should be taken prior to April 1 and for spring admission, prior to August 1. Details concerning the GMAT may be obtained from the Test Office, San Diego State University, or by writing to the Educational Testing Service, CN 6101, Princeton NJ 08541.

Master of Business Administration Degree

Admission to the Degree Curriculum

Regulations governing admission to the University and to the College of Business Administration are outlined above and in Part Two of this bulletin.

Advancement to Candidacy

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

Specific Requirements for the Master of Business Administration Degree

(Major Code: 05011)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete an approved program of studies containing between 30 and 60 units of 600- and 700-numbered courses. No 500-numbered courses may be included. The exact number of units for each student will depend on the extent of the previous coursework in business administration. Students with no previous coursework in business administration or related fields will normally be expected to complete 60 units. Students with a recent undergraduate degree in business administration from a professionally accredited school will normally be expected to complete 30 units. Up to nine units of coursework may be accepted for transfer. Transfer courses must be strictly graduate courses taken in a professionally accredited graduate program.

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

The requirements for the degree are as follows:

1. Prior to or immediately after admission to the curriculum for the Master of Business Administration degree, the student must complete a three-unit course in each of three

fields: calculus, macroeconomics and microeconomics as prerequisites to the program.

2. Complete each of the following core of eleven courses for which an equivalent has not been satisfactorily completed.
 - ACCTG 600 Financial Accounting (3)
 - ACCTG 610 Managerial Accounting (3)
 - FIN 604 Legal Environment for Executives (3)
 - FIN 615 Financial Management I (3)
 - IDS 602 Statistical Analysis for Business (3)
 - IDS 609 Management Information Systems (3)
 - IDS 612 Production and Operations Management (3)
 - MGT 601 Management of Organizations (3)
 - MGT 611 Organizational Behavior and Human Resources Management (3)
 - MGT 626 Seminar in Policy Formulation (3)
 - MKT 605 Marketing (3)
3. Complete 30 units in the following two categories of specialization and electives. For students that would be required to complete more than 60 units of 600- and 700-numbered courses at San Diego State University for the degree because of this requirement, the number of units in the specialization will be reduced accordingly.
 - a. Specialization: No more than 15 units in one of the specializations listed below, three units of which must include Business Administration 799A, Thesis (Plan A), or Directed Readings in Business Administration, in the appropriate department. Students choosing the Directed Readings option must then pass a comprehensive examination in their last semester of coursework in lieu of the thesis (Plan B).

Specializations	Major Code
Accountancy	(05021)
Finance	(05041)
Financial Services	(05043)
Human Resource Management	(05151)
Information Systems	(07021)
International Business	(05131)
Management	(05061)
Management Science	(05072)
Marketing	(05091)
Production and Operations Management	(05064)
Real Estate	(05111)

b. Electives: At least 15 units in coursework outside the specialization and the core, no more than six units in the department offering the specialization, and no more than nine units in any other department. Additional electives may be needed to total the minimum 30 units required for the degree.

4. 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.
5. For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, see the section entitled "Basic Requirements for the Master's Degree," in Part Two of this bulletin.
6. Candidates for the Master of Business Administration degree with specialization in Information Systems must complete Information and Decision Systems 280, COBOL Programming, with a grade of "C" (2.0) or better before advancement to candidacy. Units earned in Information and Decision Systems 280 or equivalent may not be

counted toward the master's degree under any circumstances.

Master of Science Degree in Business Administration

Admission to the Degree Curriculum

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

ACCTG 201	Financial Accounting Fundamentals (3)
ACCTG 202	Managerial Accounting Fundamentals (3)
ECON 101	Principles of Economics (3)
ECON 102	Principles of Economics (3)
ECON 201	Statistical Methods (3) OR
MATH 119	Elementary Statistics for Business (3)
FIN 140	Legal Environment of Business (3)
FIN 323	Fundamentals of Finance (3)
IDS 180	Principles of Information Systems (3)
IDS 302	Introduction to Production and Operations Management (3)
MGT 350	Management and Organizational Behavior (3)
MGT 405	Business Strategy and Integration (3)
MKT 370	Marketing (3)
MATH 120	Calculus for Business Analysis (3)

In addition, the student's adviser may request satisfactory completion of additional prerequisite courses in the student's proposed field of specialization.

Notice of admission to a curriculum with classified graduate standing will be sent to the student upon the recommendation of the College of Business Administration and the approval of the Dean of the Graduate Division and Research.

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree

In addition to meeting the requirements for classified graduate standing as described above and the general requirements for master's degrees as described in Part Two of this bulletin, the student must complete a graduate program of 30 approved units including at least 21 units in 600- and 700-numbered courses. Business Administration 799A, Thesis, required. Finance 616, Managerial Economics, is required unless students have completed sufficient advanced economics courses as a part of their 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. Each of the concentrations for the Master of Science degree in Business Administration require Plan A, Thesis.

For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and

diplomas, see the section entitled "Basic Requirements for the Master's Degree," in Part Two of this Bulletin.

Concentrations	Major Code
Finance	(05041)
*Financial and Tax Planning	(05043)
Human Resource Management	(05151)
Information Systems	(07021)
International Business	(05131)
Management	(05061)
Management Science	(05072)
Marketing	(05091)
Production and Operations Management	(05064)
Real Estate	(05111)
Taxation	(05022)
**Total Quality Management	(05072)

Special Provision for Specific Concentrations

***Financial and Tax Planning.** For this concentration an optional Plan B, Comprehensive Examination, is available. Here students may substitute a comprehensive examination and three units of additional coursework for the thesis requirement. This examination will be administered while students are registered in Finance 657.

Additionally, this concentration requires the following prerequisites, rather than the list shown under "Admission to the Degree Curriculum:"

ACCTG 201	Financial Accounting Fundamentals (3)
ECON 101	Principles of Economics (3)
ECON 102	Principles of Economics (3)
ECON 201	Statistical Methods (3) OR
MATH 119	Elementary Statistics for Business (3)
ECON 422	Business Cycles (3)
FIN 140	Legal Environment of Business (3)
FIN 323	Fundamentals of Finance (3)
MATH 120	Calculus for Business Analysis (3)

****Total Quality Management.** This concentration requires the following prerequisites, rather than the list shown under "Admission to the Degree Curriculum:"

ACCTG 201	Financial Accounting Fundamentals (3)
ACCTG 202	Managerial Accounting Fundamentals (3)
ECON 101	Principles of Economics (3)
ECON 102	Principles of Economics (3)
FIN 140	Legal Environment of Business (3)
FIN 323	Fundamentals of Finance (3)
IDS 301	Statistical Analysis for Business (3)
IDS 302	Introduction to Production and Operations Management (3)
IDS 609	Management Information Systems (3)
MGT 350	Management and Organizational Behavior (3)
MGT 405	International Business Strategy and Integration (3)
MKT 370	Marketing (3)
MATH 120	Calculus for Business Analysis (3)

Master of Business Administration and Master of Latin American Studies Degrees

General Information

The College of Business Administration and the Center for Latin American Studies offer a three-year concurrent graduate

program leading to a Master of Business Administration and a Master of Latin American Studies. The primary objective of the concurrent program is to offer preparation in the fields of business administration and Latin American studies for the purpose of providing the knowledge and skills necessary to promote and engage in business relationships within a Latin American historical, cultural, and linguistic milieu, in Latin America or in the United States.

For information, contact the Chair of the Latin American Studies Committee or the Associate Dean in the College of Business Administration.

Admission to Graduate Study

Since this program combines disparate disciplines, applicants are required to submit GMAT scores and should have substantial academic backgrounds in the humanities and social sciences. Applicants should also have a background in Spanish or Portuguese language and literature. It is expected that all students in the concurrent degree program will be full time, so that all requirements will be satisfied in an acceptable time period.

Specific Requirements for the MBA/MA Degree

(Major Code: 49061)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete an officially approved course of study of not less than 60 units as outlined below.

1. Complete each of the following core of ten courses for which an equivalent has not been satisfactorily completed. Satisfactory completion means that the student's grade in each equivalent must be "B" (3.0) or better and that the course must have been completed within seven years prior to the first course completed on the master's degree program. Prior to or immediately after admission to the curriculum for the Master of Business Administration degree, the student must complete a three-unit course in each of three fields: calculus, macroeconomics and microeconomics as prerequisites to the program. Students who have completed the equivalents of these core business courses will take a minimum of 21 units in business administration in addition to those required in section 2 selected in consultation with the graduate adviser.
 - ACCTG 600 Financial Accounting (3)
 - ACCTG 610 Managerial Accounting (3)
 - FIN 604 Legal Environment for Executives (3)
 - FIN 615 Financial Management I (3)
 - IDS 602 Statistical Analysis for Business (3)
 - IDS 609 Management Information Systems (3)
 - IDS 612 Production and Operations Management (3)
 - MGT 601 Management of Organizations (3)
 - MGT 611 Organizational Behavior and Human Resources Management (3)
 - MKT 605 Marketing (3)
2. Complete 12 units in Business Administration to include:
 - FIN 654 Seminar in International Business Finance (3)
 - MGT 671 Seminar in Comparative Industrial Relations (3) OR

- MGT 710 Seminar in World Business Environment (3)
 MGT 723 Seminar in International Strategic Management (3)
 MKT 769 Seminar in International Marketing (3)
 3. Complete 24 units in courses of Latin American content, including the following required courses:
 LAS 696 Interdisciplinary Seminar (3)
 LAS 798 Special Study (3) Cr/NC/SP
 HIST 640 Directed Reading in Latin American History (3)*
 POL S 661 Seminar in the Political Systems of the Developing Nations (3)*
 POL S 667 Seminar in Latin American Political Systems (3)*

The remaining nine units will be selected from the following list of courses, with at least one from the California Western School of Law courses highly recommended:

Latin American Studies Courses

560. Latin America After World War II (3)
 798. Special Study (3) Cr/NC/SP

Economics Course

565. U.S.-Mexico Economic Relations (3)

Geography Courses

654. Topics in Comparative Urbanization (3)**
 720. Seminar in Regional Geography (3)**

History Courses

- 551A-551B. Mexico (3-3)
 552. Brazil (3)
 553. Caribbean Island Nations (3)
 554. The Andean Republics of South America (3)
 555. Modernization and Urbanization in Latin America (3)
 556. Guerrilla Movements in Latin America (3)
 558. Latin America in World Affairs (3)
 559. Central America (3)
 640. Directed Reading in Latin American History (3)
 795. Area Studies in History (3) Cr/NC**

Political Science Courses

566. Political Change in Latin America (3)
 567. Political Systems of Latin America (3)
 568. The Mexican Political System (3)
 655. Seminar in General Comparative Political Systems (3)**
 675. Seminar in International Relations (3)**
 795. Problem Analysis (3)**

California Western School of Law Courses***

498. Mexican Law
 610. Immigration Law
 625. International Business Transactions
 636. International Organizations
 643. Private International Law
 644. Public International Law
 703. Latin American Law

* Repeatable with new content and approval of advisory committee.
 ** Acceptable when of relevant content.

*** These courses are not required. Students must apply to enroll under the provisions of the affiliation agreement with the California Western School of Law.

In addition, the student must complete MGT 797 (Research) and BA 799A (Thesis). The thesis in Business Administration will treat a Latin American related topic and will be supervised by a thesis committee whose chair is a member of the College of Business faculty with international business expertise and at least one faculty member from the Latin American studies program.

Transfer units will not be accepted toward the concurrent MBA/MA degree program. Graduate study or degrees obtained previously will not be accepted toward meeting the unit requirements of the concurrent MBA/MA degree program.

If a student after entering the concurrent MBA/MA program returns to a single degree program, all the requirements for the single degree program must be met.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, 1) the student will be required to complete Spanish 302 (or its equivalent), or Portuguese 302 (or its equivalent), and pass an oral and written examination administered by the Department of Spanish and Portuguese Languages and Literatures; 2) all core courses in business and Latin American studies must be completed prior to advancement with a minimum grade point average of 3.0 and no grade less than a B- in any core course; 3) have been recommended for advancement by the combined advisory committee; 4) have a thesis proposal approved by the combined faculty advisory committee.

Upon advancement to candidacy, the student will enroll in Management 797 (Research) and BA 799A (Thesis). A thesis (Plan A) incorporating theory, method, and analytic techniques from both disciplines is the culminating experience for the concurrent program leading to the MBA and MA degrees.

Courses Acceptable on Master's Degree Programs in Business Administration

GRADUATE COURSES

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

GENERAL

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

OFFICE: Student Services 2411
 TELEPHONE: (619) 594-5310

Faculty

Robert J. Capettini, Ph.D., Professor of Accountancy, Director of School
 Allan R. Bailey, Ph.D., Professor of Accountancy, Dean of the College of Business Administration
 Andrew H. Barnett, D.B.A., Professor of Accountancy
 David H. Butler, Ph.D., Professor of Accountancy
 Chee W. Chow, Ph.D., Professor of Accountancy, The Vern E. Odmark Chair in Accountancy
 Gary M. Grudnitski, Ph.D., Professor of Accountancy
 Kevin M. Lightner, Ph.D., Professor of Accountancy
 Robert F. Meigs, Ph.D., Professor of Accountancy
 Nathan A. Oestreich, Ph.D., Professor of Accountancy
 Richard A. Samuelson, Ph.D., Professor of Accountancy (Graduate Adviser)
 Michael D. Shields, Ph.D., Professor of Accountancy
 Howard R. Toole, Ph.D., Professor of Accountancy (Graduate Adviser)
 Gerald E. Whittenburg, Ph.D., The KPMG Peat Marwick/Charles W. Lamden Professor of Taxation (Graduate Adviser)
 O. Ray Whittington, Ph.D., Professor of Accountancy (Graduate Adviser)
 James E. Williamson, Ph.D., Professor of Accountancy
 Adrian Wong-Boren, Ph.D., Professor of Accountancy
 Carol O. Houston, Ph.D., Associate Professor of Accountancy
 Gun-Ho Joh, Ph.D., Associate Professor of Accountancy
 Sharon M. Lightner, Ph.D., Associate Professor of Accountancy
 Glenn M. Pfeiffer, Ph.D., Associate Professor of Accountancy (Graduate Adviser)
 Carol F. Venable, Ph.D., Assistant Professor of Accountancy

The Vern E. Odmark Chair in Accountancy

Established in recognition of Dr. Vern E. Odmark for his 25 years of teaching at SDSU, basic support is provided by contributions from friends, alumni, and corporations, including many major national accounting firms. The chair acknowledges the University's objective of continuing the high standards of teaching excellence and professionalism that characterized Odmark's career.

Dr. Chee W. Chow has held the position since its creation in 1984. He is widely recognized throughout the country for the breadth of his research and his technical thoroughness.

The Peat Marwick/Charles Lamden Tax Professorship

Established to help SDSU, the College of Business Administration and the School of Accountancy achieve a new level of excellence and offer benefits to the accounting community, this professorship is the first in the School of Accountancy funded by a national CPA firm. The professorship has enhanced the School of Accountancy's ability to produce the highest caliber of tax graduates who are knowledgeable in contemporary issues in taxation.

Accountancy

In the College of Business Administration

Dr. Gerald Whittenburg has held the position since its inception in 1988. Since his tenure at SDSU, Whittenburg has been honored for his teaching and is the acknowledged entrepreneurial force behind the nationally recognized Masters of Tax program.

Master of Science Degree in Accountancy

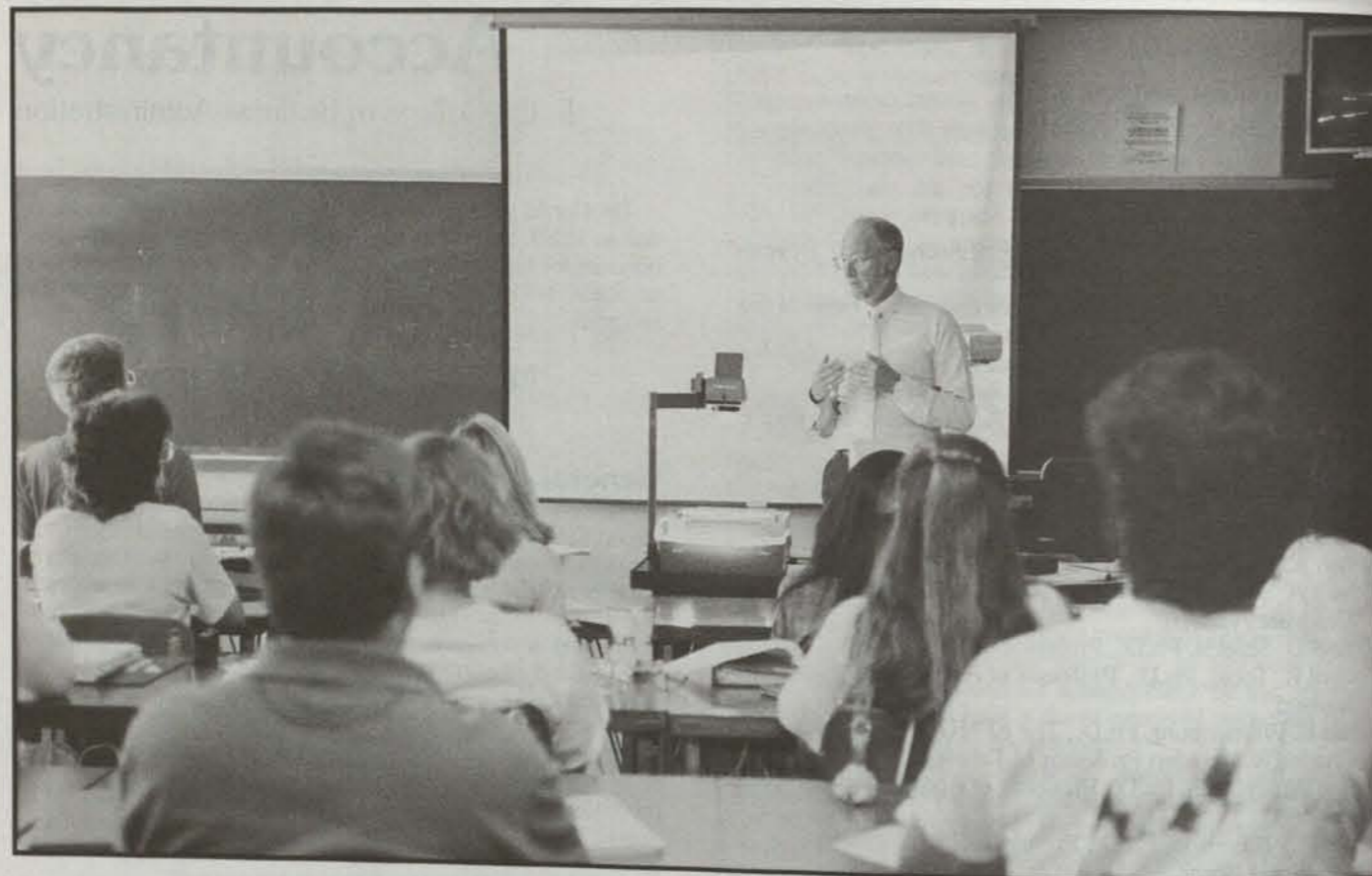
General Information

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

Admission to the Degree Curriculum

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

- Accountancy 201 Financial Accounting Fundamentals (3)
- Accountancy 202 Managerial Accounting Fundamentals (3)
- Accountancy 300 Intermediate Accounting I (4)
- Accountancy 301 Intermediate Accounting II (4)
- Accountancy 302 Managerial Cost Accounting Systems (4)
- Accountancy 404 Federal Income Tax I (4)
- Economics 101 Principles of Economics (3)
- Economics 102 Principles of Economics (3)
- Economics 201 Statistical Methods (3), OR
- Mathematics 119 Elementary Statistics for Business (3)
- Finance 140 Legal Environment of Business (3)
- Finance 323 Fundamentals of Finance (3)
- Information and Decision Systems 180 Principles of Information Systems (3)
- Information and Decision Systems 301 Statistical Analysis for Business (3)
- Information and Decision Systems 302 Introduction to Production and Operations Management (3)
- Management 350 Management and Organizational Behavior (3)



Management 405 International Business Strategy and Integration (3)
Marketing 370 Marketing (3)
Mathematics 120 Calculus for Business Analysis (3)

Satisfactory completion means that the student's grade in each course must be "B" (3.0) or better and that the course must have been completed within seven years prior to the first course completed on the master's degree program. In addition, the student's adviser may request satisfactory completion of additional prerequisite courses.

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

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree in Accountancy (Major Code: 05021)

In addition to meeting the requirements for classified graduate standing as described above and the general requirements for masters' degrees as described in Part Two of this bulletin, the student must complete a graduate program of 30 approved units including at least 21 units in 600- and 700-numbered courses, of which at least 15 units must be in accountancy

courses at San Diego State University. The accountancy courses must include at least 12 units in accountancy courses numbered 650 and above. Under Plan A, Accountancy 799A, Thesis, is required. Under the optional Plan B, a comprehensive examination and three units of additional coursework may be substituted for the thesis requirement.

In the graduate and undergraduate program the student must complete at least 30 semester units beyond principles of accounting in the accounting discipline.

Accountancy 506, Auditing; Accountancy 590, Macro Accounting Issues; and Accountancy 690, Seminar in Accounting Information Systems, are required unless the students have completed the equivalent course(s) as a part of their undergraduate preparation. Graduate tax students may replace Accountancy 506, Auditing; and Accountancy 690, Seminar in Accounting Information Systems, with Accountancy 626, Audit/Systems.

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

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

- Corporate Accounting
- Professional Accounting
- Taxation

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

Courses Acceptable on Master's Degree Program in Accountancy

UPPER DIVISION COURSES

501. Advanced Accounting Problems (4) I, II

Prerequisites: Minimum grade of C in Accountancy 300; credit or concurrent registration in Accountancy 301. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Problems involved in partnerships, consignments, consolidations, receiverships, foreign exchange, fund accounting, and other specialized areas. (Formerly numbered Accountancy 514.)

502. Advanced Managerial Accounting (3)

Prerequisite: Minimum grade of C in Accountancy 302. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Use of accounting information systems for managerial decision making. Introduction to decision-making situations which use accounting information for full or partial resolution. Consideration of uncertainty, decision theory and specific decision contexts. (Formerly numbered Accountancy 512 and Business Administration 412.)

504. Federal Income Tax II (4) I, II, S

Prerequisite: Minimum grade of C in Accountancy 404. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Taxation of corporations, partnerships, estates, and trusts. Gift and estate tax. (Formerly numbered Accountancy 511 and Business Administration 411.)

506. Auditing (4) I, II

Prerequisites: Accountancy 301, 406; Information and Decision Systems 301. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Internal control in the design of accounting systems; flow-charting techniques; duties, ethics and responsibilities of the auditor; operational auditing; procedures for verification of financial statements; auditor's reports. (Formerly numbered Accountancy 534.)

508. Accounting for Not-For-Profit Organizations (3)

Prerequisite: Accountancy 300. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Principles of fund accounting useful in state and local governmental units, hospitals, colleges, and universities. Comparisons with commercial accounting emphasized. Includes study of budgetary accounting, appropriations, encumbrances, internal checks and auditing procedures. (Formerly numbered Accountancy 515 and Business Administration 415.)

590. Macro Accounting Issues (4) I, II

Prerequisites: Accountancy 301, 302, 404, 406; credit or concurrent registration in Accountancy 506. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Macro-accounting issues. Political environment under which financial statements are prepared. Economic consequences of accounting standards. Ethical and social issues in financial reporting. Objectives and economic consequences of tax policy. Regulation of auditors. Management control systems. (Formerly numbered Accountancy 518.)

596. Contemporary Topics in Accounting (1-3)

Prerequisites: Accountancy 301, 302, 404, 406; credit or concurrent registration in Accountancy 506. **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Contemporary topics in modern accounting. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

600. Financial Accounting (3)

Basic concepts and principles of financial accounting; accounting as a data processing system; measurement of business income; financial statements.

610. Managerial Accounting (3)

Prerequisite: Accountancy 600.

Accounting in relation to the decision-making process; various cost systems; relevancy of various cost concepts; direct costing; flexible budgets; distribution costing; break-even analysis; capital budgeting; and other techniques of management planning and control.

620. Financial Accounting Practice and Theory (4)

Prerequisite: Accountancy 600.

Theories, principles and concepts underlying financial statements. Income measurement and asset valuation; special problem areas in reporting of corporate assets, liabilities, and stockholders' equity.

624. Tax for Managers (4)

Prerequisite: Accountancy 600.

Application of federal income tax laws on selected management decisions (e.g., buy/lease decisions, sell/trade decisions, current and deferred compensation planning). Recognition of tax hazards and tax savings. (Formerly numbered Accountancy 633.)

626. Audit/Systems (4)

Prerequisites: Accountancy 610 and 620.

Design and internal control perspectives of accounting information systems. Systems analysis, decision support systems, and implementation are investigated. Duties, responsibilities, and ethics of the auditor; auditor's reports and procedures for verification of financial statements. (Formerly numbered Accountancy 629.)

650. Tax Research and Planning (3)

Prerequisite: Credit or concurrent registration in Accountancy 504.

Tax research with emphasis on solving tax planning problems. Introduction to statutory, administrative, and judicial sources of tax law. (Formerly numbered Accountancy 640.)

651. Seminar in Corporate Tax (3)

Prerequisite: Credit or concurrent registration in Accountancy 650.

Corporate tax problems involving distributions, liquidations, reorganizations, redemptions, personal holding companies, accumulated earnings tax, and thin capitalization. (Formerly numbered Accountancy 636.)

652. Seminar in Federal Estate and Gift Tax (3)

Prerequisite: Credit or concurrent registration in Accountancy 650.

Estate and gift tax problems. Income taxation of trust and estates. (Formerly numbered Accountancy 644.)

653. Seminar in Tax Practice (3)

Prerequisite: Credit or concurrent registration in Accountancy 650.

Tax practice procedures as they affect the practitioners' dealing with the IRS; statute of limitations, ethical problems, penalties, interest, tax fraud. (Formerly numbered Accountancy 645.)

654. Seminar in Partnership Taxation (3) I, II

Prerequisite: Credit or concurrent registration in Accountancy 650.

Partnership tax problems involving partnership formation, operations, distributions and liquidations. (Formerly numbered Accountancy 646.)

659. Seminar in Taxation Topics (3)

Prerequisite: Credit or concurrent registration in Accountancy 650.

Theoretical treatment of selected topics in taxation. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. (Formerly numbered Accountancy 635.)

660. Seminar in Accounting Theory (3)

Prerequisite: Accountancy 501.

Historical development of accounting principles and theory; problems in valuation, income determination, and statement presentation. (Formerly numbered Accountancy 639.)

661. Seminar in International Accounting (3)

Prerequisite: Accountancy 600.

Theories, practices, and concepts which underlie development of standards of financial reporting for enterprises engaged in international trade and business. (Formerly numbered Accountancy 641.)

663. Financial Statement Analysis (3)

Prerequisite: Accountancy 600.

Illustrative cases and problems to analyze methods for communicating information about financing and operating activities of corporate firms, and techniques for evaluating the information. (Formerly numbered Accountancy 675.)

670. Seminar in Auditing (3)

Prerequisite: Accountancy 506.

Selected conceptual issues in auditing. (Formerly numbered Accountancy 642.)

671. Seminar in Compilation and Review Services (3)

Prerequisite: Accountancy 506.

Applications cases on engagements to compile or review financial statements of nonpublic entities under accounting and review services standards. (Formerly numbered Accountancy 647.)

680. Seminar in Managerial Accounting (3)

Prerequisite: Accountancy 610.

Managerial cost accounting concepts and procedures, including budgetary planning, cost control, advisory functions, measurement of divisional profitability, product pricing, and investment decisions. (Formerly numbered Accountancy 638.)

690. Seminar in Accounting Information Systems (3)

Prerequisites: Accountancy 610 and Information and Decision Systems 612.

Design of accounting systems. Current trends as discussed in the literature. Computerized procedures for internal and external reporting. (Formerly numbered Accountancy 637.)

694. Seminar in Public Accounting Consulting (3)

Prerequisite: Accountancy 610.

Study through cases of the analytical approach and process applied by public accounting consultants to businesses. Current and proposed form of organization, finances, operations, systems, and controls.

696. Seminar in Selected Topics (3)

Intensive study in specific areas of accountancy. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

790. Directed Readings in Accountancy (3) Cr/NC

Prerequisite: Advancement to candidacy.

Preparation for the comprehensive examination for the M.S. program or the M.B.A. program under Plan B.

797. Research (3) Cr/NC/SP

Prerequisite: Advancement to candidacy.

Research in the area of accountancy. Maximum credit six units applicable to a master's degree.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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Courses Acceptable on Master's Degree Programs in Business Administration**UPPER DIVISION COURSES**

(Not Acceptable toward the Master of Business Administration Degree)

521. Individual Insurance Management (3) II

Prerequisites: Undergraduate: Completion of lower division requirements for the major. Graduate: Completion of the prerequisite core.

Economic, legal, social and ethical considerations of individual, business and group insurance including life, health, property, liability and social insurance. Risk exposure and policy analysis. Employee benefit and pension planning including regulation and taxation issues. Not open to students with credit in Finance 525.

589. Personal Financial Planning (3) I

Prerequisites: Finance 327 and credit or concurrent registration in Accountancy 404.

Financial planning process including data gathering, cash

Finance

In the College of Business Administration

flow and debt considerations, goal programming (including retirement and education funding), integration, plan formulation, and implementation. Practice management considerations including establishment of ethical and legal, client and professional relationships. Not open to students with credit in Finance 525.

GRADUATE COURSES**604. Legal Environment for Executives (3)**

Legal environment of business, government regulation, social and ethical considerations in the administration of justice, substantive law of contracts, property, agency, and business organizations.

615. Financial Management I (3)

Prerequisites: Accountancy 600 and Information and Decision Systems 602.

Role of finance in firm, financial planning and control, management of working capital, time value of money, valuation, risk analysis, basic capital budgeting, long-term financing, international aspects of financial decisions.

616. Managerial Economics (3)

Prerequisite: Economics 603.

Role of economic theory in management analysis and decision. Study of demand, cost, and supply theories from a business viewpoint.

617. Financial Management II (3)

Prerequisite: Finance 615.

Develops topics to include asset pricing, capital budgeting techniques, dividend policy and financing decisions, applications of options and futures, term structure of interest rates, regulation of financial markets, leasing decisions, corporate control. Not open to students with credit in Finance 650.

651. Seminar in Investments (3)

Prerequisite: Finance 615.

Characteristics of financial markets and instruments. Contemporary as well as traditional approaches to problems of pricing individual securities; portfolio selection and analysis; techniques of analysis; measurement of risk; return, and investment values.

652. Seminar in Security Analysis and Portfolio Management (3)

Prerequisite: An upper division or graduate course in investments.

Security valuation, alternative instruments, portfolio theory, active and passive management techniques, asset allocation, performance measurement, use of derivative instruments in portfolio management, debt portfolio management techniques, ethical standards.

653. Case Studies in Financial Management (3)

Prerequisite: Finance 615.

Applies theory of finance to practice of financial decision-making. Includes valuation, mergers, and restructurings. Integrates theory and managerial judgment in a decision-making context. Case study format.

654. Seminar in International Business Finance (3)

Prerequisite: Finance 615.

International financial instruments, markets, and institutions; international trade and capital flows; foreign exchange risks and their management; direct and portfolio investment; implications for conduct of global business.

655. Seminar in Financial Markets (3)

Prerequisite: Finance 615.

Analysis of money and capital markets. Emphasis on factors of influence and sources and uses of data. Survey of literature in the field.

656. Seminar in Financial Institutions (3)

Prerequisite: Finance 615.

Change in financial institution management thought. Trends in asset management theory and liability management theory. Current events in financial institutions, changes likely to occur and proposed changes in laws and regulations.

657. Financial Counseling (3)

Prerequisites: Advancement to candidacy and Finance 651.

Decision-making process and theory of individual financial needs. Planning and implementation of financial strategies that aid in meeting family goals. Counseling. Ethics. Preparation of financial plans using cases and individuals.

658. Seminar in Options and Futures (3)

Prerequisite: Finance 615.

Applications of options and futures in corporate finance and investments. Analytical and numerical methods of option pricing. Compound options and options in dividend paying assets. Options with stochastic exercise prices and options to exchange one risky asset for another.

696. Seminar in Selected Topics (3)

Intensive study in specific areas of finance. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

705. Seminar in Estate Planning (3)

Prerequisite: Finance 615.

The scope and nature of estate planning. Identification and analysis of the environmental factors and those aspects of federal and state law affecting estate planning and taxation. Estate taxation and social policy.

780. Seminar in Real Estate and Urban Development (3)

Prerequisite: Finance 616 or Economics 603.

Real estate market functions and operations. Real estate finance and appraisal theories and approaches. Models of urban land use and urban development. Issues in real estate decision making.

783. Seminar in Real Estate Finance and Investment (3)

Prerequisite: Finance 780.

Theories and factors governing the financial functions of lenders, business and governmental agencies in real estate lending operations. Analysis of real estate investment by financial institutions, corporations, individuals and government.

784. Seminar in Real Property Valuation (3)

Prerequisite: Finance 780.

Economic principles of valuation. Data collection, analyses and correlation. The cost, market, and income approaches. New appraisal technology. Special purpose appraising.

790. Directed Readings in Finance (3) Cr/NC

Prerequisite: Advancement to candidacy.

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

797. Research (3) Cr/NC/SP

Prerequisite: Advancement to candidacy.

Research in the area of finance. Maximum credit six units applicable to a master's degree.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

Information and Decision Systems

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In the College of Business Administration

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 Yeong-Ling Yang, Ph.D., Assistant Professor of Information and Decision Systems

Courses Acceptable on Master's Degree Programs in Business Administration

GRADUATE COURSES**602. Statistical Analysis for Business (3)**

Measure of central tendency and variation, sampling and various statistical tests such as analysis of variance, *F* test, *t* test and chi square. Simple and multiple correlation.

609. Management Information Systems (3)

Role of information in organizational management. Typical management information subsystems. Design and management of management information systems.

612. Production and Operations Management (3)

Prerequisite: Information and Decision Systems 602.

Scheduling operations to include master scheduling, material requirements planning, inventory management, capacity planning, production activity control, location analysis, automation computerized systems, layout planning, linear programming, queuing, simulation, quality control, project planning.

680. Information Systems Hardware and Software (3)

Prerequisite: Information and Decision Systems 609.

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

683. Program, Data, and File Structures (3)

Prerequisite: Information and Decision Systems 609.

Program structures and data structures commonly used in business processing. File organization and processing strategies. Improving storage and processing efficiencies.

684. Small Computer Systems for Business (3)

Prerequisite: Information and Decision Systems 609.

Features of small computer systems, microcomputers, mini-computers, peripheral devices for small systems. Programming languages, operating systems, and software packages for small systems.

686. Database Management Systems (3)

Prerequisite: Information and Decision Systems 609.

Applications of database management systems in business. Design and administration of database processing systems applications.

687. Data Communications and Distributed Data Processing (3)

Prerequisite: Information and Decision Systems 680.

Applications of data communications hardware, software, and services in business data processing. Design and implementation of network applications and distributed processing systems.

688. Information Systems in Organizations (3)

Prerequisite: Information and Decision Systems 609.

Organizing and administering the information systems function. Information and its relationships to business decision making. Managing the computer center and information center.

691. Decision Support Systems (3)

Prerequisite: Credit or concurrent registration in Information and Decision Systems 688.

Design, implementation, and integration of computerized decision support systems into business management. Problem representation, modeling, and simulation.

695. Information Systems Development I (3)

Prerequisite: Information and Decision Systems 609.

System development life cycle. Life cycle methodologies with emphasis on analysis of requirements using structured methodology and automated tools. Feasibility study, developmental strategies, needs management, and prototyping.

696. Seminar in Selected Topics (3)

Intensive study in specific areas of information systems. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

697. Information Systems Development II (3)

Prerequisite: Information and Decision Systems 695.

Business information systems design, installation, and implementation as part of the systems development life cycle. Structured design, prototyping, controls, the make vs. buy decision, selection of hardware and software.

700. Artificial Intelligence Applications for Business (3)

Prerequisite: Information and Decision Systems 609.

Applications of artificial intelligence techniques to business. Strategies for representing knowledge. Knowledge engineering, knowledge base and inference. Use of consultation paradigms, languages, tools, and artificial intelligence environment. Developing expert systems for business.

705. Administrative Communication (3)

Prerequisite: Information and Decision Systems 609.

Development of advanced written, oral, and interpersonal communication strategies for the business environment.

741. Seminar in Systems Assessment and Deployment for Total Quality Management (3)

Prerequisite: Information and Decision Systems 612.

Use of systematic approaches in development of total quality management. Failure analysis, system reliability, Taguchi systems and robust design, quality function deployment, process evaluation, benchmarking, and Baldrige assessment.

742. Seminar in Computer Simulation for Business (3)

Prerequisites: Information and Decision Systems 609 and 612.

Computer simulation techniques for analysis of complex decision problems. Implementation of optimization algorithms through use of the digital computer.

743. Japanese Industrial and Production Systems (3)

Prerequisite: Economics 603.

Japanese industrial and production systems addressed holistically to include industrial grouping-Keiretsu system, industrial practices, new product development, production system, quality control and Kanban system, automated production technology, distribution system, integration of production and distribution, and competitive strategies.

744. Seminar in Total Quality Management and Productivity (3)

Prerequisite: Information and Decision Systems 612.

Philosophy and technology of total quality management as applied in business and industry. Quality and productivity applications of total quality control (TQC), statistical process control (SPC), and just-in-time (JIT) systems in industrial problems. Cases and examples from the United States, Japan, and other industrialized countries.

745. Business Forecasting (3)

Prerequisite: Information and Decision Systems 612.

Forecasting for the firm. Models for forecasting short term, intermediate and long term business horizons.

748. Seminar in Advanced Data Analysis (3)

Prerequisite: Information and Decision Systems 602.

Applications of various statistical techniques and design of experiments for business. Advanced ANOVA and Taguchi designs, multiple regression modeling methodologies, and multivariate techniques, such as factor analysis, judgement analysis, multiple discriminant analysis, multivariate analysis of variance, and canonical correlation.

749. Seminar in Applied Behavioral Measurement (3)

Prerequisite: Information and Decision Systems 602.

Measurement procedures useful in analyzing such areas as teamwork, leadership, job satisfaction, attitudes, motivation, total quality management, and customer satisfaction. Development and use of technologies including Likert, Thurstone, Guttman, paired-comparison, forced-choice, semantic-differential, C-E diagrams, and review of existing instruments used in business-related settings.

750. Project Management (3)

Prerequisite: Information and Decision Systems 612.

Managing projects. Includes network modeling, defining activities and events, cost estimating and reporting, single and multiple resource allocation and leveling. Computerized project management software will be used.

751. Seminar in Scheduling Systems (3)

Prerequisite: Information and Decision Systems 612.

Scheduling systems. Capacity requirements management, production activity control, inventory control and project management.

752. Seminar in Materials Requirement Planning (3)

Prerequisite: Information and Decision Systems 612.

Product structure, master scheduling and materials requirement planning (MRP).

754. Seminar in Production and Operations Management (3)

Prerequisite: Information and Decision Systems 612.

Integration of manufacturing and operations functions through case studies, plant visits, and class projects. Computerized simulation package used to facilitate student understanding of production scheduling systems.

790. Directed Readings in Information and Decision Systems (3) Cr/NC

Prerequisite: Advancement to candidacy.

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

797. Research (3) Cr/NC/SP

Prerequisite: Advancement to candidacy.

Research in the area of information and decision systems. Maximum credit six units applicable to a master's degree.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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Courses Acceptable on Master's Degree Programs in Business Administration

UPPER DIVISION COURSE

596. Advanced Topics in Management (3)

Prerequisite: Six upper division units in management.

Advanced special topics in management. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

601. Management of Organizations (3)

Managerial perspectives on organization in domestic and multinational arenas. Emphasis on organizational environments, strategy, goals, control, culture, structure, and technology.

611. Organizational Behavior and Human Resources Management (3)

Theories, practice, and legal considerations of dealing with people in organizations. Analysis of organizational systems and managerial actions for accomplishing work through individuals and groups.

626. Seminar in Policy Formulation (3)

Prerequisites: Management 601, Finance 615, Information and Decision Systems 602, Marketing 605.

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. (Formerly numbered Management 726.)

Management

In the College of Business Administration

670. Seminar in Staffing and Development Systems (3)

Prerequisites recommended: Management 601, 611 or equivalent course in the behavioral sciences and Information and Decision Systems 602.

Strategic and ethical considerations in staffing and human resource development. Design and operation of staffing and development systems. Review of practice, law, and other environmental forces influencing staffing and development activities.

671. Seminar in Comparative Industrial Relations (3)

Prerequisites: Management 601 and 611.

Study of industrial relations systems in varied organizational and cultural settings. Public policy and law governing the employment relationship in both union and non-union settings. Examples from worldwide industrial societies.

672. Seminar in Human Resource Appraisal and Reward Systems (3)

Prerequisites recommended: Management 601 and 611 or equivalent course in the behavioral sciences, and Information and Decision Systems 602.

Strategic and ethical considerations in appraising and rewarding people at work. Design and operation of appraisal and compensation systems. Review of practice, law, and other environmental forces influencing appraisal and compensation activities.

679. Seminar in Human Resource Management Strategies (3)

Prerequisites: Credit or concurrent registration in two of the following: Management 670, 671, and 672.

Current issues in human resource management to include job design, staffing, training, evaluation, and compensation. Correlations among organizational strategies, environmental pressures, and human resource strategies and practices.

696. Seminar in Selected Topics (3)

Intensive study in specific areas of management. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

710. Seminar in World Business Environment (3)

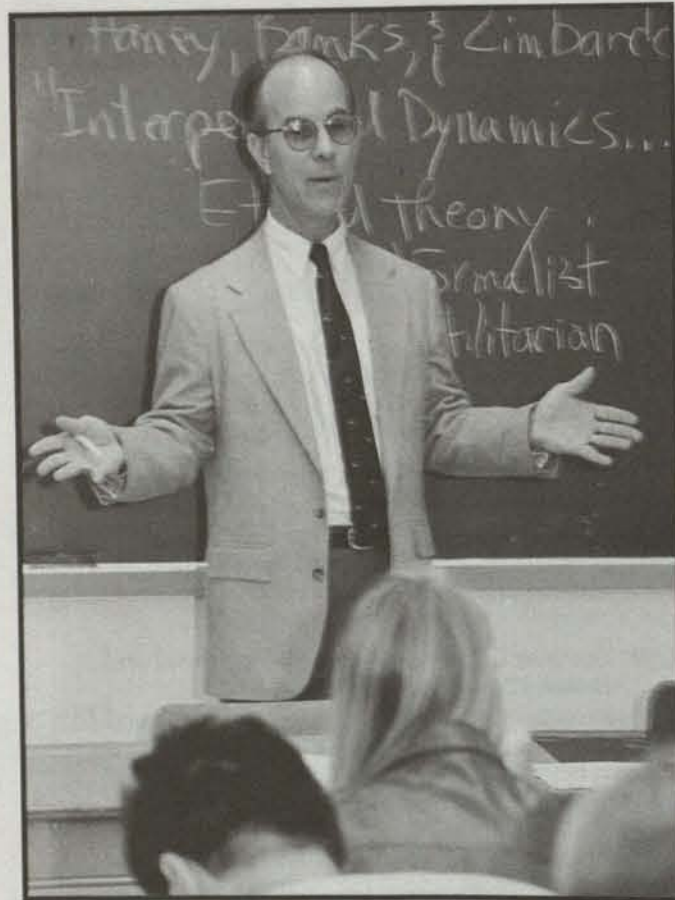
Prerequisite: Economics 603.

The nature, dimensions and motives of international business. Impact of environmental factors. The nature of the multinational corporation, the importance of national and multilateral controls and policies for international business management.

720. Seminar in Behavioral Sciences for Management (3)

Prerequisites: Management 601 and 611.

Applications of findings from behavioral sciences to management problems and decisions. Study of organization cultures and subcultures. Impact of human behavior on the enterprise.



721. Seminar in Group Processes and Leadership (3)
Prerequisites: Management 601 and 611.

Perceptions and processes in work groups. Experience in interpersonal networks, influence and rewards, stereotypes, managing differences and conflicts.

722. Seminar in Business Ethics and Social Institutions (3)

Prerequisites: Management 601 and 611.

Ethical and social aspects of current issues in business and society. The changing role of stakeholders including consumers, shareholders, and employees. Assessment of the operation, functioning and regulation of the market system.

723. Seminar in International Strategic Management (3)

Prerequisites: Management 601 and 611.

Strategic decision making in managing international enterprises. General management problems in directing and controlling transnational companies, including entry, acquisitions and joint ventures. Cases and readings to acquaint students with worldwide business practices.

724. Seminar in the Entrepreneur (3)

Prerequisites: Management 601 and 611.

Examination of the entrepreneurial approach; concepts, theory and techniques of managerial innovation and implementation; analysis of entrepreneurial skills.

725. Seminar in Industry Analysis and Competitive Strategy (3)

Prerequisites: Management 601, Finance 615 and 616, Marketing 605.

Concepts and tools for studying the structure of industries and implications for strategy formulation. Competition in different market environments: high technology, global, mature, and declining.

727. Seminar in Organizational Change and Development (3)

Prerequisites: Management 601 and 611.

Process of developing human resources and organizations. Theories of organizational development; tools and techniques, analysis of manpower and organizational development programs.

728. Seminar in Business Planning (3)

Prerequisites: Management 601, Finance 615, Marketing 605, and advancement to candidacy.

Strategic decision making, long-range forecasting, and corporate planning with major emphasis on product-market relationships.

729. Seminar in Organizational Issues (3)

Prerequisites: Management 601 and 611.

Issues in organizations in modern society: organization design, environmental interface, and political processes. See Class Schedule for specific content.

731. Seminar in Strategic Management of Technology and Innovation (3)

Prerequisite: Completion of MBA core.

Assessment of technological competencies and formulation of entry strategies for high-technology markets. Managing project teams and high-technology professionals.

790. Directed Readings in Management (3) Cr/NC

Prerequisite: Advancement to candidacy.

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

797. Research (3) Cr/NC/SP

Prerequisite: Advancement to candidacy.

Research in the area of management. Maximum credit six units applicable to a master's degree.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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Rajesh Kanwar, Ph.D., Assistant Professor of Marketing

Courses Acceptable on Master's Degree Programs in Business Administration

GRADUATE COURSES

605. Marketing (3)

Role and function of marketing in the organization and society. Planning, implementation, and evaluation of marketing strategies and programs. Not open to students with credit in Marketing 370.

696. Seminar in Selected Topics (3)

Intensive study in specific areas of marketing. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree. (Formerly numbered Marketing 795.)

701. Seminar in Marketing Analysis and Programs (3)

Prerequisite: Marketing 605.

Analysis and planning of marketing programs. Emphasis on quantitative assessment, market measurement and forecasting, budgeting, organization and development of marketing strategy. Integration of marketing programs concerning product plans, pricing, promotion and distribution.

760. Seminar in Consumer Behavior (3)

Prerequisite: Marketing 605.

The study of consumer behavior in relation to marketing strategy and the changing environment of business.

761. Seminar in New Products Marketing (3)

Prerequisite: Marketing 605.

The study of new products management in relation to planning and implementation of marketing strategy.

762. Seminar in Advertising Management (3)

Prerequisite: Marketing 605.

Advertising and sales promotion in relation to the planning and implementation of marketing strategy.

Marketing

In the College of Business Administration

763. Seminar in Sales Management (3)

Prerequisite: Marketing 605.

Sales management and personal selling decisions and strategies in business organizations.

764. Seminar in Marketing Price Policy (3)

Prerequisite: Marketing 605.

Study of pricing strategy and price determination in business organizations.

766. Seminar in Market Analysis and Research (3)

Prerequisites: Marketing 605 and Information and Decision Systems 612.

Application of statistical and mathematical methods to market problems, consumer research, and product analysis.

767. Seminar in Business Marketing Management (3)

Prerequisite: Marketing 605.

Management of marketing decisions particular to organizational customers and prospects. Emphasizes marketing to private, commercial, institutional, and governmental customers in both domestic and global markets.

768. Seminar in Industrial and Government Procurement Management (3)

Prerequisites: Marketing 605 and Management 601.

Procurement methods used in industry and government; internal departmental operations, interrelationships with other departments; supplier selection, pricing/cost analysis; contract negotiations, special characteristics of government procurement.

769. Seminar in International Marketing (3)

Prerequisite: Marketing 605.

The impact of cultural, social, political, economic, and other environmental variables on international marketing systems and the decision-making process of multinational marketing operations.

779. Advanced Marketing Strategy (3)

Prerequisites: Marketing 605 and advancement to candidacy.

Development, implementation and evaluation of marketing strategy and planning. Role of marketing planning in overall corporate strategic planning process. Use of contemporary techniques and models in strategic planning process.

790. Directed Readings in Marketing (3) Cr/NC

Prerequisite: Advancement to candidacy.

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

797. Research (3) Cr/NC/SP

Prerequisite: Advancement to candidacy.

Research in the area of marketing. Maximum credit six units applicable to a master's degree.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

Chemistry

In the College of Sciences

Faculty

Morey A. Ring, Ph.D., Professor of Chemistry, Chair of Department
Larry E. Bennett, Ph.D., Professor of Chemistry
James W. Cobble, Ph.D., Professor of Chemistry, Dean of the Graduate Division and Research
Dewitt Coffey Jr., Ph.D., Professor of Chemistry
A. Stephen Dahms, Ph.D., Professor of Chemistry
Edward J. Grubbs, Ph.D., Professor of Chemistry
Vincent J. Landis, Ph.D., Professor of Chemistry
Herbert G. Leberherz, Ph.D., Professor of Chemistry
H. Edward O'Neal, Ph.D., Professor of Chemistry (Graduate Adviser)
William H. Richardson, Ph.D., Professor of Chemistry
Stephen B. W. Roeder, Ph.D., Professor of Physics and Chemistry
Clay M. Sharts, Ph.D., Professor of Chemistry
William E. Stumph, Ph.D., Professor of Chemistry
William G. Tong, Ph.D., Professor of Chemistry
John H. Woodson, Ph.D., Professor of Chemistry
Dale A. Chatfield, Ph.D., Associate Professor of Chemistry
Thomas E. Cole, Ph.D., Associate Professor of Chemistry
Diane K. Smith, Ph.D., Assistant Professor of Chemistry

Assistantships

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

General Information

The Department of Chemistry in the College of Sciences offers graduate study leading to the Master of Arts, the Master of Science and the Doctor of Philosophy degrees in chemistry. The Ph.D. degree is offered jointly with the Department of Chemistry at the University of California at San Diego. Thesis research in all graduate programs is offered in the five traditional areas of chemistry, i.e., analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry.

The department provides a substantial inventory of modern chemical instrumentation for support of the many active research programs. Included are systems for the performance of nearly all major types of chemical separations; moderate- and high-resolution GC-mass spectrometric systems; 90, 100 (FT) and 200 (FT) MHz nuclear magnetic resonance spectrometers; CW and FT infrared spectrometers; ultraviolet-visible spectrometric instruments for both atomic and molecular emission and absorption studies; electrochemical instrumentation for potentiometric, voltametric and coulometric measurements; radiochemical instrumentation; laser systems for spectroscopy and a variety of microcomputers.

OFFICE: Chemistry/Geology 305
TELEPHONE: (619) 594-5595

Section I. Master's Degree Programs

Admission to Graduate Study

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

Advancement to Candidacy

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

Specific Requirements for the Master of Arts Degree

(Major Code: 19051)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units which includes a major consisting of at least 24 units in 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 written comprehensive examination in lieu of the thesis. A student electing Plan A must pass a final oral examination on the thesis.

Specific Requirements for the Master of Science Degree

(Major Code: 19051)

In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master's degree as described in Part Two of this bulletin. The student must also complete a graduate program of 30 units which includes a major consisting of at least 24 units in chemistry from courses listed below as acceptable on master's degree programs. At least 15 of these units must be in 600- and 700-numbered courses, excluding Chemistry 792, 797 and 798. Chemistry 711*, 791, 792 and 799A are required. A student must pass a final oral examination on his/her thesis.

* Chemistry 762 may be substituted for Chemistry 711, with approval of the graduate adviser, by students whose thesis project is in the area of biochemistry.

Section II. Doctoral Program

(Major Code: 19051)

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 the student may participate effectively in this program, the entering student will be required to have a mastery of the subjects usually presented in the undergraduate curriculum: physical, organic, analytical, and inorganic chemistry. All applicants will be expected to present the equivalent of one year of physics and of mathematics at least through integral calculus. Students should be prepared to take placement examinations which will be administered by a joint committee and will cover the fields of inorganic, organic and physical chemistry.

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

Faculty

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: M. Thieman
Committee Members: Kyte, Siegel, Sinha, Trogler

San Diego State University:

Graduate Adviser: H.E. O'Neal
Committee Members: Bennett, Chatfield, Cobble, Coffey, Cole, Dahms, Grubbs, Laub, Leberherz, O'Neal, Richardson, Ring, Roeder, Sharts, Smith, Stumph, Tong

Courses Acceptable on Master's and Doctoral Degree Programs in Chemistry

UPPER DIVISION COURSES

501. Chemical Oceanography (3)

Three lectures and occasional field trips.

Prerequisites: Chemistry 201 and 231. Strongly recommended: Chemistry 251. Recommended: Chemistry 410B and Oceanography 320 or 541.

The application of the fundamentals of chemistry to the study of oceans.

510. Advanced Physical Chemistry (3)

Prerequisite: Chemistry 410B.

Mathematical tools essential to solving problems in chemical thermodynamics, statistical mechanics, chemical kinetics, quantum chemistry and molecular structure and spectroscopy, with applications.

520A-520B. Inorganic Chemistry (3-3) I, II

Prerequisite: Credit or concurrent registration in Chemistry 410B. Chemistry 520A is prerequisite to 520B.

Nature of chemical bond and an advanced systematic study of representative and transition elements and their compounds.

530. Theoretical Organic Chemistry (3)

Prerequisites: Chemistry 410A and 431. Recommended: Credit or concurrent registration in Chemistry 410B.

Electronic and physical properties of organic molecules; structure-reactivity correlations: Electronic structure of molecules (qualitative molecular orbital theory); stereochemistry; and linear free energy relationships.

537. Organic Qualitative Analysis (4)

Two lectures and six hours of laboratory.

Prerequisites: Chemistry 431 and credit or concurrent registration in Chemistry 410A. Recommended: Chemistry 417 and 457.

Chemical, physical, and spectral methods discussed and employed to determine structure of organic compounds. Purification and separation techniques stressed.

550. Instrumental Methods of Chemical Analysis (2) I

Prerequisites: Chemistry 431 and credit or concurrent registration in Chemistry 410B; concurrent registration in Chemistry 457 for undergraduate students only.

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

551. Advanced Analytical Chemistry (3) II

Prerequisite: Chemistry 550.

Expanded treatment of instrumental methods for separation and quantification not covered in Chemistry 550. Non-instrumental separations, quantitative organic microanalysis, sampling theory and techniques, reaction rate applications and interpretation of experimental data.

560A-560B. General Biochemistry (3-3)

Prerequisites: Chemistry 431 and credit or concurrent registration in Chemistry 410A.

The structure, function, metabolism, and thermodynamic relationships of chemical entities in living systems. Not open to students with credit in Chemistry 361A-361B.

561. Physical Biochemistry (3)

Prerequisites: Chemistry 201, 431, 361B or 560B; Physics 182B.

Fundamental principles of physical chemistry, including thermodynamics and kinetics as applied to the field of biochemistry.

567. Biochemistry Laboratory (2)

Six hours of laboratory.

Prerequisite: Credit or concurrent registration in Chemistry 361A or 560A.

Theory and practice of procedures used in study of life at molecular level. Includes purification and characterization of enzymes, isolation of cell components, and use of radioactive tracer techniques.

571. Environmental Chemistry (3)

Prerequisites: Chemistry 230 or 231 and 251; consent of instructor for all other majors.

Fundamentals of chemistry applied to environmental problems. Chemistry of ecosystems; analysis of natural constituents and pollutants; sampling methods; transport of contaminants; regulations and public policy.

596. Advanced Special Topics in Chemistry (1-3)

Prerequisite: Consent of instructor.

Advanced selected topics in modern chemistry. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES**711. Chemical Thermodynamics (3)**

Prerequisite: Chemistry 410B.

Chemical thermodynamics and an introduction to statistical thermodynamics.

712. Chemical Kinetics (3)

Prerequisite: Chemistry 410B.

Theory of rate processes; applications of kinetics to the study of reaction mechanisms.

713. Quantum Chemistry (3)

Prerequisite: Chemistry 410B.

Quantum mechanics of atomic and molecular systems; applications to chemical bonding theory.

721. Mechanisms of Inorganic Reactions (3)

Prerequisite: Chemistry 520A.

Mechanisms in inorganic reactions with an emphasis on coordination chemistry.

730. Advanced Topics in Organic Chemistry (1-3)

Prerequisite: Chemistry 431.

Selected topics in organic chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

731. Mechanisms of Organic Reaction (3)

Prerequisites: Chemistry 410B and 431. Recommended: Chemistry 530.

Reactivity and mechanism in organic reactions.

732. Advanced Organic Chemistry (3)

Prerequisite: Chemistry 431.

Applications and limitations of organic reactions from the viewpoint of synthesis.

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

Prerequisite: Chemistry 550.

Selected topics from the field of analytical chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

751. Separations Science (3)

Prerequisites: Chemistry 550 and 711.

Theoretical bases for separation techniques important in analytical chemistry. Chemical and physical interactions between components of different classes of separation systems, including selection and optimization of operational parameters.

753. Analytical Spectroscopy (3)

Prerequisite: Chemistry 550.

Theory and application of atomic and molecular absorption, emission and fluorescence methods. Modern optical instrumentation and methods of analysis. Nonlinear laser spectroscopic methods in chemical analysis.

760. Advanced Topics in Biochemistry (1-3)

Prerequisite: Chemistry 560B.

Selected topics in biochemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

762. Enzymology (2)

Prerequisite: Credit or concurrent registration in Chemistry 410B.

Theory and techniques used in the study of the mechanism of action of enzymes.

763. Cellular Regulation (2)

Prerequisites: Chemistry 361A-361B or 560A-560B.

The biochemistry of cellular regulatory mechanisms in eucaryotic cells. The regulation of gene transcription, in mRNA translation and post-translational processes, including the mechanism and regulation of intracellular protein turnover.

764. Membrane Biochemistry (3)

Prerequisites: Chemistry 361A-361B or 560A-560B.

Membrane structure and function. Biophysical and biochemical properties of membranes from procaryotic and eucaryotic cells and animal cell viruses; biosynthesis and assembly of membrane components; molecular basis of solute transport, energy coupling, cell surface transformation, and cellular recognition, adhesion and fusion.

790. Seminar (1-3)

An intensive study in advanced chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

791. Research Seminar (1)

Prerequisite: Consent of department chair.

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

792. Bibliography (1)

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

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

Prerequisite: Consent of instructor.

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

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

897. Doctoral Research (1-3) Cr/NC/SP

Prerequisite: Admission to the doctoral program.

Independent investigation in the general field of the dissertation.

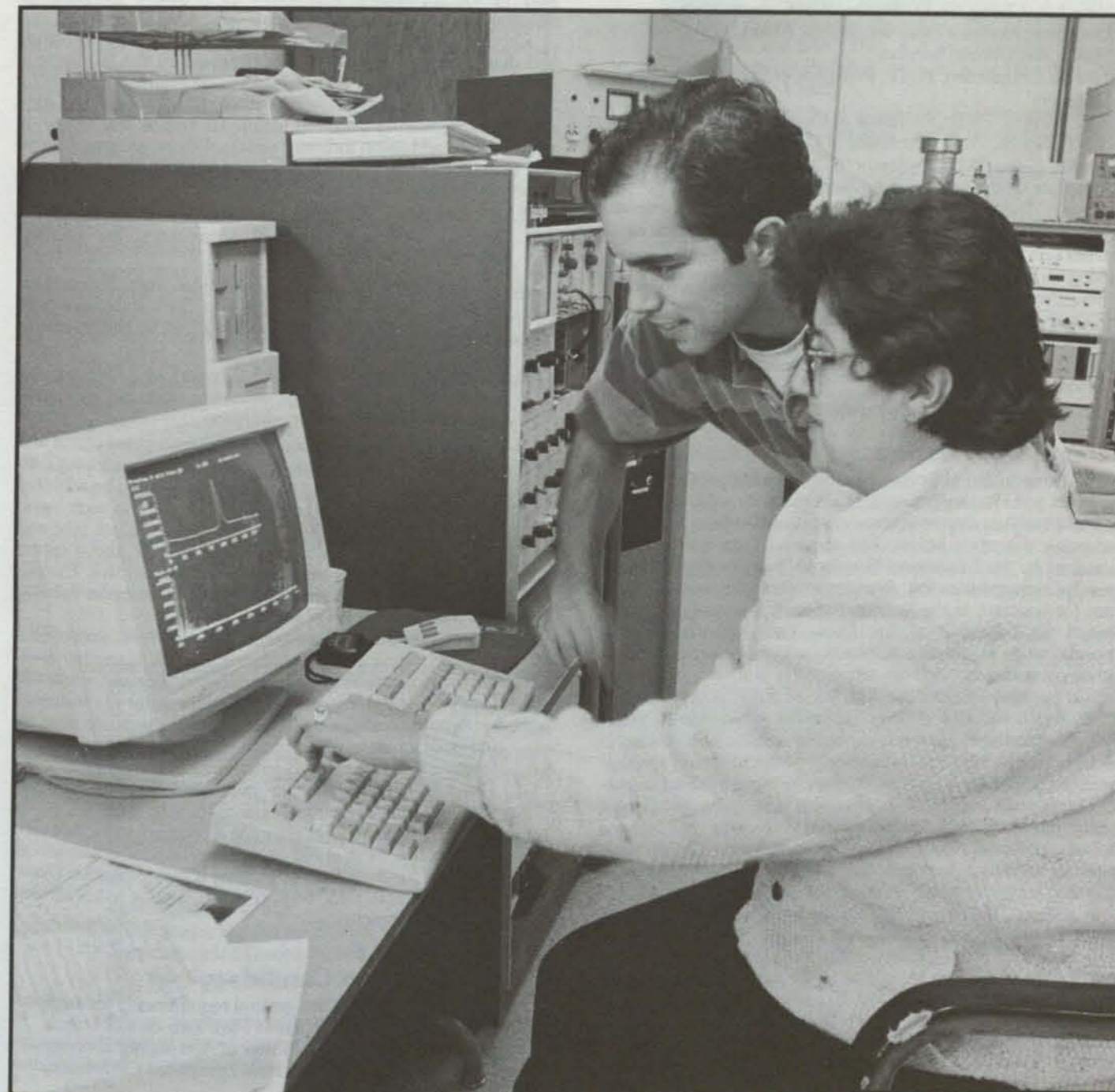
899. Doctoral Dissertation (3-6) Cr/NC/SP

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

Preparation of the dissertation for the doctoral degree. Enrollment is required during the term in which the dissertation is approved.

City Planning

Refer to the section on Public Administration and Urban Studies.



Communicative Disorders

In the College of Health and Human Services

OFFICE: Communications Clinic 118
TELEPHONE: (619) 594-6774

Faculty

Steven J. Kramer, Ph.D., Professor of Communicative Disorders, Chair of Department
Elizabeth J. Allen, Ph.D., Professor of Communicative Disorders
Li-Rong Lilly Cheng, Ph.D., Professor of Communicative Disorders, Assistant Dean for Student Affairs, College of Health and Human Services
Kathie M. Christensen, Ph.D., Professor of Communicative Disorders
Alan C. Nichols, Ph.D., Professor of Communicative Disorders
Robert E. Novak, Ph.D., Professor of Communicative Disorders
Michael R. Seitz, Ph.D., Professor of Communicative Disorders, Graduate Coordinator and Adviser
Edmund L. Thile, Ph.D., Professor of Communicative Disorders
Donna J. Thal, Ph.D., Associate Professor of Communicative Disorders
Darlene G. Davies, Ed.S., Assistant Professor of Communicative Disorders
Vera Gutierrez-Clellen, Ph.D., Assistant Professor of Communicative Disorders
Diane R. Williams, M.A., Assistant Professor of Communicative Disorders

General Information

The Department of Communicative Disorders, in the College of Health and Human Services, offers graduate study leading to the Master of Arts degree in communicative disorders, and to the credentials described below. The master's degree program is accredited by the Educational Standards Board of the American Speech-Language-Hearing Association, and the training program for teachers of the hearing impaired is accredited by the Council on Education of the Deaf. The department offers advanced study in speech and hearing science, speech-language pathology, audiology, and education of the deaf.

The programs utilize the facilities of the Communications Clinic, which includes observation rooms, departmental reference collection, and speech and hearing science laboratories. In the laboratories, students use personal computers, microprocessor based diagnostic audiometers, spectral signal analyzer, acoustic immittance equipment, hearing aid analyzer, digital spectrograph, Visipitch, phonic mirror, state-of-the-art ENG and evoked potential equipment, miniphonators, audiometric response simulators, laryngoscopic manikin, and audio and video recording equipment with ongoing new acquisitions.

In addition, the department utilizes an off-campus multidisciplinary diagnostic and rehabilitation center. Students and faculty participate in providing direct delivery of clinical services to clients, jointly participate in central intake activities (a multidisciplinary assessment program) and the assistive devices assessment program, which evaluates, selects and trains multihandicapped individuals to help them communicate more effectively. Field experience is offered in the public schools and community agencies. Practicum and observation experiences are possible at vari-

ous hospitals, schools, community agencies, convalescent homes, and rehabilitation agencies.

Admission to Graduate Study

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

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

1. In considering the candidate's **statement of purpose**, content, style and clarity of presentation are primary points.
2. Three **letters of recommendation** from appropriate persons who can and do attest to the candidate's high potential for graduate study are required by the reviewing faculty.
3. A **grade point average** of 3.0 overall or 3.5 during the last 60 units of college or university study will be necessary for consideration for admission.
4. A **GRE General Test** score of 950 (combined verbal and quantitative) is a criterion for admission. Candidates with high grade point averages, 3.5 or above, may be admitted conditionally if the 950 criterion is not met. In such cases, the condition of admission is that the candidate take and pass the GRE with a total score of 950 or above during the first semester of residence in the department. Continuation in the program may be contingent upon fulfilling this condition.

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

A postbaccalaureate level credential candidate must be reviewed for classified or conditionally classified postbaccalaureate standing prior to enrollment in clinical practicum. The following courses are controlled for this purpose: Communicative Disorders 526, 545, 546, 556.

All transfer students planning a program to include clinical practica must enroll in the appropriate practicum as specified for their field of interest (Communicative Disorders 357, 526, 545, 546, 556, 618) prior to enrollment in graduate practica.

Advancement to Candidacy

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

Specific Requirements for the Master of Arts Degree

(Major Code: 12201)

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

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

- A. **Concentration in Speech-Language Pathology.** This concentration has a clinical focus and may be used to satisfy some of the academic preparation for the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language-Hearing Association and for licensure from the State of California. Students are required to complete coursework in all of the following areas:
- a. Voice Disorders
 - b. Fluency Disorders
 - c. Articulation/Phonology Disorders
 - d. Adult Language Disorders
 - e. Child Language Disorders

The coursework may be taken during undergraduate or graduate preparation.

Undergraduate Preparation. Communicative Disorders 106, 205, 320, 321, 322, 340, 340L, 500, 501, 511, 512, 513, 517, 539; Physics 201; Psychology 270.

Graduate Program. Research component: Communicative Disorders 600; Plan A (Communicative Disorders 799A) or Plan B (Communicative Disorders 797 and 798). Speech Science component: Communicative Disorders 601 or 654. Speech-Language Pathology Component: Twenty-one units of electives selected from at least three of the following areas with the approval of a faculty adviser:

- a. Speech: Communicative Disorders 605, 606, 607.
- b. Language: Communicative Disorders 602, 613, 614, 675.
- c. Physiologically Based Disorders: Communicative Disorders 603, 604, 608.
- d. Multicultural/Multilingual Speech-Language Disorders: Communicative Disorders 568, 671, 672, 673.
- e. General: Communicative Disorders 580, 630, 670, 696, 798.

Students electing to pursue the Certificate of Clinical Competence should complete, in addition to the required courses listed above, the required clinic courses or clinic hours.

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

Undergraduate Preparation. Undergraduate preparation to include courses equivalent to the following offered at San Diego State University: Communicative Disorders 106, 110, 205, 320, 321, 322, 340, 340L, 500, 511, 512, 513, 517, 542; Physics 201; Psychology 260, 270.

Graduate Program. Required courses (24 units) to include: Communicative Disorders 600, 610, 611, 640, 644, 647, and 648*; Plan A (Communicative Disorders 799A-3 units) or Plan B (Communicative Disorders 797-2 units and 798-1 unit).

Electives (6 units) selected from Communicative Disorders 500, 600 and 700 level courses selected with consent of the student's adviser.

Students electing to pursue the Certificate of Clinical Competence should complete in addition to the above courses the required clinic courses or clinic hours.

* Additional prerequisites required.

- C. **Concentration in Education of the Deaf.** This concentration has a clinical/educational focus and may be used to satisfy some of the academic preparation for certification by the Council on Education of the Deaf and for a credential from the State of California.

Undergraduate Preparation. Communicative Disorders 106, 110, 205, 320, 321, 340, 340L, 357, 358; Physics 201; Psychology 101, 260, 270.

Graduate Program. Required courses: Communicative Disorders 568, 600, 613 or 648, 657, 658, 659 and Plan A (799A), or Plan B (797-2 units and 798-1 unit).

Electives courses: Ten units selected from Communicative Disorders 513, 562, 601 or 654, 655, 798, Special Education 500 or 501. (Note: 300 hours of practicum are required for CED national certification.)

Competency in communication with deaf persons must be demonstrated, including oral and manual modes.

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

Undergraduate Program. Communicative Disorders 106, 205, 320, 321, 340, 340L, 512, 539, 547; Physics 201; Psychology 260, 270.

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

Electives (15 units) selected from 500, 600 and 700 level courses with consent of the student's adviser. Recommended options include Communicative Disorders 602, 603, 604, 605, 606, 607, 610, 644, 647, 648, 657, 798; up to six units of appropriate 500, 600 and

700 numbered courses from engineering, linguistics, physics, psychology, or other departments may be included in the fifteen units of electives with the approval of the department's graduate committee.

Credentials

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

Each credential has designated areas of specialization. Students wishing to prepare to be teachers of the deaf or deaf-blind are obliged to meet the requirements of the CH credential. Students preparing to serve as school audiologists must follow the C-RS credential program. Students desiring preparation as itinerant language, speech and hearing specialists or as classroom teachers of severe language handicapped (or aphasic) (Special Class Authorization-SCA) pupils may pursue either the CH or C-RS Credential Program.

A master's degree will be required of all candidates graduating with a credential.

Special Education Specialist Credential for the Communication Handicapped (Credential Code: 00461)

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

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

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

Admission Requirements

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

- or -

A basic teaching credential. Students should consult with appropriate advisers in the College of Education for specific requirements.

4. Students applying to the program at the postbaccalaureate level must satisfy the admission requirements of the department for classified graduate standing.
5. Completion of Special Education 500 and 501.

Program

Persons interested in the Special Education Specialist Credential shall:

1. Concurrently or prior to completion of the specialist credential, complete the single subject credential (preliminary or clear) or the multiple subject credential (preliminary or clear). Students may choose to:
 - a) Major in Liberal Studies (offered by the College of Education) in conjunction with specified communicative disorders courses.
 - b) Pursue a departmental major; complete specified prerequisites for the College of Education; pass the National Teacher Examination prior to entering the College of Education professional education sequence.
2. Complete a minimum of one year of study, including:
 - (a) The Special Education generic coursework: Special Education 500, 501.
 - (b) Courses outside of the Department of Communicative Disorders, including: Psychology 101, 260; Physics 201.
 - (c) Advanced work in the area of specialization in the Department of Communicative Disorders, including:
 - (1) Communication Handicapped Specialization generic coursework Communicative Disorders 106, 205, 320, 321, 322, 340, 340L, 358, 500, 511, 512, 513, 568 or 671 or 673 and 953*.
 - (2) Additional coursework required for the specific area of emphasis within the Credential (Severe Oral Language, Deaf, Deaf-Blind, Speech and Hearing) selected by the student in conjunction with adviser.
3. A minimum of 30 postbaccalaureate semester units which must include the courses for a master's degree, is required of all candidates.

* Additional prerequisites required for this course.

Clinical-Rehabilitative Services Credential (Credential Code: 00900)

Clinical-Rehabilitative Services (C-RS) Credentials are available in the following areas:

- Language, Speech and Hearing (LSH)
- Audiology
- Severe Language Handicapped/Aphasic (SLH) (Special Class Authorization) (SCA)

A minimum of 30 postbaccalaureate semester units which must include the courses for a master's degree, is required of all candidates. The following generic courses in Communicative Disorders are required: Communicative Disorders 106, 110, 205, 320, 321, 322, 340, 340L, 341, 500, 511, 517, 525, 526, 546, 630, and 671 or 673. Courses from other departments include Psychology 101 or Sociology 101; Psychology 260 or Biology 150; Psychology 330; Family Studies and Consumer Sciences 271* or 697*; Physics 201; and Special Education 500 and 596*.

The Advanced Specialization Program in Language, Speech and Hearing (LSH) requires the following additional courses: Communicative Disorders 501, 505, 512, 513, 614, 618, 619 or 676, 626, 929 and 933. Courses from other departments include Linguistics 553.

The Severe Language Handicapped (SLH) credential requires the following courses within the department in addition to those required for the LSH credential: Communicative Disorders 655, 929, and 933 (SLH class placement). Courses in other departments include Teacher Education 637, 638, 910A, 930A; Special Education 501.

In addition to the generic program, the Advanced Specialization Program in Audiology requires the following courses within the Department of Communicative Disorders: Communicative Disorders 358, 512, 513, 542, 545, 547, 550, 600*, 610, 611, 644, 647, 648, 656*, 657, 929, and 933.

Prerequisites not required for students in this credential.

* Consent of instructor.

+ See Department Credential Coordinator for options.

Certificates and Licensure

Preparation Leading to the Certificate of Clinical Competence from the American Speech-Language Hearing Association

Students may complete the academic and clinical practice requirements leading to the Certificate of Clinical Competence in Speech-Language Pathology (CCC-Sp) or to the Certificate of Clinical Competence in Audiology (CCC-A) given by the American Speech-Language-Hearing Association (ASHA). The certificate requires 60 units of coursework, 30 units of which must be completed at the graduate level; 300 clock hours of supervised clinical experience, 150 hours of which must be completed at the graduate level; a clinical fellowship year; and a national examination. The academic and practica requirements must meet certain specifications. Consult an adviser in the area in which certification is desired for specific information.

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

Students may complete the academic and practica requirements leading to the Professional Certificate given by the Council on Education of the Deaf. The Professional Certificate requires a specific pattern of courses and teaching experiences. Consult an adviser in the Program for Education of the Deaf for more information.

Preparation Leading to State Licensure in Speech Pathology or Audiology

Students may complete the academic and clinical practicum requirements leading to California State Licensure in Speech Pathology or in Audiology, a legal requirement for all individuals professionally employed in non-public school settings. The Speech Pathology and Audiology Examining Committee which operates within the California State Board of Medical Quality Assurance requires evidence of completion of 24 semester hours of coursework in the area (Speech Pathology or Audiology) in which the license is to be granted, 275 clock hours of clinical experience, nine months of full-time experience (Required Professional Experience), and a national examination. Most Licensure and ASHA Certification requirements may be fulfilled concurrently. Consult an adviser in the area in which licensure is desired for specific information.

Liability Insurance

Students enrolled in Communicative Disorders 340L, 341, 526, 545, 546, 556, 626, 645, 646, 656, 933 are required to purchase professional liability insurance.

Professional Services Bilingual/Multicultural Certificate

The Professional Services Bilingual/Multicultural Certificate in Communicative Disorders is designed primarily for persons who plan to work with bilingual populations with communicative disorders.

To be a candidate for the certificate, the student must be actively seeking or have completed a credential or degree program in communicative disorders since the certificate is coordinated with these endeavors. Candidates seeking admission to the certificate program must present acceptable GRE scores and schedule an interview with the departmental certificate coordinator to ascertain specific requirements and units. They must demonstrate a proficiency in two languages (English and one other) and satisfy admission requirements of the University and the department as listed in the Graduate Bulletin. The certificate is limited to those languages for which there is an available clinical population. Consult the certificate coordinator for approved languages.

The certificate program requires completion of 13 units including nine units of substantive coursework and four units of graduate practicum with the targeted bilingual/multicultural population. The certificate is competency based and up to three units of specific requirements may be waived upon demonstration of competency. Course requirements include Communicative Disorders 671, 672, 673 or three units of 798 in a target language other than Spanish or English.

With the approval of the department, a student may apply no more than three units of coursework from the certificate program toward a master's degree.

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

UPPER DIVISION COURSES

500. Language Structure (3)

Prerequisites: Communicative Disorders 106 and 320. Recommended: Linguistics 101.

Systematic study of the design features of language as they relate to communication behavior. Focus on role of language structure in disordered communication.

501. Voice Disorders: Children (3)

Two lectures and three hours of laboratory.

Prerequisite: Communicative Disorders 321.

Theory and practice in the remediation of voice disorders. Laboratory involves measurements of vocal dimensions and perceptual training for diagnosis and remediation of voice disorders.

505. Remediation for Fluency Disorders in School-Aged Children (3)

Prerequisite: Communicative Disorders 322.

Theoretical and phenomenological understanding of stuttering as a communicative disorder; explanations for learning of dysfluent behaviors; applied techniques in rehabilitation for school-aged children with dysfluent speech. (Formerly numbered Communicative Disorders 422.)

511. Speech Reading and Auditory Training (3)

Prerequisites: Communicative Disorders 320 and 340; competency examination. Recommended: Communicative Disorders 357, 500 and 513.

Theory and methods of speech reading; auditory rehabilitation methods including survey of amplification systems.

512. Articulation Disorders and Methods (3)

Prerequisites: Communicative Disorders 320, 321, and 340.

Significant theories and research in prevention and remediation of articulatory disorders. Includes emphases on speech habilitation of hearing impaired, cognitive and motor processing.

513. Language Disorders and Methods (3) I, II

Prerequisites: Communicative Disorders 320, 321, 340, 500.

Theories and research in language acquisition and language disorders. Assessment of, and intervention with, language impaired children, including hearing impaired individuals.

517. Diagnostic Methods in Speech-Language Pathology (3)

Prerequisites: Grade of C or better in Communicative Disorders 512, 513.

Principles and procedures in assessing communication disorders in children and adults. Includes case histories, testing, materials, interviewing, clinical reporting and practice with selected assessment tools. Twelve hours of observation of diagnostic practicum required.

525. Introductory Clinical Practice (1)

Eight hours of orientation; thereafter two hours of practicum and one hour of staffing per week.

Prerequisites: Consent of department; Communicative Disorders 110 and grades of C or better in Communicative Disorders 512, 513, 517.

Orientation to the clinic, supervised observation, and practicum with representative speech and language problems.

526. Clinical Practice in Speech-Language Pathology (1-2) I, II, S

Two hours of practicum and one hour of staffing.

Prerequisites: Consent of department; Communicative Disorders 110; and grade of C or better in Communicative Disorders 512, 513, 517, and 525.

Supervised practice with representative speech and language problems. Up to two units may be taken concurrently; maximum credit two units. One unit represents 26 hours of direct clinical practice. Qualified transfer students must enroll in at least one unit of 526 prior to 626.

539. Neuropathologies of Speech, Hearing and Language (3)

Prerequisites: Communicative Disorders 321 and 340.

Research and theory concerning the nature, etiologies and principles of treatment of disorders of speech, hearing and language resulting from pathologies of the nervous system.

540. Hearing Conservation and Audiometry for School Nurses (3)

Prerequisite: Registered nurse.

Builds on registered nurse's knowledge of anatomy, physiology, and medical surgical treatment of disease as it relates to auditory mechanism. Designed to give background in hearing screening (pure tone and impedance) and awareness of ramifications of hearing loss in children necessary for referral and follow-

up. Fulfills three-unit requirement for the School Nurse Credential and may be used toward the six-unit State Audiometric Certificate requirement. Not open to students with credit in Communicative Disorders 205, 340, 341.

542. Audiometry: Application (3)

Prerequisite: Communicative Disorders 340L.

Pure tone and speech audiometry; masking; impedance audiometry; tests for nonorganic and for sensorineural hearing loss; reporting test results; audiometer calibration.

545. Clinical Practice in Audiologic Assessment (1-3) I, II, S

Three hours of laboratory.

Prerequisite: Grade of C or better in Communicative Disorders 542.

Supervised practicum with pure tone, speech, and special audiologic testing and with hearing aid evaluation. One unit represents two hours of clinical contact and one hour of staffing per week. Up to three units may be taken concurrently; maximum credit three units.

546. Clinical Practice with Hard of Hearing (1) I, II, S

Three hours of laboratory.

Prerequisites: Grade of C or better in Communicative Disorders 511, 512, 513.

Supervised practicum in aural habilitation with hard of hearing clients. One unit represents two hours of clinical contact and one hour of staffing per week. Up to three units may be taken concurrently; maximum credit three units.

547. Hearing Conservation (2-3) II

Prerequisite: Communicative Disorders 340L.

Module I: Core information (noise measurement, analysis, reduction; its effect on hearing conservation); application to school hearing conservation programs. (2 units.)

Module II: Damage risk criteria and methods of hearing protection; application of core information to industrial settings. (1 unit.)

Students may elect Module I (2 units) or Modules I and II (3 units).

550. Education of the Hearing Impaired (3) II

Prerequisites: Communicative Disorders 106 and 350.

Educational programs, services and resources for hearing impaired; historical background, philosophy, sociological and psychological problems.

556. Clinical Practice with the Deaf (1) I, II, S

Three hours of laboratory.

Prerequisites: Communicative Disorders 357, 358; credit in two of the following and concurrent registration in the third: Communicative Disorders 511, 512, 513. Admission to clinical practicum includes successful completion of competency examination.

Supervised therapy with representative problems found in the hearing impaired population. Maximum one unit first semester; maximum credit two units.

558. Advanced Sign Language (2) I, II

Prerequisite: Communicative Disorders 458.

Theory of sign language for the classroom interpreter. Emphasis on conceptual sign, signed idioms and appropriate usage for the academic setting.

562. Oral Communication for the Hearing Impaired (3)

Prerequisites: Communicative Disorders 512 and 550.

Current methods for developing oral/aural communication skills with hearing-impaired children and youth. Differential problems of acquisition of communicative competence. Assessment and intervention procedures for classroom and clinical settings.

568. Multicultural Perspectives in Communication with Deaf Individuals (2)

Prerequisite: Demonstrate intermediate competence in American Sign Language, spoken Spanish or spoken Mandarin.

Review and analysis of research in multicultural lifespan communication processes in deaf individuals. Emphasis on communication needs in health care, public school and informal social settings.

580. Communication Problems of the Aging (3)

Prerequisite: Twelve upper division units in an appropriate major.

Normal communication processes and aging, including memory and cognition for speech and language, and physiological changes; speech and language pathologies; hearing problems and rehabilitation, including hearing aids, psychosocial aspects of communication, including family dynamics; and resources available within the community. Open to majors and nonmajors.

596. Selected Topics in Communicative Disorders and Science (1-4) I, II, S

Prerequisite: Twelve units in communicative disorders and science courses.

Specialized study of selected topics from the area of speech-language pathology, audiology, education of the hearing impaired, and speech and hearing science. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596. Maximum credit of three units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

600. Research and Bibliography (3)

Two lectures and three hours of laboratory.

Prerequisites: Undergraduate major or equivalent in communicative disorders or communicative sciences; Psychology 270; and concurrent enrollment in SPSS workshop or other comparable computer workshop.

Bibliographic techniques. Methods and exposition of research in the fields of speech pathology, audiology, deaf education and speech and hearing sciences. Recommended for the first semester of graduate work, and prerequisite to advancement to candidacy.

601. Seminar in Speech and Hearing Science (3)

Prerequisite: Classified graduate standing.

Instrumentation and measurement techniques in communicative disorders and sciences. Techniques applied to the specific clinical and research areas of speech, hearing and language.

602. Adult Language Disorders (3)

Prerequisite: Communicative Disorders 539. Recommended: Communicative Disorders 500 and 513.

Research in diagnosis and therapy for adults with disorders of symbolization and syntax.

603. Seminar in Neurophysiological Communication Disorders (3)

Prerequisite: Communicative Disorders 539.

Research in diagnosis and theories of treatment for persons with speech and language disorders associated with cerebral palsy and other neurophysiological disorders.

604. Seminar in Craniofacial Disorders (3)

Prerequisites: Communicative Disorders 321, 340; and 50 hours of supervised practicum. Recommended: Concurrent registration in Communicative Disorders 626.

Review of research in diagnosis and therapy for persons with cleft palate and other craniofacial disorders.

605. Seminar in Fluency Disorders (3)

Prerequisite: Communicative Disorders 322. Recommended: Concurrent enrollment in Communicative Disorders 626.

Differential diagnosis of stuttering. Individual and group therapy for children and adults with dysfluency problems.

606. Seminar in Voice Pathology (3)

Prerequisites: Communicative Disorders 321 and 501. Concurrent registration in Communicative Disorders 626.

Study of voice problems of structural and functional etiologies. Differential diagnosis of vocal anomalies. Theories and therapy for vocal problems.

607. Phonological Disorders (3)

Prerequisites: Communicative Disorders 512, 517, 526. Recommended: Concurrent registration in Communicative Disorders 626.

Applications of phonological principles and procedures for evaluation and remediation of unintelligible speech patterns in children.

608. Motor Speech Disorders (3)

Prerequisite: Communicative Disorders 539.

Dysarthria and apraxia of speech. Techniques of differential diagnosis and treatment of these motor speech disorders. (Formerly numbered Communicative Disorders 560.)

610. Hearing Amplification (3) I

Prerequisites: Communicative Disorders 340 and 542.

Hearing aid components, functions, trouble shooting and client orientation. Hearing aid evaluations, fittings, and electroacoustical hearing aid analysis. (Formerly numbered Communicative Disorders 543.)

611. Aural Rehabilitation (3)

Prerequisite: Communicative Disorders 511. Recommended: Communicative Disorders 546 and 610.

Technological, theoretical, and methodological issues related to the habilitation and rehabilitation of hearing impaired children and adults.

613. Child Language Disorders (3)

Prerequisite: Communicative Disorders 539. Recommended: Communicative Disorders 500 and 513.

Research in diagnosis and treatment for children with disorders of symbolization. Not open to students with credit in Communicative Disorders 602, Child Language.

614. School Age Children Language Development and Disorders (3)

Prerequisite: Communicative Disorders 526.

Contrastive study of normal and disordered language development in children five years through adolescence, including syntax, semantics, pragmatics, figurative language and metalinguistics. Integration of assessment and intervention for language disorders and associated speech and language based reading and writing disorders. Not open to students with credit in Communicative Disorders 554A, 554B, 554C.

618. Diagnostic Practicum in Speech-Language Pathology (1)

Six hours of supervision.

Prerequisites: Grade of C or better in Communicative Disorders 517 and 526.

Supervised clinical practice in diagnostic methods. (Formerly numbered Communicative Disorders 518 and 528.)

619. Diagnostic Practicum in Communicative Disorders: Multidisciplinary Assessment (1)

Six hours of supervision.

Prerequisites: Grade of C or better in Communicative Disorders 517. Credit or concurrent registration in Communicative Disorders 526.

Participation in central intake process of SDSU Interdisciplinary Center for Health and Human Services, including diagnostic team assessments and staffings. (Formerly numbered Communicative Disorders 519 and 528L.)

626. Advanced Clinical Practice in Speech-Language Pathology (1-3)

Three hours of supervision per unit.

Prerequisites: Communicative Disorders 340, 526, and departmental approval.

Supervised work with representative advanced speech and language disabilities. Twenty-six hours of practicum required per unit. Maximum credit four units. Up to three units may be taken concurrently.

627. Advanced Field Clinical Practice in Speech-Language Pathology (1-3) Cr/NC

Three hours of laboratory per unit.

Prerequisite: Communicative Disorders 626.

Supervised practice with speech and language problems. One unit represents 26 hours of direct clinical practice. Maximum credit four units. Up to three units may be taken concurrently.

630. Family Communication Dynamics (3)

Prerequisites: Communicative Disorders 322 and 526.

Communication environment in the home. Parent-child interaction in relation to origin and alleviation of functional and organic speech disorders. (Formerly numbered Communicative Disorders 530.)

640. Seminar in Psychoacoustics (3)

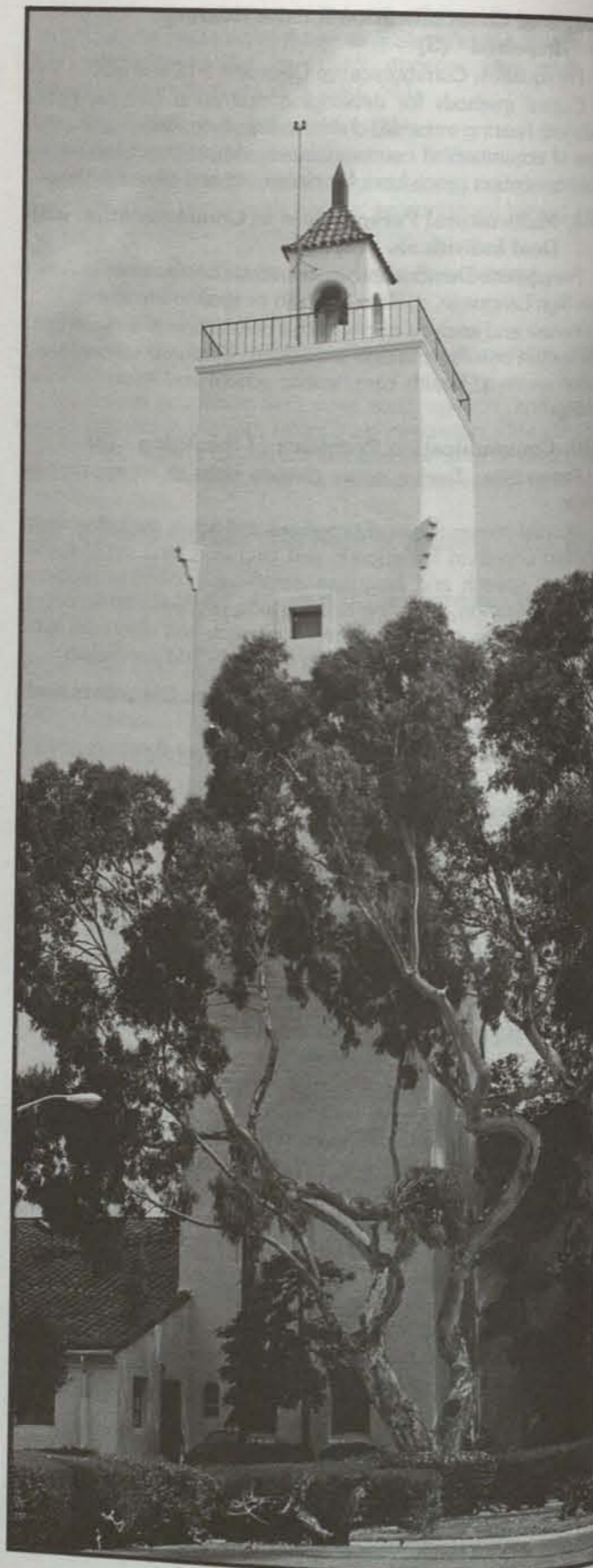
Prerequisites: Communicative Disorders 542 and credit or concurrent registration in Communicative Disorders 600.

Psychophysical concepts underlying clinical audiology. Relationship of audiologic test results to the conditions under which they were obtained.

644. Medical Audiology (3)

Prerequisites: Communicative Disorders 542 and credit or concurrent registration in Communicative Disorders 600. Recommended: Communicative Disorders 640.

Problems of diagnosis, referral and report writing. Testing in medical setting and medically significant hearing pathologies.

**645. Advanced Clinical Practice in Audiologic Assessment (1-2) Cr/NC**

Three hours of laboratory.

Prerequisite: Communicative Disorders 545.

Advanced casework in hearing evaluation. Maximum credit four units. Up to two units may be taken concurrently.

646. Advanced Clinical Practice with Hard of Hearing (1) Cr/NC

Three hours of laboratory.

Prerequisites: A minimum of two units in Communicative Disorders 526, 546 and/or 626. Recommended: Credit or concurrent registration in Communicative Disorders 512, 513, and 610.

Supervised practice with problem hearing cases. Maximum credit four units. Up to two units may be taken concurrently.

647. Auditory Evoked Potentials and Electronystagmography (3)

Prerequisite: Credit or concurrent registration in Communicative Disorders 600.

Theoretical and practical aspects of auditory evoked potentials, e.g., ABR, MLR, late potentials, and electronystagmography (ENG). (Formerly numbered Communicative Disorders 649.)

647L. Applications of Electrophysiologic Techniques (2)

Six hours of supervised laboratory experience.

Prerequisite: Communicative Disorders 647.

Supervised experience in performing electrophysiologic tests, e.g., auditory evoked potentials and ENG. Emphasis on equipment operation, test procedures, and interpretation of responses. Applies material covered in Communicative Disorders 647.

648. Pediatric Audiology (3)

Prerequisite: Credit or concurrent registration in Communicative Disorders 600.

Auditory assessment techniques for infants and young children. Embryology of auditory system; development of auditory behavior. (Formerly numbered Communicative Disorders 649.)

654. Seminar in Physiological Phonetics (3)

Prerequisite: Communicative Disorders 512.

Physiology underlying the production of continuous speech, including transitional movements, based on a syllabic concept.

655. Curriculum for the Communicatively Handicapped (3)

Prerequisites: Communicative Disorders 512 and 513; Communicative Disorders 526 or 556.

Application of cognitive processing theory to development and evaluation of curriculum, materials, and procedures; selection of learning modalities and appropriate modification of curriculum. (Formerly numbered Communicative Disorders 555 and Special Education 575.)

656. Advanced Clinical Practice with the Deaf (1) Cr/NC

Three hours of laboratory.

Prerequisites: Communicative Disorders 511, 512, 513, 556.

Supervised clinic practicum at an advanced level with representative deaf cases. Maximum two units per semester; maximum credit four units.

657. Seminar in Differential Diagnosis of the Hearing Impaired (3)

Prerequisites: Communicative Disorders 511, and 626, 646, or 656. Recommended: Concurrent registration in Communicative Disorders 656.

Diagnosis of multiple-handicapped, hearing impaired children; including clinical teaching, critical overview of assessment methods, materials and equipment, prognosis, current philosophies and trends.

658. Seminar in Deafness (3)

Prerequisites: Communicative Disorders 550 and 556.

Problems of deafness, evaluation of research, interdisciplinary approach to aural habilitation. Offered every other year. See Class Schedule for specific content and semester offered.

659. Seminar in Education of Deaf-Blind Children and Youth (3)

Prerequisite: Communicative Disorders 656.

Interdisciplinary approach to education of deaf-blind children and youth. Development of communicative competence. Offered in alternate years. See Class Schedule for specific content and semester offered.

670. Seminar in Professional Issues in Communicative Disorders (3)

Prerequisite: Credit or concurrent registration in Communicative Disorders 600.

Ethical and legal issues, practice standards, employment and business consideration (including hearing aid dispensing), supervision, and private practice.

671. Assessing the Bilingual Child with Communicative Disorders (3)

Prerequisites: Communicative Disorders 500 and Linguistics 553.

Assessment procedures applicable for bilingual child with communicative disorders. Consideration of available instruments, appropriateness for target populations and validity of adaptations. (Formerly numbered Communicative Disorders 571.)

672. Seminar in Remediation of Communicative Disorders in the Bilingual Population (3)

Prerequisite: Communicative Disorders 671.

Intervention strategies and procedures for bilingual individuals with communicative disorders. Selection criteria, factors influencing planning, program models and specific procedures for different ethnic groups and types of communicative disorders. (Formerly numbered Communicative Disorders 572.)

673. Seminar in Communicative Disorders in Bilingual Spanish-English Populations (3)

Prerequisites: Communicative Disorders 500 and demonstrated Spanish language competence.

Normal and atypical Spanish language development applied to assessment and treatment of communication disorders in bilingual and monolingual Spanish populations. Alternative assessment and intervention methodologies relevant to the clinical management of individuals from Spanish-speaking backgrounds.

675. Augmentative Communication (3)

Prerequisites: Communicative Disorders 500 and 526 or 546.

Alternative and augmentative approaches, strategies and technology for individuals with severe communication impairments. Assessment and intervention. Project required. (Formerly numbered Communicative Disorders 565.)

676. Assistive Device Program for Communicatively Handicapped (2)

Prerequisite: Communicative Disorders 618.

Assessment of communication skills of disabled individuals, environmental needs and appropriateness of augmentative communication aids. Remediation recommendations. Maximum credit four units. (Formerly numbered Communicative Disorders 566.)

696. Selected Topics in Communicative Disorders and Sciences (1-3)

Prerequisite: Graduate standing.

Intensive study in specific areas of audiology, education of hearing impaired, speech and hearing science, and speech-language pathology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

797. Research (2) Cr/NC/SP

Prerequisites: Advancement to candidacy and consent of the graduate adviser.

Research in speech-language pathology, deaf education or audiology. Maximum credit two units applicable to a master's degree. Participation in the department's professional development seminar is required unless waived by the coordinator of the graduate program.

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

Prerequisites: Communicative Disorders 600 and consent of staff, to be arranged with department chair and instructor.

Individual study. Maximum credit six units applicable to a master's degree.

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

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

Preparation of a project or thesis for the master's degree. Participation in the department's professional development seminar is required unless waived by the coordinator of the graduate program.

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

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

Registration required in any semester or term following assignment of SP in Course 799A in which the student expects to use the facilities and resources of the university; also student must be registered in the course when the completed thesis or project is granted final approval. Participation in the department's professional development seminar is required unless waived by the coordinator of the graduate program.

929. Orientation to Public School Practicum (1)

Prerequisites: Communicative Disorders 517. Minimum of 100 hours of supervised clinical practicum and departmental approval. Concurrent registration in Communicative Disorders 933 or 953.

Goals, materials and procedures for organizing and administering speech, language and hearing programs in the school. (Formerly numbered Communicative Disorders 529.)

933. Clinical Practice in Public Schools (4 or 5) I, II Cr/NC

Prerequisites: Credit or concurrent registration in Communicative Disorders 929; four units of practica; postbaccalaureate standing; California Basic Education Skills Test; Certificate of Clearance; departmental approval prior to admission.

Clinical practice in elementary or secondary schools or community colleges in speech-language pathology or audiology. Applies only toward the Clinical-Rehabilitative Services Credential (C-RS) or for the Certificate of Clinical Competency in Speech-Language Pathology (ASHA). Enroll in Communicative Disorders 933A for the Language, Speech and Hearing Credential (LSH). Candidates seeking the Special Class Authorization or Severe Language Handicap (SLH) Credential must enroll in both sections Communicative Disorders 933A and 933B, sequentially or concurrently. (Formerly numbered Communicative Disorders 433.)

A. Clinical Practice in the Public Schools: Language, Speech and Hearing, 4 units (120 clock hours).

B. Clinical Practice in the Public Schools: Severe Language Handicaps, 5 units (150 clock hours).

953. Directed Internship: Communication Handicapped (1-4) I, II Cr/NC

Prerequisites: Two units of Communicative Disorders 556 and one unit of Communicative Disorders 656 or Communicative Disorders 929 and four units of Communicative Disorders 526, 546, 626, 646. Basic teaching credential. Prior to admission applicants must receive departmental approval. Application to take course should be made during preceding semester.

Teaching in public school with exceptional individuals. Applies toward the Special Education Specialist Credential for the Communication Handicapped (Deaf, Deaf-Blind, Speech and Hearing or Severe Oral Language) and Certificate of Clinical Competence in Speech-Language Pathology or Professional Certificate from the Council on Education of the Deaf. Applicants should consult with coordinator of Speech-Language Pathology or coordinator of Education of Hearing Impaired for specific hour requirements. (Formerly numbered Communicative Disorders 453.)

OFFICE: Business Administration/Mathematics 203

TELEPHONE: (619) 594-6191

Faculty

John D. Elwin, Ph.D., Professor of Mathematical Sciences, Chair of Department

Kasi Anantha, Ph.D., Professor of Mathematical Sciences

Sara Baase, Ph.D., Professor of Mathematical Sciences

Leland L. Beck, Ph.D., Professor of Mathematical Sciences

John L. Carroll, Ph.D., Professor of Mathematical Sciences

John D. Donald, Ph.D., Professor of Mathematical Sciences

Nenad Marovac, Ph.D., Professor of Mathematical Sciences

Roman W. Swiniarski, Ph.D., Professor of Mathematical

Sciences

Marko I. Vuskovic, Ph.D., Professor of Mathematical Sciences

Carl F. Eckberg, Ph.D., Associate Professor of Mathematical

Sciences (M.S. Computer Science Graduate Adviser)

Kris Stewart, Ph.D., Associate Professor of Mathematical

Sciences

Mahmoud Tarokh, Ph.D., Associate Professor of Mathematical

Sciences

Vernor S. Vinge, Ph.D., Associate Professor of Mathematical

Sciences

Roger E. Whitney, Ph.D., Associate Professor of Mathematical

Sciences

Assistantships

Graduate teaching assistantships in computer science are available to a limited number of qualified students. Application blanks and additional information may be secured from the chair of the Department of Mathematical Sciences.

General Information

The Department of Mathematical Sciences, in the College of Sciences, offers graduate study leading to the Master of Science degree in computer science. The areas in which courses are offered include software, systems, architecture, artificial intelligence, and computer science theory.

Master's level research projects are available in the following areas of computer science: distributed systems, multiprocessing, operating systems, graphics, neural networks, formal languages, numerical methods, robotics, signal processing, and computational complexity. Specialized laboratories exist for microprocessor architecture, graphics, and robotics and intelligent machines.

Admission to Graduate Study

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

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, the student must have passed a qualifying examination in their area.

Computer Science

In the Department of Mathematical Sciences
In the College of Sciences

Specific Requirements for the Master of Science Degree in Computer Science

(Major Code: 07011)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must meet the following departmental requirements:

1. Complete a minimum of 30 units of 500-, 600-, and 700-level courses selected with the approval of the adviser. All programs must include at least 24 units chosen from computer science and mathematics, and satisfy the following requirements:

a. At least 15 units of graduate (600-700) courses (excluding 797, 798, 799A).

b. At least one course from each of the following:

Programming and Formal Languages: Computer Science 520, 524, 532, 620A, 620B, 624, 632.

Operating Systems and Architecture: Computer Science 572, 574, 576, 670, 672, 674, 678.

Algorithms and Complexity: Computer Science 562, 564, 660, 662, 664.

Applications and Other Topics: Computer Science 514, 550, 552, 553, 554, 555, 556, 558, 566, 650, 656, 700; Mathematics 542, 693A, 693B.

2. With departmental approval, students may select Plan A (thesis), and must complete 799A in accordance with departmental and University regulations. An oral examination on the subject of the thesis is required. Students selecting Plan B must pass written comprehensive examinations as determined by the department.

Courses Acceptable on Master's Degree Programs in Computer Science

UPPER DIVISION COURSES

514. Database Theory and Implementation (3)

Prerequisites: Computer Science 310 and Mathematics 245.

Database systems architecture. Storage structures and access techniques. Relational model, relational algebra and calculus, normalization of relations, hierarchical and network models. Current database systems.

520. Advanced Programming Languages (3)

Prerequisites: Computer Science 237, 310, and 320.

Object oriented programming, concurrent programming, logic programming. Implementation Issues.

524. Compiler Construction (3)

Prerequisites: Computer Science 237, 310, and 320.

Syntactical specification of languages. Scanners and parsers. Precedence grammars. Run-time storage organization. Code generation and optimization.

530. Systems Programming (3) I, II

Prerequisites: Computer Science 237 and 310.

Design and implementation of systems software. Relationship between software design and machine architecture. Topics from assemblers, loaders and linkers, macroprocessors, compilers, debuggers, editors. Introduction to software engineering. Large project required. Not acceptable for the M.S. degree in computer science.

532. Software Engineering (3)

Prerequisites: Computer Science 310 and 320.

Theory and methodology of programming complex computer software. Analysis, design, and implementation of programs. Team projects required.

550. Artificial Intelligence (3)

Prerequisites: Computer Science 108 and either Mathematics 245 or 523.

Heuristic approaches to problem solving. Systematic methods of search of the problem state space. Theorem proving by machine. Resolution principle and its applications.

552. Advanced Artificial Intelligence (3)

Prerequisites: Computer Science 310, 320, and 550.

Presentation of logic based programming languages and their usefulness in artificial intelligence, including areas such as expert systems and natural language translation. Implementation and use of chaining, recursion, lists. Substantial programming practice.

553. Neural Networks (3)

Prerequisites: Computer Science 320 and Mathematics 254. Principles of neural networks, their theory and applications.

554. Aspects of Interactive Computer Graphics (3)

Prerequisites: Computer Science 310 and Mathematics 254.

Theoretical and practical concepts and software requirements related to use of interactive computer graphics. Mathematical functions used in 3D graphics; data structures and languages both for programming graphical systems and for communication between a user and a graphical system.

555. Raster Computer Graphics (3)

Prerequisites: Computer Science 310 and 320.

Bit map graphics, algorithms to connect between different formats and enhancement of pictures.

556. Robotics: Mathematics, Programming, and Control (3)

Prerequisites: Computer Science 320; Mathematics 254; knowledge of the C programming language.

Robotic systems including manipulators, actuators, sensors, and controllers. Algebraic methods for spatial description of solid objects, manipulator kinematics and control. Robot programming languages and robot programming systems.

558. Computer Simulation (3)

Prerequisites: Computer Science 310 and Mathematics 550.

Methodology of simulation for discrete and continuous dynamic systems. State-of-the-art programming techniques and languages. Statistical aspects of simulation. Students will design, program, execute, and document a simulation of their choice.

560. Algorithms and Their Analysis (3) I, II

Prerequisites: Computer Science 310 and Mathematics 245.

Algorithms for solving frequently occurring problems. Analysis techniques, lower bounds. Sorting, merging, graph problems (shortest paths, depth-first and breadth-first search), and others. NP-complete problems. Not acceptable for the M.S. degree in Computer Science.

562. Automata Theory (3)

Prerequisite: Mathematics 245 or 521A.

Definition of finite automata. Classification of finite automaton definable languages. Minimization of finite automata. Nondeterministic finite automata. Sequential machines with output. Regular sets and expressions. Introduction to grammars.

564. Introduction to Computability (3)

Prerequisite: Mathematics 245 or 523.

Definition of algorithm by abstract (Turing) machines. Universal Turing machines. Primitive recursive and recursive functions. The equivalence of the computational power of Turing machines and recursive functions. Limitations and capabilities of computing machines; the halting problem.

566. Queuing Theory (3)

Prerequisites: Computer Science 108 and Mathematics 550.

Performance prediction of computer networks and other systems (e.g., inventory control, customer service lines) via queuing theory techniques. Operational analysis.

570. Operating Systems (3) I, II

Prerequisites: Computer Science 310, 370, and knowledge of the C programming language.

File systems, processes, CPU scheduling, concurrent programming, memory management, protection. Relationship between the operating system and underlying architecture.

572. Microprocessor Architecture (3)

Prerequisites: Computer Science 370 and knowledge of the C programming language.

Architecture of state-of-the-art microprocessor. Internal pipeline, internal cache, external cache and memory management. Programming a uniprocessor. Communication among computers in a distributed environment. Architecture and programming of a multiprocessor system.

574. Computer Security (3)

Prerequisites: Computer Science 310; Mathematics 245, 550; and credit or concurrent registration in Computer Science 570.

Principles of computer security and application of principles to operating systems, database systems, and computer networks. Topics include encryption techniques, access controls, and information flow controls.

575. Supercomputing for the Sciences (3)

Prerequisite: Extensive programming background in Fortran or C.

Interdisciplinary course, intended for all science and engineering majors. Advanced computing techniques developed for supercomputers. Overview of architecture, software tools, scientific computing and communications. Hands-on experience with CRAY.

576. Computer Networks and Distributed Systems (3)

Prerequisite: Credit or concurrent registration in Computer Science 570.

Local area networks and wide area networks; mechanisms for interprocess communication; rules for distribution of data and program functions.

596. Advanced Topics in Computer Science (1-4) I, II

Prerequisite: Consent of instructor.

Selected topics in computer science. May be repeated with the approval of the instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

For additional courses useful to computer scientists, see:

Mathematics 541. Introduction to Numerical Analysis and Computing
Mathematics 542. Introduction to Numerical Solutions of Differential Equations
Mathematics 561. Applied Graph Theory
Mathematics 579. Combinatorics

GRADUATE COURSES**620A. Formal Languages and Syntactic Analysis I (3)**

Prerequisites: Computer Science 310, 320 or 520, and 562.

Regular, context-free, context-sensitive, and general grammars. Corresponding machine model recognizers. Chomsky and Greibach normal forms. Closure, decidability and undecidability properties. (Formerly numbered Computer Science 691A.)

620B. Formal Languages and Syntactic Analysis II (3)

Prerequisite: Computer Science 620A.

Properties of deterministic context-free languages. Backtrack and matrix based general parsing techniques. LL(k) and LR(k) based parser generators. Precedence grammars. (Formerly numbered Computer Science 691B.)

624. Advanced Compiler Construction (3)

Prerequisite: Computer Science 524.

LR parsing. Attribute grammars and multipass translation. Intermediate representations. Global optimization. Global data flow analysis. Table compaction techniques. Syntactic error recovery and repair.

632. Advanced Software Engineering (3)

Prerequisite: Computer Science 532.

Theoretical and practical concepts associated with the specification, design, testing, and maintenance of large software systems. Use of automated tools in engineering such systems.

650. Seminar in Artificial Intelligence (3)

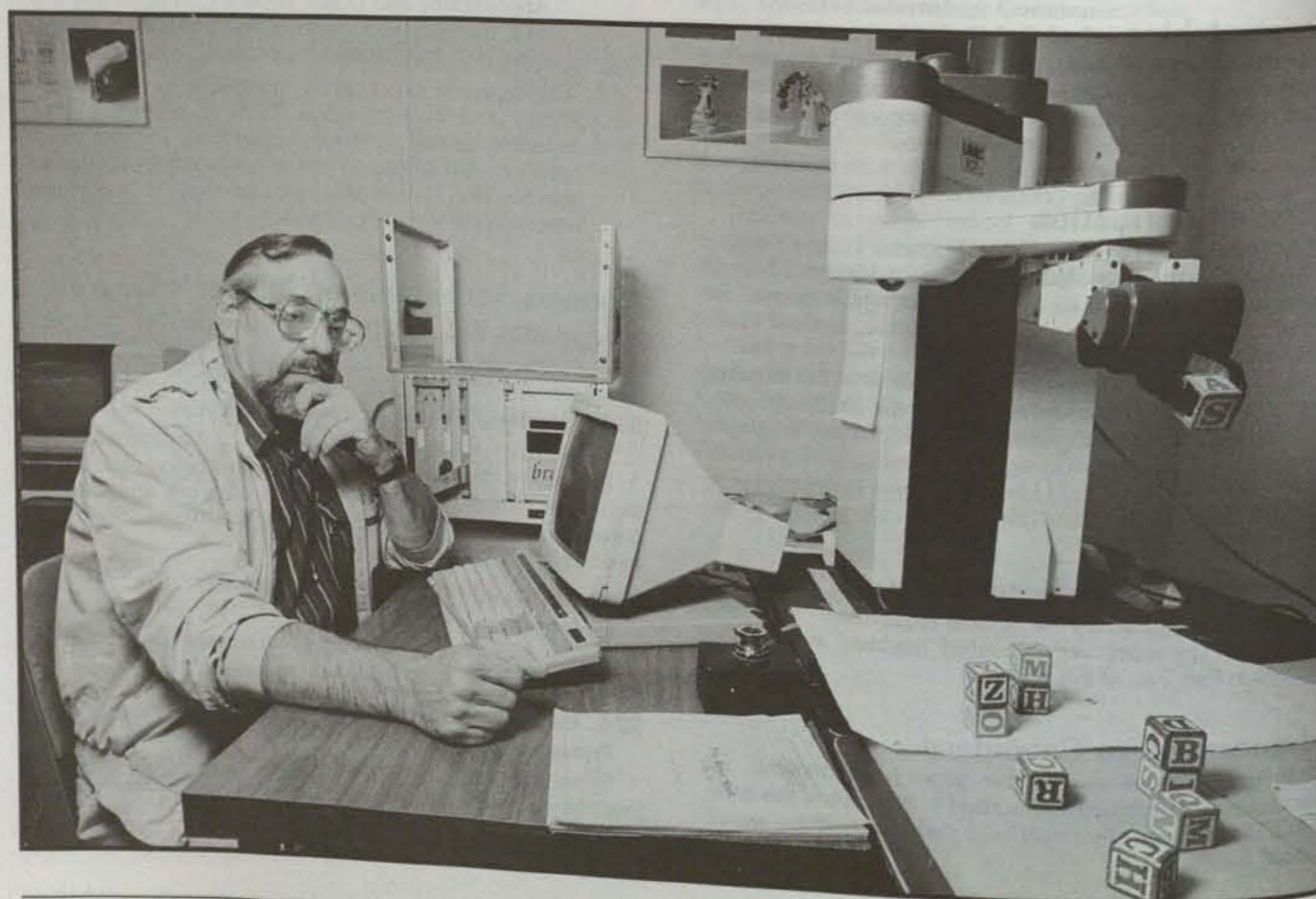
Prerequisite: Computer Science 550.

General problem-solving programs, expert problem solving, game-playing programs, pattern recognition and natural language processing. Understanding vision, manipulation, computer decision. May be repeated with new content with approval of graduate adviser. Maximum credit six units applicable to a master's degree. (Formerly numbered Computer Science 676.)

656. Advanced Robotics (3)

Prerequisite: Computer Science 556.

Computer-based techniques for low-, medium-, and high-level robot control including sequential and parallel schemes for robot dynamics, robot programming and robot task planning.



660. Combinatorial Algorithms and Data Structures (3)

Prerequisite: Computer Science 560.

Algorithm design techniques. Network flow and matching. Complexity analysis. NP-completeness, reductions among NP-complete problems. Approximation algorithms for NP-complete problems such as the traveling salesman problem. (Formerly numbered Computer Science 690B.)

662. Theory of Parallel Algorithms (3)

Prerequisites: Computer Science 560 and Mathematics 254.

Models for parallel computation. Parallel algorithms for several common problems including sorting, searching, graph problems, and matrix problems. Complexity of parallel algorithms. Lower bounds on parallel complexity.

664. Theory of Computability (3)

Prerequisite: Computer Science 562 or 564.

Turing machines and other formal models of computation. Recursive function theory. The Ackermann function. Solvable and unsolvable problems. (Formerly numbered Computer Science 690A.)

670. Advanced Operating Systems (3)

Prerequisite: Computer Science 570.

Survey of advanced operating systems including distributed systems. Associated design issues. Case studies. (Formerly numbered Computer Science 692A.)

672. Microcomputer Software (3)

Prerequisite: Computer Science 572.

Design and implementation of a real time operating system for a state-of-the-art microprocessor. Applications of the operating system. (Formerly numbered Computer Science 681.)

674. Advanced Computer Architecture (3)

Prerequisite: Computer Science 572.

Advanced computer architecture, including parallel and distributed architecture, and accompanying software and algorithmic issues. (Formerly numbered Computer Science 692B.)

678. Computer Performance Evaluation (3)

Prerequisite: Computer Science 558. Recommended: Computer Science 566.

Performance evaluation of several aspects of computer systems. Measurement principles and techniques. System models. System optimization. (Formerly numbered Computer Science 695A.)

696. Selected Topics in Computer Science (3)

Prerequisite: Consent of instructor.

Intensive study in specific areas of computer science. May be repeated with new content. See Class Schedule for specific content. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

700. Applications of Computer Science (3)

Prerequisite: Classified graduate standing in mathematics or computer science.

Topic to be chosen from such applications as theorem proving, simulation, learning theory, graphics definition languages. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

Prerequisite: Six units of graduate level computer science courses.

Research in computer science. Maximum credit six units applicable to a master's degree.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

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

Prerequisite: Prior registration in Thesis or Project 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.

For additional courses useful to computer scientists, see: Mathematics 693A-693B. Advanced Numerical Analysis

OFFICE: Dramatic Arts 204
TELEPHONE: (619) 594-6363

Faculty

Alicia M. Annas, M.F.A., Professor of Drama, Chair of Department

Ralph Funicello, B.F.A., The Don W. Powell Chair in Scene Design

Anne-Charlotte Harvey, Ph.D., Professor of Drama

Michael L. Harvey, Ph.D., Professor of Drama

Peter F. Larlham, Ph.D., Professor of Drama

Margaret McKerrow, Ph.D., Professor of Drama

Terry L. O'Donnell, D.M.A., Professor of Drama

Mack Owen, Ph.D., Professor of Drama

Beeb Salzer, M.F.A., Professor of Drama

Paula Kalustian, M.F.A., Associate Professor of Drama

William N. Reid, M.F.A., Associate Professor of Drama

R. Craig Wolf, M.F.A., Associate Professor of Drama

Rick Simas, M.A., Assistant Professor of Drama

Assistantships

Graduate teaching and nonteaching assistantships are available to a limited number of qualified students. Application forms and further information may be obtained from the department.

The Don W. Powell Chair in Scene Design

The Don W. Powell Chair in Scene Design was established through a trust provided by the late professor emeritus. Always concerned about students, Powell, who retired after 30 years with the drama department, created the trust in order to enhance theatre education at S.D.S.U. The first holder of The Scene Design Chair is the nationally acclaimed designer Ralph Funicello.

General Information

The Department of Drama, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts degree and the Master of Fine Arts degree. The Master of Fine Arts degree is offered in the areas of design/technical theatre and musical theatre. The M.A. is a 30-unit program; the M.F.A. a 60-unit program. Both programs of study limit the number of students accepted in order to offer individual attention and extensive opportunity to participate in theatre production. The Dramatic Arts building contains the proscenium-style Don Powell Theatre seating 500, with state-of-the-art computer lighting and sound control, and the flexible Experimental Theatre seating 200, rehearsal and recording areas, a design studio, paint shop, wagon house, spacious scene shop, and fully equipped costume laboratory. The Department of Drama is a member of the National Association of Schools of Theatre (N.A.S.T.).

Drama

In the College of Professional Studies and Fine Arts

Master of Arts Degree in Drama**Admission to Graduate Study**

General requirements for admission to the University with classified graduate standing are described in Part Two of this bulletin. In addition, the student's area adviser will judge the applicant capable of graduate work in drama. The judgment will be based on (1) the applicant's transcripts of prior academic work; (2) three current and relevant letters of recommendation from individuals familiar with the applicant's academic ability; (3) the applicant's scores on the GRE General Test; and (4) an interview, when appropriate, revealing the applicant's ability to succeed in the chosen area. NOTE: M.A. applications are accepted for Fall admission only. Application deadline is April 15 for the following Fall semester.

Advancement to Candidacy

All students in the Master of Arts program must meet the general requirements for advancement to candidacy, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in Drama (regardless of area of specialization) are required to have completed Drama 600, and to have removed any deficiencies assigned. It is recommended that all graduate students take Drama 600 during their first semester.

Specific Requirements for the Master of Arts Degree

(Major Code: 10071)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of a minimum of 30 units. Eighteen of the 30 units must be in 600- and 700-numbered courses in drama; an additional 6 units from 500-, 600- or 700-numbered drama courses; and the remaining 6 units may be selected from 500-, 600- or 700-numbered courses in drama or outside departments. PLEASE NOTE: Drama 600, 610, 621, 647A or 647B, and 799A are required courses for all Master of Arts candidates.

Master of Fine Arts Degree in Drama**Admission to Graduate Study**

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

1. Achieve a score of not less than 1000 on the GRE General Test (combined verbal and quantitative).
2. Possess a baccalaureate degree in drama or an approved affiliated field with a grade point average of not less than



2.5 overall in the last 60 units of study attempted, with a 3.0 undergraduate average in the major, and a 3.5 average in those theatre classes considered prerequisites for the M.F.A. concentration in design/technical theatre or musical theatre.

3. Complete undergraduate requirements commensurate with the proposed concentration in the M.F.A. program.
4. Complete a minimum of six units of theatre history.
5. Satisfy additional concentration requirements listed below.

Students who have not met certain criteria or demonstrate deficiencies in undergraduate preparation or basic skill development, may be granted conditional admission with the understanding that **remedial** coursework will be completed prior to advancement to classified standing. Remedial coursework cannot be applied to the 60-unit minimum requirement for the degree. Students who do not satisfy the requirements for an M.F.A. degree will not automatically be considered for an M.A. degree. A student holding an M.A. degree in drama from San Diego State University or any other institution of higher learning must formally apply for the M.F.A. degree. **PLEASE NOTE:** Applicants holding an M.A. or M.F.A. degree from an accredited institution may transfer up to 30 units upon review and

recommendation of the faculty in the area of specialization, and approval of the graduate coordinator of the Drama Department.

Students already accepted into the program who request a change of specific concentration at a later date, will be required to meet the admission requirements for the new concentration.

Concentration in Acting

No new students being admitted to program at this time.

In addition to meeting the admission requirements listed above, a student must demonstrate exceptional artistic talent in the acting area by providing:

1. A resume of acting accomplishments.
2. An audition, either in person or via videotape (VHS), which would include two contrasting works: one contemporary piece and one classical piece from Shakespearean drama (total time not to exceed 12 minutes).
3. Three letters of recommendation attesting to the candidate's academic qualifications and level of competence in acting.

For specific audition dates and locations, write to the Director, Graduate Acting Program, Department of Drama, San Diego State University, San Diego, CA 92182-0219.

Concentration in Design and Technical Theatre

In addition to meeting the admission requirements listed above, a student must demonstrate outstanding abilities in a particular area of design/technical theatre by submitting the following items:

1. Those students primarily interested in design must submit a design portfolio which contains sketches, renderings, graphics, floor plans, elevations, plots, color/fabric swatches, and photographs of productions, revealing the applicant's creative ability in the chosen area or areas of design.
2. Those students primarily interested in technical theatre must submit a portfolio which contains evidence of technical direction and management experiences in scenic, lighting, or costume technology and design.
3. A resume which contains documentation of participation in not less than five full-length theatrical productions.
4. Three letters of recommendation attesting to the candidate's academic, professional and personal qualifications from academic or professional theatre sources.

For specific interview dates and locations, write to the Director, Design Program, Department of Drama, San Diego State University, San Diego, CA 92182-0219.

Concentration in Musical Theatre

In addition to meeting the admission requirements listed above, a student must demonstrate unusual artistic talent in the musical theatre area by providing:

1. A resume of musical theatre accomplishments.
2. An audition, either in person or via videotape, which would include two contrasting vocal selections, two contrasting monologues, and a dance/movement piece.
3. Three letters of recommendation attesting to the candidate's academic qualifications, and level of competence in musical theatre performance in the areas of acting, singing, and dancing.

For specific audition dates and locations, write to the Director, Musical Theatre Program, Department of Drama, San Diego State University, San Diego, CA 92182-0219.

This program admits new students every other year only. Application may be made Spring of even numbered years for the following Fall admission.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Two of this bulletin. Candidates for the M.F.A. must have completed 30 units within their official program with a minimum grade point average of 3.0. A minimum of 24 units in the official program must be enrolled in and completed concurrently with or after advancement to candidacy. Students in each concentration must have successfully completed Drama 600 and removed any deficiencies noted by the faculty.

Specific Requirements for the Master of Fine Arts Degree

(Major Code: 10072)

Forty-five of the sixty units required must be completed in courses numbered 600 or above. The remaining units may be selected from 500-, 600-, or 700-numbered courses in drama or outside departments.

At least 30 units of the student's program must be completed in residence at San Diego State University, and the student must be in residence not less than two semesters. No more than six units in 798 will be accepted for credit toward the degree.

Concentration in Acting

No new students being admitted to program at this time.

Candidates for the M.F.A. with a concentration in acting, in addition to meeting the requirements for classified graduate standing, must complete a 60-unit graduate program consisting of the following courses: Drama 523, 600, 607 (must be taken four times for a total credit of 12 units), 610, 621, 624, 630 (maximum 2 units), 631, 632, 633, 634, 746, 795, 799A.

Twelve additional units are to be selected from courses acceptable for graduate credit in the following areas: art, drama education, English and comparative literature, history, linguistics, mass communication, music, physical education, speech communication, telecommunications and film. It is recommended that students include at least 3 units from Drama 532, 533A, 533B, 551 among the 12 units of electives. In special circumstances, additional courses acceptable for graduate credit in other departments may be selected with the approval of the student's adviser.

Students in the concentration in acting will be reviewed by a faculty panel each semester to determine if their progress warrants continuation in the program. In conjunction with the completion of Drama 746 and 799A, students must complete an adjudicated performance thesis project established and approved by their thesis committee. This project will be supported by a written analysis/apologia.

Concentration in Design and Technical Theatre

Candidates for the M.F.A. with a concentration in design and technical theatre, in addition to meeting the requirements for classified graduate standing, must complete a 60-unit graduate program which includes a core of courses totaling 30 units as follows: Drama 600, 610, 621, 643, 645, 646A, and 646B. Core studio course, Drama 643 (Collaborative Studies in Design), must be taken four semesters for a total of 12 units. The student must complete 15 units of practicum, internship, and thesis/project under the course numbers: Drama 642, 746, 795, and 799A.

Fifteen elective units are to be selected by the student and adviser from graduate level courses in the following areas: art, drama, education, English and comparative literature, history, linguistics, mass communication, speech communication, telecommunications and film. In special circumstances courses acceptable for graduate credit in other departments may be selected with the approval of the student's adviser.

Candidates will prepare a production thesis project approved by their thesis committee. This project will be supported by a written analysis/apologia.

Concentration in Musical Theatre

Candidates for the M.F.A. with a concentration in musical theatre, in addition to meeting the requirements for classified graduate standing, must complete a 60-unit graduate program which includes a core of courses totaling 23 units as follows: Drama 520, 555, 600, 610, 621, 623, 650, and 659. The student must also complete 29 units of studio, voice, internship, practicum, and thesis/project under the course numbers: Drama 627 (taken four times for a total of 16 units), Drama 630 (taken four times for a total of four units), 746, 795, 799A.

Eight additional units are to be selected from courses acceptable for graduate credit in the following areas: art, drama, education, English and comparative literature, history, linguistics, mass communication, music, physical education, speech communication, telecommunications and film. In special circumstances additional courses acceptable for graduate credit in other departments may be selected with the approval of the student's adviser.

Candidates will prepare an adjudicated performance thesis project established and approved by their thesis committee. This project will be supported by a written analysis/apologia.

Courses Acceptable on Master's Degree Programs in Drama

UPPER DIVISION COURSES**510. Creative Drama II (3) I**

Prerequisite: Drama 310.

Advanced techniques and procedures in teaching creative drama. Emphasis on a multicultural approach. Practical experience through fieldwork in elementary or middle school classrooms. (Formerly numbered Drama 511.)

515. Directing for Young Audiences (3) II

Prerequisite: Drama 315.

Techniques of directing productions for young audiences: casting, staging, characterization, rehearsal techniques.

520. History of Musical Theatre (3) I

Prerequisite: Upper division standing.

Musical theatre from early Viennese operettas to musicals of modern times; representative works.

523. Stage Combat (2) II

Four hours of activity.

Prerequisite: Drama 355 for undergraduates. Admission to M.F.A. program for graduate students.

Skills and choreography of armed and unarmed stage combat. Performance application to selected scenes from world drama.

532. Advanced Acting and Directing (3) I

Prerequisite: Drama 231. Acting students admitted by audition only; directing students by interview.

Problems in characterization in contemporary drama, and in plays of Ibsen, Strindberg, Chekhov, and Shaw.

533A-533B. Theory and Styles in Acting and Directing I and II (3-3)

Prerequisite: Drama 231. Acting students admitted by audition only; directing students by interview.

Acting and directing problems in theory and style related to the production of plays from great periods in theatre history, with

attention to characterization, dramatic values, creative directing and production approaches. 553A: Shakespearean tragedy and history, melodrama, and farce. 533B: Greek tragedy, Shakespearean comedy.

539. Rendering for the Theatrical Designer (2) I

Four hours of activity.

Prerequisite: Drama 240B.

Development of skills necessary for the theatrical designer to complete successful set and costume renderings, lighting studies. Techniques, media, and portfolio presentation. (Formerly numbered Drama 560.)

540. Scene Design II (3) II

Prerequisites: Drama 440 and 450.

History of scene design and the application of contemporary styles to various types of dramatic production.

541. Scene Painting (2) II

Four hours of activity.

Prerequisite: Drama 450.

Theories and techniques of scene painting, including both historical backgrounds and modern procedures. Full scale projects executed in scenery studio.

543. Stage Property Design (2) II

One lecture and two hours of activity.

Prerequisite: Drama 450.

Theories and techniques of property design for the theatre: script analysis, research methods, planning and budgeting procedures, construction techniques and materials. Projects in property design for selected scripts.

546. Computer Systems and Special Effects Techniques in Stage and Television Lighting (3)

Two lectures and three hours of laboratory.

Prerequisite: Credit or concurrent registration in Drama 547.

Functional study of computer systems in stage and television lighting with emphasis on realizing effective methods of using such systems in production.

547. Lighting Design II (3) I

Two lectures and three hours of laboratory.

Prerequisite: Drama 447.

Advanced design theories and lighting practice for theatre and dance. Laboratory and production related activities. (Formerly numbered Drama 545B.)

548. Sound Design for the Theatre (3) I

Two lectures and two hours of activity.

Prerequisites: Drama 240B and 325.

Theories and techniques of sound design and reinforcement for theatrical performance. Laboratory experience in sound production.

551. Costume, Movement, and Manners (3) I

Prerequisite: Upper division standing or admission to the graduate program.

Interrelationship of period costumes and the movement and manners of selected historical periods; application to staging of plays from pre-modern theatre.

552. Costume Design II (3) II

Prerequisites: Drama 450 and 452.

Advanced studies in costume design. Emphasis on theatrical style, rendering layout, design problems, materials, and budget.

554A. Costume Design Technology I (2) II

Four hours of activity.

Prerequisite: Drama 240B.

Current materials and practices of costume technology: advanced construction techniques, fabric selection and use, period pattern drafting, draping and cutting. (Formerly numbered Drama 554.)

554B. Costume Design Technology II (2) II

Four hours of activity.

Prerequisite: Drama 240B.

Advanced costume craft construction techniques and management procedures for costume production: millinery, fabric dyeing and painting, jewelry, and related crafts. (Formerly numbered Drama 554.)

555. Movement for the Theatre II (2) I

Four hours of activity.

Prerequisite: Drama 130 or admission to the M.F.A. program.

Movement techniques for the theatre student. Emphasis on movement patterns, phrase development, and musical theatre styles. Maximum credit eight units. Maximum credit two units applicable to a bachelor's degree; maximum credit eight units applicable to the M.F.A. degree in drama. (Formerly numbered Drama 555A.)

589. Playwriting: The Full Length Play (3)

Prerequisite: Drama 325 or English 578. Recommended: English 588.

Format and techniques of writing the full-length play. Problems in characterization, plot, and dialogue. Reading and analysis of full-length plays written by students.

596. Selected Topics in Drama (1-3) I, II

Prerequisite: Twelve units in drama.

A specialized study of selected topics from the areas of drama. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a 30-unit master's degree.

GRADUATE COURSES**600. Research and Bibliography (3)**

Basic reference works, scholarly and critical journals; introduction to bibliographical techniques; exercises and problems in methods and exposition of research as it relates to the various areas of theatre. Recommended for first semester of graduate work, and prerequisite to advancement to candidacy.

607. Acting Studio (3)

Six hours of activity.

Prerequisite: Admission to M.F.A. in drama, concentration in acting.

Individual and small group training in characterization and role development in classical and stylized contemporary drama. Must be taken four times for maximum credit 12 units.

610. Aesthetics for the Stage (3)

Prerequisites: Drama 600 and admission to M.A. or M.F.A. program in drama.

Selected aesthetic theories (i.e., aesthetic distance, empathy, illusion) and their significance in contemporary theatre. Class presentations in techniques of conceptual thought including stylistic approaches, unity of design, and textual communication.

621. Seminar in Theories of the Theatre (3)

Prerequisites: Drama 325 and 600.

Theories of dramatic literature and performance, reflecting major stylistic movements and aesthetic philosophies of the stage from the classical Greeks to today (e.g., Aristotle, Lessing, Appia, Brecht, and Grotowski).

623. Seminar in Musical Theatre Script and Score Analysis (3)

Prerequisite: Credit or concurrent registration in Drama 325.

Representative works from the musical theatre spectrum analyzed in terms of dramatic and musical content, environment, action, character and style.

624. Advanced Stage Movement (2)

Four hours of activity.

Prerequisite: Admission to M.F.A. in drama, concentration in acting.

Major theories and components of physical expressivity for the stage. Advanced mime, neutral mask.

627. Musical Theatre Studio (4)

Eight hours of activity.

Prerequisite: Open to M.F.A. musical theatre students. Others by audition.

Acting, singing, and dancing skills in relation to musical theatre performance, direction, choreography, and composition.

630. Individual Vocal Instruction (1)

Prerequisite: Admission to M.F.A., concentration in acting or musical theatre.

Individual vocal instruction/coaching devoted to diagnosis and correction of problems for students in M.F.A. concentration in acting or musical theatre. Maximum two units applicable to acting. Musical theatre students must take one unit each semester for a maximum of four units.

631. Voice and Stage Speech I: Structure and Foundation (3)

One lecture and four hours of activity.

Prerequisite: Admission to M.F.A. in drama, concentration in acting.

Freeing the natural voice. Emphasis on physical awareness and alignment, diaphragmatic breathing. Exercises designed to improve range, support, relaxation, projection, articulation, pronunciation. The Alexander technique and the International Phonetic Alphabet.

632. Voice and Stage Speech II: Expression and Flexibility (3)

One lecture and four hours of activity.

Prerequisite: Drama 631.

Advanced work in phonetics, articulation, pronunciation to achieve standard English speech and eliminate regionalism. Textual analysis and scansion with emphasis on language values and characterization in classic speech. Vocal adjustments for space requirements.

633. Voice and Stage Speech III: Ear Training and Stylization (3)

One lecture and four hours of activity.

Prerequisite: Drama 632.

Principles of ear training to include intensive study of language styles and stage dialects. Fundamentals of sight-singing and music theory for the acting student. Exercises and activities culminating in the ability to perform using stylized language.

634. Voice and Stage Speech IV: Comparative Studies (3)

Four hours of activity.
Prerequisite: Drama 633.
Integration of voice and movement skills. Comparative production techniques. Formulation of a personal vocal technique.

642. Theatre Practicum Skills (3) Cr/NC

Prerequisite: Admission to M.F.A. program.
Investigation and application of skills necessary to 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.

643. Collaborative Studies in Design (3)

Prerequisite: Admission to M.F.A. program in design/technical theatre. This course must be repeated each semester by the M.F.A. design student for a maximum of 12 units.

Design of theatrical productions with emphasis on artistic collaboration and integration of scenery, costumes and lights. Attention to graphic presentation techniques as well as designs produced.

644. Seminar in Stage Direction (3)

Prerequisite: Drama 359.
Research projects in the aesthetic principles and practices of stage direction with an emphasis on theory, technique and historical development.

645. Seminar in Lighting for Stage and Television (3)

Prerequisite: Drama 447 or 547.
Projects concerned with the aesthetic and technical problems of stage lighting.

646. Seminar in Design for Stage and Television (3)

The principles of design in the theatre with an emphasis on the historical development of theatrical costume or scenic environment. The investigation of recent tendencies in styles and their evolution. Each section may be taken once for credit.

A. Costume Design

Prerequisite: Drama 452 or 552.

B. Scenery Design

Prerequisite: Drama 448A or 540.

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

Prerequisites: Drama 325, 460A and 460B.

A. British and Continental Theatre**B. American Theatre****649. Topics in World Theatre (1-3)**

Prerequisite: Admission to M.A. or M.F.A. program in drama.
Intensive study in specific areas of world theatre. Forms, technologies, genres, cultural expressions, and contemporary developments. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable to the M.A. or M.F.A. degree in drama.

650. Seminar in Musical Theatre Dance Repertory (3)

Prerequisites: Drama 555 and 623.
Intensive study of the various choreographic styles of the musical theatre from the viewpoint of the choreographer and director.

659. Musical Theatre Stage Direction (3)

Prerequisite: Drama 600.
Special problems in directing for the musical theatre. (Formerly numbered Drama 559.)

746. Theatre Internship (3) Cr/NC

Prerequisites: Drama 600 and consent of graduate coordinator and program director.

Professional field experience in areas of design/technical theatre, acting, directing musical theatre, and theatre for young audiences. (Formerly numbered Drama 746B.)

795. Practicum in Theatre Arts (1-6)

Prerequisite: Drama 600.
Faculty supervised projects in design/technical theatre, performance or direction leading to public presentation. Maximum credit six units.

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

Prerequisite: Project/assignment to be arranged with area adviser.

Individual study. Maximum credit six units applicable to a master's degree.

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy. Drama 795 (Practicum in Theatre Arts) is a prerequisite if the student elects the preparation of a project.

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

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

Prerequisite: Prior registration in Thesis or Project 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.

OFFICE: Nasatir Hall 304
TELEPHONE: (619) 594-1675

Faculty

Raford D. Boddy, Ph.D., Professor of Economics, Chair of Department
Norris C. Clement, Ph.D., Professor of Economics
Roger S. Frantz, Ph.D., Professor of Economics
Louis C. Green, Ph.D., Professor of Economics
Shoshana A. Grossbard-Shechtman, Ph.D., Professor of Economics
Renatte K. Hageman, Ph.D., Professor of Economics
Arthur E. Kartman, Ph.D., Professor of Economics
Murugappa C. Madhavan, Ph.D., Professor of Economics
Woo Hyun Nam, Ph.D., Professor of Economics
Dean O. Popp, Ph.D., Professor of Economics, Associate Vice President for Faculty Affairs
Harinder Singh, Ph.D., Professor of Economics
Douglas B. Stewart, Ph.D., Professor of Economics
Mark A. Thayer, Ph.D., Professor of Economics
Yiannis P. Venieris, Ph.D., Professor of Economics
James B. Gerber, Ph.D., Associate Professor of Economics (Graduate Adviser)
John W. Hambleton, Ph.D., Associate Professor of Economics
Michael C. Naughton, Ph.D., Associate Professor of Economics
Dan Steinberg, Ph.D., Associate Professor of Economics

Assistantships

Graduate assistantships in economics are available to a limited number of qualified students. Application forms and additional information may be obtained from the graduate adviser of the Department of Economics.

Scholarships

Annually the Center for Public Economics awards the \$1000 Henry Cramer scholarship, the \$300 Leonard Chadwick scholarship, the \$600 Sidney Evans scholarship, the \$300 Louis Freeman scholarship, the \$600 Henry George scholarship, the \$500 Walter Weiss scholarship, and a general \$500 scholarship.

General Information

The Department of Economics, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in Economics. After completing the core analytical courses, students may elect general economic applications or focus on (1) microeconomic behavior and public economics or (2) macroeconomic performance and development policy. Courses in the graduate program are designed to provide advanced training in economics both for students who plan to terminate their graduate studies at the master's level and for those who plan additional graduate studies leading to the doctoral degree in economics or related fields. Special research facilities include the Center for Public Economics and the Social Science Research Laboratory of the College.

Economics

In the College of Arts and Letters

Admission to Graduate Study

General requirements for admission to the University with classified graduate standing are described in Part Two of this bulletin. In addition, the graduate committee of the department must judge the applicant capable of graduate work in economics. The committee's judgment will be based on (1) the applicant's transcripts of prior academic work; (2) three letters of recommendation from individuals familiar with the applicant's academic ability; and (3) the applicant's scores on the GRE General Test (combined verbal and quantitative). The letters of reference should be addressed directly to the graduate adviser of the Department of Economics. Official transcripts must be received by the Admissions Office directly from the institutions attended. All documents should be on file by March 31 for fall admission and by November 30 for spring admission. Normally students should attempt to enter for fall semester.

Applicants will be expected to have completed undergraduate courses in mathematical economics, intermediate micro and macro theory, and econometrics. Applicants whose preparation in economics and mathematics is judged inadequate by the graduate committee may be admitted with conditional graduate standing (classified). Students so admitted will be required to remove the deficiency by satisfactory performance on placement examinations or by additional coursework within an amount of time specified by the graduate adviser.

Advancement to Candidacy

In addition to the general requirements to candidacy described in Part Two of this bulletin, the student must have satisfactorily completed Economics 610, 620, 630, and 640 with a GPA of 3.0 and no grade less than a B-.

At the time of advancement to candidacy, students selecting Plan A must have a thesis proposal including an oral defense approved by the department graduate committee.

Specific Requirements for the Master of Arts Degree

(Major Code: 22041)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree described in Part Two of this bulletin, the student must complete an approved graduate program of at least 30 units. Each program must include Economics 610, 620, 630, and 640. No program may contain more than a combined total of six units of 500-level economics courses or approved courses outside economics.

Written comprehensive examinations covering the core fields of mathematical economics, macroeconomics, microeconomics, and econometrics are required for Plan B students. Students selecting Plan A must include Economics 799A in their program and complete a master's thesis. No program may contain more than six units from Economics 795, 797, 798, and 799A. Students selecting Plan B must take Economics 740A and 740B.

As an alternative to electing a general program, the student may choose to specialize in (1) microeconomic behavior and public economics or (2) macroeconomic and development policy. To specialize in (1) the student would select at least nine units from the seminar topics listed under Economics 700, 710, and 750 below. To specialize in (2) the student would choose at least nine units from Economics 720, 730, and 750. Up to six units may be taken within each seminar number.

Microeconomic Behavior and Public Economics Specialization

Economics 700. Seminar in Microeconomic Applications

Topics include:

- Seminar in Industrial Organization and Firm Behavior (3)
- Seminar in Labor Economics (3)
- Seminar in Economic Issues in Demography (3)
- Seminar in Experimental Economics (3)

Economics 710. Seminar in Public Economics

Topics include:

- Seminar in Environmental Issues (3)
- Seminar in Public Expenditures (3)
- Seminar in Urban and Regional (3)
- Seminar in Regulation (3)
- Seminar in Tax Policy (3)

Macroeconomic and Development Policy Specialization

Economics 720. Seminar in Development and Planning

Topics include:

- Seminar in Development Economics (3)
- Seminar in Development Planning (3)
- Seminar in International Trade and Commercial Policy (3)

Economics 730. Seminar in Macroeconomic Policy

Topics include:

- Seminar in National Monetary Institutions (3)
- Seminar in International Monetary Policy (3)
- Seminar in Business Cycles (3)
- Seminar in Macroeconomic Modeling and Prediction (3)

Economics 750. Seminar in Economic History and Institutions (either specialization)

Topics include:

- Seminar in U.S. Economic History (3)
- Seminar in Economic Growth in Historical Perspective (3)
- Seminar in Contemporary Economic Systems (3)

Courses Acceptable on Master's Degree Programs in Economics

UPPER DIVISION COURSES

502. Public Economics (3)

Prerequisite: Economics 321.

General equilibrium. Externalities of consumption and production, their impact on allocative efficiency. Theory of social wants and public goods supply. Theoretical treatment of individual and community preference ordering and decision making. Proposals for improving the allocation of resources.

520. Advanced Economic Theory (3)

Prerequisite: Economics 320.

Recent contributions to the advanced theory of the firm, consumer demand, employment and growth.

561. International Trade (3)

Prerequisites: Economics 320 and 321.

Theory and policy of international trade with examples drawn from current issues. Models of determinants of trade. Free trade and protectionism. Trade and economic development. Trading blocs, the European community, GATT and U.S. trade policy.

565. U.S.-Mexico Economic Relations (3)

Prerequisite: One course in economics.

Mexico's socioeconomic development since World War II. Problem areas affecting the U.S. including foreign trade, multinational corporations, energy, migration patterns and border relations.

592. International Monetary Theory and Policy (3)

Prerequisite: Economics 320 or 490.

International monetary spillovers from domestic macroeconomic policies. Foreign exchange markets and balance of payments. Fixed, flexible and managed exchange rates. Bretton Woods, international monetary fund, and world debt crisis.

596. Experimental Topics (3)

Prerequisite: Consent of instructor.

Intensive study in specific areas of economics. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

603. Economic Analysis (3)

Prerequisite: Classified graduate standing.

Economic analysis of the firm in a market economy and the economics of national income determination. Not open to students with credit for Economics 320 or 321. Not applicable to a master's degree in economics.

610. Mathematical Economics (3)

Prerequisites: Economics 307 and credit or concurrent registration in Economics 320 and 321.

Static and dynamic modeling of linear and nonlinear economic systems. Optimization techniques, matrix algebra, quadratic forms, and difference equations. Cost functions, production functions and duality.

620. Macroeconomic Theory (3)

Prerequisites: Economics 320, 321, and credit or concurrent registration in Economics 610.

Static and dynamic theories of income, employment, and inflation in open and closed economies with emphasis on policy analysis. Alternative theories of investment and consumption and the role of expectations in the short and long run.

630. Microeconomic Theory (3)

Prerequisites: Economics 307, 320, 321, and credit or concurrent registration in Economics 610.

Theories of the consumer, the firm, and the market. Topics in welfare and general equilibrium. Duality and uncertainty.

640. Econometrics (3)

Prerequisites: Economics 341 and 610.

Measurement in economics. Use of economic models involving multiple regression analysis, simultaneous equation systems, and time series analysis.

696. Experimental Topics (3)

Prerequisite: Consent of instructor.

Intensive study in specific areas of economics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

700. Seminar in Microeconomic Applications (3)

Prerequisites: Economics 630 or classified graduate standing in another department and consent of instructor.

Microeconomic applications to individual, firm, or government. Maximum credit six units of Economics 700 applicable to a master's degree. See Class Schedule for specific content. Seminar topics include:

- Seminar in Industrial Organization and Firm Behavior
- Seminar in Labor Economics
- Seminar in Economic Issues in Demography
- Seminar in Experimental Economics

710. Seminar in Public Economics (3)

Prerequisites: Economics 630 or classified graduate standing in another department and consent of instructor.

Government in a market economy. Impact on individual and firm behavior. Maximum credit six units of Economics 710 applicable to a master's degree. See Class Schedule for specific content. Seminar topics include:

- Seminar in Environmental Issues
- Seminar in Public Expenditures
- Seminar in Urban and Regional
- Seminar in Regulation
- Seminar in Tax Policy

720. Seminar in Development and Planning (3)

Prerequisites: Economics 620 or classified standing in another department and consent of instructor.

Development process and policies. Planning techniques. Relations among developing and developed countries. Maximum credit six units of Economics 720 applicable to a master's degree. See Class Schedule for specific content. Seminar topics include:

- Seminar in Development Economics
- Seminar in Development Planning
- Seminar in International Trade and Commercial Policy

730. Seminar in Macroeconomic Policy (3)

Prerequisites: Economics 620, credit or concurrent registration in Economics 640, or classified standing in another department, and consent of instructor.

Applications of macroeconomics to open economies. Maximum credit six units of Economics 730 applicable to a master's degree. See Class Schedule for specific content. Seminar topics include:

- Seminar in National Monetary Institutions
- Seminar in International Monetary Policy
- Seminar in Business Cycles
- Seminar in Macroeconomic Modeling and Prediction

740A. Seminar in Applied Economic Research (3)

Prerequisites: Advancement to candidacy and 15 units credit from the approved program, including Economics 610, 620, 630, and 640. Concurrent registration in Economics 740B.

Advanced treatment of research design and methodology. Application of empirical techniques to selected problems.

740B. Workshop in Applied Economics Research (3)

Prerequisites: Advancement to candidacy and 15 units credit from the approved program, including Economics 610, 620, 630, and 640. Concurrent registration in Economics 740A.

Application of economic research techniques. Each student will choose, develop, and present an original research project.

750. Seminar in Economic History and Institutions (3)

Prerequisites: Economics 620, credit or concurrent registration in Economics 640, or classified graduate standing in another department, and consent of instructor.

Economic development in historical perspective. Maximum credit six units of Economics 750 applicable to a master's degree. See Class Schedule for specific content. Seminar topics include:

- Seminar in U.S. Economic History
- Seminar in Economic Growth in Historical Perspective
- Seminar in Contemporary Economic Systems

795. Internship in Economics (3) Cr/NC

Prerequisites: Economics 610, 620, 630, 640 and approval of graduate adviser.

Students will be assigned to various jobs in which economics theory can be applied to decision making. Supervision will be shared by the graduate adviser and on-the-job supervisor.

797. Research (3) Cr/NC/SP

Prerequisites: Classified graduate standing and consent of instructor.

Independent research project in an area of economics.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

Education

In the College of Education

General Information

The College of Education offers graduate study leading to the Master of Arts degree in education with concentrations in the following: counseling, educational technology, elementary curriculum and instruction, postsecondary educational leadership and instruction, reading education, secondary curriculum and instruction, administration and supervision, special education, educational research, and policy studies in language and cross-cultural education. Some of these concentrations are designed to permit concurrent completion of the requirements for the correspondingly named advanced credentials.

Graduate study is also offered leading to the Master of Science degree in counseling and the Master of Science degree in rehabilitation counseling.

The Ph.D. degree in education with a multicultural component is offered cooperatively with The Claremont Graduate School. Inquiries concerning this program should be addressed to the Director of Doctoral Programs, College of Education.

Section I. Doctoral Program

Admission to Doctoral Study

To be considered for admission to the joint SDSU/CGS program, students must meet the general requirements for admission to both institutions with classified (full) graduate standing as outlined in the current respective bulletins. These include a master's degree from an accredited institution, good academic standing in the last institution attended, and an acceptable score on the Graduate Record Examination. Normally, applicants are expected to hold a master's degree in education from an acceptable accredited institution. Experience in the field is desirable. Students are admitted only in the fall of each academic year. Applicants must submit copies of all transcripts of previous college work, three letters of recommendation, a 1000-word personal statement and results of the Graduate Record Examination. Personal interviews are conducted for the most promising applicants.

Specific Degree Requirements for the Doctor of Philosophy Degree in Education

(Major Code: 08011)

The cooperating faculties at San Diego State University and The Claremont Graduate School represent diverse research and teaching interests. Under their stewardship students may prepare themselves for qualifying examinations and for dissertation research in many areas including organization and administration, curriculum and instruction, special education, learning theory, human growth and development, applied linguistics reading and higher education. In addition to the traditional concerns of advanced study in education, the program seeks to explore the effects of culture on learning and teaching and to investigate ways to meet the needs of all students in a pluralistic society.

A minimum of 48 semester units of residency, 24 at each institution, is required before a student is eligible to take qualifying examinations. In addition to these residency units, additional coursework may be needed before the student is competent to conduct dissertation research. After successful completion of qualifying examinations, the student is advanced to candidacy and enters the dissertation phase of the program.

Students seeking admission to the joint doctoral program in education should write directly to the director of the program, Dr. W.E. Piland, requesting application materials. Upon admission to the program, the student is guided by the requirements for the doctoral program given in Part Two of this bulletin and those listed under Education in The Claremont Graduate School Bulletin.

Faculty

The following members of the cooperating institutions participate in the joint doctoral program in education and are available for direction of research and as members of joint doctoral committees:

San Diego State University

Director: William E. Piland

Faculty: Allen, Atkins, Berg, Bezuk, Espinosa, Flood, Frase, Harrison, Jacobs, Kuhlman, Lapp, Lewis, Lynch, Mason, Ochoa, Patton, Rossett, Saba, Santa Cruz

The Claremont Graduate School

Coordinator: Joe Weeres

Faculty: Briner, Douglass, Drew, Dreyer, Hale, Kerchner, Poplin, Regan, Schuster, Smith

Section II. Master's Degree Programs

Master of Arts Degree in Education

Admission to Graduate Study

The student must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, the student must have completed a minimum of 12 units in professional education courses, and must either be admitted to the program of teacher education or hold a valid California credential, other than an emergency or provisional credential, before he or she will be recommended by the school for classified graduate standing. (This is not applicable to students in the Departments of Administration, Rehabilitation and Postsecondary Education, Counseling and School Psychology, Educational Technology, and Special Education.)

Advancement to Candidacy

A student desiring a Master of Arts degree in education with a concentration in postsecondary educational leadership and instruction, counseling, educational research, educational technology, elementary curriculum and instruction, reading education

or secondary curriculum and instruction may be advanced to candidacy upon completion of the basic requirements as described in Part Two of this bulletin. A student desiring a concentration in administration and supervision must, in addition to the above, meet specific requirements for admission to the appropriate advanced credential program. A student desiring a master's degree concentration in counseling, policy studies, or in special education must also meet specific admission requirements. (For further information, refer to the College of Education, Office of Graduate Programs, Room Education 100K, or to the coordinators of the respective programs. Students in counselor education should go directly to the department for further information.)

Specific Requirements for the Master of Arts Degree

In addition to meeting the requirements for admission to the University with classified graduate standing and the credential requirements as applicable, the student must satisfy the basic requirements for the master's degree described in Part Two of this bulletin. In addition, the student must meet the requirements specified for one of the concentrations in education (described below). Courses common to all concentrations are Education 690 or Teacher Education 634, and Plan A, which requires Education 799A, or Plan B in which two options are available, Education 791A-791B-791C or Education 795A-795B. All applicants for the Master of Arts degree in education must pass a comprehensive examination.

The Comprehensive Examination

This examination, designed to evaluate the achievement in the specific area of the student's concentration, is required of all candidates for the master's degree in education. A student is eligible to take the comprehensive examination only after advancement to candidacy.

The examination is offered near the midpoint of each semester. Reservation must be made at least one week in advance of the examination. For information on exact dates, and for a reservation, check with the Office of Graduate Programs, College of Education, Room Education 100K, or with the coordinators of the respective programs.

Selection of Plan A or Plan B

In general, applicants will be programmed for Plan B, the seminar plan. After the student is approximately half way through the program, has secured an adviser and established a thesis plan, permission to transfer to Plan A may be requested. Plan A is designed for students who have a particular research problem they wish to investigate in some detail. Requests for transfer to Plan A must be prepared as an official change in program for the master's degree, countersigned by the faculty adviser, and submitted to the Office of Graduate Programs in the College of Education.

Both Plan B options provide students the opportunity (1) to have two experiences which emphasize research or evaluation and writing, (2) to participate actively in the projects of the other members of the seminar, and (3) to subject their own work to critical evaluation by the other seminar members. Both plans require the ability to formulate and define research or evaluation problems, to assemble data pertinent to the problem, to draw conclusions, and to present the study in acceptable written form. It is expected that the two seminars will be at least as demanding as the thesis with respect to the difficulty and quantity of work

required. Selection of one of the Plan B options must be made with the approval of the departmental faculty adviser.

Course Requirements

Note: Students are requested to consult with the appropriate master's degree adviser prior to taking any coursework 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

Educational Leadership

(Major Code: 08271)

The Master of Arts degree in education with a concentration in educational leadership provides increased knowledge and skill for the prospective administrator or supervisor. The concentration is intended for those who wish to pursue administrative or supervisory positions in education, including postsecondary institutions.

To apply for this concentration, a student must complete an application for admission to both the University and the educational leadership program. All applications should include at least two letters of recommendation from the school district, postsecondary institution or agency employer. All applicants should note that academic degree and experience required varies with the career goal of the student. All students will discuss the degree curriculum with the graduate adviser during the first semester in the program.

Students in this concentration may earn a degree without a K-12 administrative credential or in combination with the California Preliminary Administrative Services Credential. The degree without the credential is designed for postsecondary administrators, foreign school administrators, school business managers, administrators of educational programs in private industry, civil services, or the nonprofit sector, administrators of technical and vocation programs, or those who have other administrative objectives in educational fields. Candidates who intend to pursue administrative careers in California public schools, grades K-12, will need to obtain the Preliminary Administrative Services Credential and then the Professional Administrative Services Credential. Credential candidates are advised to satisfy the requirements for the master's degree in conjunction with the credential.

Specific Requirements for the Master of Arts degree in Education with a Concentration in Educational Leadership:

A minimum of 30 units to include:

1. Core program: Six to nine units selected from the following:
 - ARP 600 Principles of Educational Administration (3)
 - ARP 605 Postsecondary Education (3)
 - ARP 610 Educational Leadership (3)
2. Six to nine units selected, with the approval of the graduate adviser, from the following:
 - ARP 611 Curriculum Theory and Development in Postsecondary Education (3)
 - ARP 630 Curriculum Design and Management (3)
 - ARP 652 Seminar in Instructional Improvement and Evaluation (3)
 - ARP 655 Administering Educational Organizations (3)
 - ARP 730 Seminar in Adult Learning (3)
3. Electives selected with the approval of the graduate adviser (6-9 units).

4. ED 690 Procedures of Investigation and Report (3)
5. Research: Three to six units selected from the following:
ED 791A Evaluation Techniques (3)
ED 791B-791C Practicum: Evaluation (1-3) or
ED 795A-795B Seminar (3-3) or
ED 799A Thesis (3)

Specific Requirements for the Preliminary Administrative Services Credential (Credential Code: 00501) (Academic coursework and experience required vary with the career goal of the student - see adviser):

1. Prerequisites:
 - a. An application for admission to the educational administration program.
 - b. Basic skills examination (CBEST).
 - c. Two letters of recommendation from school district or agency where employed.
 - d. A counseling interview with a program area faculty.
 - e. Valid California credential for teaching, pupil personnel services, school nursing, speech pathology, or librarianship.
 - f. Three years of successful, full-time K-12 school experience.
 - g. Students must have completed at least 1 unit (or the equivalent) of coursework dealing with computers in education.
2. Possession of a master's degree in Educational Administration or another field related to educational practice.
3. ARP 600 Principles of Educational Administration 3
ARP 610 Educational Leadership 3
ARP 630 Curriculum Design and Management 3
ARP 652 Seminar in Instructional Improvement and Evaluation 3
ARP 655 Administering Educational Organizations 3
ARP 660 Field Experience in Educational Administration 10
Electives selected with approval of adviser 3

4. All students must meet the state mandated requirement for competencies needed to serve individuals with disabilities. Consult with a program adviser in the Department of Special Education for coursework and waiver requirement.

Specific Requirements for the Professional Administrative Services Credential (Credential Code: 00502)
Candidates pursuing the Professional Administrative Services Credential can complete up to one-half of their program of study prior to employment in a credentialed administrative position. The remaining half of the credential **must** be completed both while holding an administrative position and within a three year period of time of starting the program. Prerequisites to the credential program:

1. Admission to graduate status at SDSU.
2. Admission to the Educational Administration program.
3. Possession of a valid Preliminary Administrative Services Credential or a Clear Administrative Service Credential.
4. Two letters of recommendation from knowledgeable field references.
5. Two most recent performance evaluations and assessment center profile, if available.
6. Letter of recommendation from superintendent or designee, and formal commitment of participating school district to provide release time for internship requirement.
7. Minimum grade point average of 3.25 in graduate study.

Program

Successful completion of 24-27 units which includes the following courses or approved equivalents:

	Units
ARP 701 School Law and Legal Issues for Administrators	3
ARP 715 School Finance and Fiscal Management	3
ARP 720 Educational Personnel Management and Practices	3
ARP 747 Instructional Leadership in a Multicultural Society	3
	12
Administrator Competency Evaluation requirement: ARP 798 Special Study	3
Field Experience Requirement: ARP 760 Internship in Educational Administration	9-12
Total	24-27

Notes:

1. The program of study leading to this credential is the result of collaborative planning among the candidate, candidate's school district representative, Administrative Services Credential Coordinator, and faculty adviser.
2. This professional evaluation activity will result in forming the framework for an individualized course of study for the internship experience.
3. Upon faculty advisement, students may be required to complete an additional six units of coursework.
4. Issuance of the Professional Administrative Services Credential requires completion of two years of successful, full-time, K-12 administrative experience earned while holding the Preliminary Administrative Services Credential.

Counseling

(Major Code: 08261)

The Master of Arts degree in education with a concentration in counseling provides a sequential and integrated program of study in the theories, research, and practice of counseling. The program, usually with Plan A, is designed to provide the student with the education and experiences necessary to prepare for doctoral studies in counseling. The program, usually with Plan B, is intended for individuals who seek to increase their understanding of human behavior and improve their interpersonal skills in their current profession or occupation. This program does **not** lead to credentials or licensure in counseling. Individuals seeking California credentials in school counseling or school psychology or licensure in marriage, family, and child counseling are referred to the description of the Master of Science in counseling program provided in the Counseling and School Psychology section of this bulletin. For further information, see the graduate adviser in the Department of Counseling and School Psychology.

1. Prerequisite: Admission to the Department of Counseling and School Psychology (see Counseling and School Psychology section of this bulletin).
2. Education 690 Procedures of Investigation and Report (3).
3. Core program (minimum of 15 units):
 - a. Common Core (3 units):
CSP 600 Counseling Communication Skills (2)
CSP 600L Counseling Prepracticum (1) Cr/NC

- b. Foundations (minimum of 6 units):

CSP 610A	Determinants of Human Behavior: Personality (3)
CSP 610B	Determinants of Human Behavior: Social and Cultural (3)
CSP 610C	Determinants of Human Behavior: Development (3)
CSP 610D	Determinants of Human Behavior: School Learning (3)
CSP 615	Seminar in Multicultural Dimensions in Counseling (3)
c. Theory, Research, and Techniques (minimum of 6 units):	
CSP 640	Theory and Process of Appraisal (3)
CSP 650	Theory and Process of Career Development (3)
CSP 651	Counseling for Sex Roles in Transition (3)
CSP 660	Theory and Process of Counseling (3)
CSP 662	Counseling Interventions with Children and Adolescents (3)
CSP 670	Theory and Process of Group Counseling (3)
CSP 680	Theory and Process of Consultation (3)
CSP 685	Theories of Marriage and Family Therapy (3)

4. Electives (6-9 units).
5. Research (3-6 units).
Ed 799A Thesis (3) or Ed 795A-795B Seminar (3-3) or Ed 791A Evaluation Techniques (3),
Ed 791B-791C Practicum: Evaluation (1-3)

Educational Research

(Major Code: 08241)

The Master of Arts degree in education with a concentration in educational research is designed to prepare students having a basic background in education to conduct measurement, research, and evaluation activities at a professional level. Emphasis is upon preparation for research activities at the school district level.

1. Prerequisite: A basic background in education (a minimum of 12 units of professional education) including at least one course in tests and measurement
2. ED 690 Procedures of Investigation and Report (3 units)
3. Core program (9 units): Policy Studies in Language and Cross-Cultural Education 612, Ethnographic Approach to Classroom Interaction (3 units); Teacher Education 646, Seminar in Educational Measurement (3 units); and 3 units of educational research design selected with the approval of the adviser
4. Electives (15 units) selected with adviser's approval
5. ED 799A, Thesis (3 units)

Educational Technology

(Major Code: 08992)

The Master of Arts degree in education with a concentration in educational technology enables students to prepare for careers as instructional technologists, educational specialists, instructional designers, trainers, and experts in educational computing. State-of-the-art coursework and internships in companies, agencies and schools prepare candidates to analyze performance problems and design, develop and evaluate instructional strategies and products. Students graduate with a portfolio including

educational computer software, instructional print materials, video, and interactive video programs. For further information, see the coordinator of educational technology. Course requirements follow:

1. Prerequisite: Varies with the career goal of the student. Students use educational technology skills in settings as diverse as the San Diego Zoo, UCSD Medical Center, and IBM. For most students, Educational Technology 540 and 541 are prerequisites. See adviser.
2. ED 690 Procedures of Investigation and Report (3 units).
3. Core program (15 units): The core is composed of courses in education and related fields, selected with the approval of the adviser on the basis of the student's interests and goals. A minimum of nine units must be taken in courses at the 600 and 700 level.
4. Electives (6-9 units) selected with the approval of the adviser.
5. Research (3-6 units)
ED 791A Evaluation Techniques (3)
ED 791B-791C Practicum: Evaluation (1-3) or
ED 795A-795B Seminar (3-3 units) or
ED 799A Thesis (3 units)

Specialization in Educational Computing within Educational Technology Concentration: Students specializing in educational computing must include among their 15 core units Educational Technology 544 and 572. Recommended electives to be approved by the program adviser include Educational Technology 553, 596, 644, 670, 671, 684, 775, and Special Education 650. Specialization prerequisites are Educational Technology 540 and 541.

Elementary Curriculum and Instruction

(Major Code: 08021)

The Master of Arts degree in education with a concentration in elementary curriculum and instruction is designed to increase professional competence in the form of more breadth, depth, and technical skill in curriculum and instruction, either generally or in selected areas of specialization.

1. Prerequisite: A basic background in education (minimum of 12 units) to include curriculum and methods, growth and development, educational psychology, and history and philosophy of education.
2. Education 690, Procedures of Investigation and Report (3 units).
3. Core program (15 units): The core is composed of courses in education and related fields, selected with the approval of the adviser on the basis of the student's interests, professional needs and goals. The core program will include:
 - a. Teacher Education 600, Curriculum Development in Education (3 units).
 - b. Teacher Education 626, Advanced Educational Psychology; or Teacher Education 655, Social Foundations of American Education; or Teacher Education 656, Comparative Education; or Teacher Education 657, Philosophy of Education (3 units).
 - c. Teacher Education 610A, Seminar in Mathematics Education - Elementary School; or Teacher Education 610C, Seminar in Science in Elementary Education; or Teacher Education 630, Seminar in Reading Education; or Teacher Education 631, Seminar in Language Arts; or related courses with approval of the adviser (3 units).

- d. 500/600/700-numbered courses in teacher education with the approval of the adviser (3-6 units).
 - e. 500/600/700-numbered courses in education or related fields selected with the approval of the adviser (up to 6 units).
 - 4. Electives (6-9 units) selected with the approval of the adviser.
 - 5. Special Study and Research (3-6 units): Education 791A-791B-791C, Evaluation (3-1-3 units); or Education 795A-795B, Seminar (3-3 units); or Education 799A, Thesis (3 units).
- The program of study must include at least 15 units of 600- and 700-level courses.

Policy Studies in Language and Cross-Cultural Education (Major Code: 08994)

The Master of Arts degree in education with a concentration in policy studies in language and cross-cultural education is designed to provide special knowledge and training for three diverse audiences with different career goals. Plan I, curriculum development, is geared for the classroom teacher or resource specialist who will be working directly with language minority students. Plan II, the research and policy study area, is geared for those who may work with school districts or other agencies, focusing on research questions and issues which affect the achievement of language minority students. Plan III has been developed to allow students to specialize in areas outside of the Policy Studies in Language and Cross-Cultural Education Department. The nine unit specializations may be in other College of Education departments or in departments across campus, with permission of the department adviser and the cooperating department. This allows for career options in a variety of settings with an emphasis in a noneducational discipline, to provide classroom teachers, researchers, and other specialists with a different orientation in examining policy research.

Students in each specialization will take a core of nine units in the Policy Studies in Language and Cross-Cultural Education Department. All students will also take a comprehensive examination* covering coursework for the M.A. degree.

* It is recommended that students enroll in PLC 686 in preparation for the comprehensive examination.

Prerequisites: PLC 602 (3) and PLC 653 (3)

M.A. Plans 9 Units Total

Plan I: PLC 612 (3), 613 (3), 650 (3) or

Plan II: PLC 612 (3), 614 (3), 623 (3) or

Plan III: PLC 612 (3) and 6 units from: PLC 553, 613, 614, 623, 650 with approval of adviser.

Research: 6-9 Units Total

ED 690 Procedures of Investigation and Report (3) AND

ED 791A Evaluation Techniques (3) OR

ED 791B-791C Practicum: Evaluation (1-3) or

ED 795A-795B Seminar (6) or

ED 799A Thesis (3)

Electives: 3-6 units selected with approval of adviser.

Specializations: Select 9 units from one of the following areas with consent of adviser.

1. Curriculum

PLC 552 Teaching Writing in Multilingual Settings (3)

PLC 553 Oral Language Assessment Techniques (3)

PLC 575 Computer Applications in the Bilingual Classroom (3)

- PLC 596 Special Topics in Bilingual and Multicultural Education (3)
 - PLC 651 Multicultural Methods and Curriculum in Content Areas (3)
 - PLC 652 Language Arts in the Multicultural Education Curriculum (3)
 - PLC 686 Seminar in Multicultural Education (1-6)
 - PLC 798 Special Study (1-6)
 - 2. Research and Policy
 - PLC 596 Special Topics in Bilingual and Multicultural Education (3)
 - PLC 613 Organizational Strategies and Staff Development for the Multicultural School-Community (3)
 - PLC 622 Analysis and Issues in Race and Ethnic Relations: Theory, Research and Action (3)
 - PLC 686 Seminar in Multicultural Education (1-6)
 - PLC 798 Special Study (1-6)
 - 3. Outside Specialization
- With consent of department adviser and a cooperating department or program.

Reading Education (Major Code: 08301)

The Master of Arts degree in education with a concentration in reading education is designed to provide increased knowledge and skill for those who are or wish to become reading/language arts specialists in public or private schools and clinics. The program prepares candidates to teach, tutor, develop curriculum, offer in-service instruction and administer reading centers for students ranging from kindergarten through community college, university, and adult levels. This degree is often earned concurrently with a California Reading/Language Arts Specialist Credential, which has a number of common requirements.

- 1. Prerequisites: Completion of a minimum of 12 units of professional coursework in education, including a basic course in methods and materials for teaching reading and a course in children's/adolescent literature prior to or concurrent with enrollment in TE 637 Instructional Strategies for Reading/Language Arts.
- 2. TE 634 Seminar in Research Investigations in Reading and Language Arts (4)
- 3. Core program (18 units)
- TE 536 Assessment of Reading/Language Arts (3)
- TE 631 Seminar in Language Arts (3)
- TE 636 Leadership in Literacy Evaluation (3)
- TE 637 Instructional Strategies for Reading/Language Arts (3)
- TE 638 Topics in Reading Education (minimum of 3)
- TE 639 Literacy and Language (3)
- 4. ED 791A Evaluation Techniques (3)
- ED 791B-791C Practicum: Evaluation (1-3) or
- ED 795A-795B Seminar (3-3) or
- ED 799A Thesis (3)
- 5. Electives (2)

Secondary Curriculum and Instruction (Major Code: 08031)

The Master of Arts degree in education with a concentration in secondary curriculum and instruction, is designed as the base for applicants to increase professional competence in any of the fields typically taught in secondary schools, and for obtaining

those competencies and technical skills in curriculum and instruction either generally, or in selected areas of specialization.

- 1. Prerequisite: A basic background in education (12 units).
- 2. ED 690 Procedures of Investigation and Report (3 units)
- 3. Core program (6 units): to include TE 600, Curriculum Development in Education (3 units) and three units from TE 604, Advanced Problems in Instruction; or TE 607, Seminar in Research in Curricular Problems.
- 4. Electives (15 units) selected with the approval of the graduate adviser on the basis of the student's interests, goals and needs. A minimum of three units must be in 600- or 700-numbered courses. A maximum of six units may be selected from cognate fields outside the College of Education.
- 5. ED 791A Evaluation Techniques (3) or
- ED 791B-791C Practicum: Evaluation (1-3)
- ED 795A-795B Seminar (3-3 units) or
- ED 799A Thesis (3 units)

A Master of Arts degree in education with a concentration in curriculum and instruction in the area of occupational or adult education is also offered. Each student is urged to consult with the program adviser as to the specific course content of the program. With the adviser's approval in this 30-unit program, up to 12 units of electives may be selected in the appropriate fields related to the major occupational field.

Special Education (Major Code: 08081)

The Master of Arts degree in education with a concentration in special education provides the professional educator with advanced knowledge and skills in special education. This degree has many requirements in common with the California Specialist Credential in Special Education and may be earned concurrently with that credential. The M.A. degree can include specializations in the following areas: early childhood, gifted, learning handicapped, severely emotionally disturbed/behaviorally disordered, severely handicapped, teaching low achieving students in the mainstream, and vocational transition. All programs must be approved by the graduate adviser. The M.A. degree program is open to individuals with undergraduate degrees in a wide range of disciplines and need not be linked to a teaching credential.

Early Childhood

Prerequisites: Special Education 500, 501, and an infant/child development course (e.g., FSCS 570) approved by adviser.

Core (15 units): Special Education 526, 528, 635, 643; *Education 690.

Advanced Specialization (9-12 units): Special Education 681 (in section approved by adviser); 6-9 units selected from Special Education 650 (1-3), 670, 771 (1-3), 798 (1-3), three units of approved electives at 600-level or above.

Culminating Experience (3-6 units): *Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

Gifted

Prerequisite: Special Education 500.

Core (12 units): Special Education 508, 644, 649; *Education 690.

Advanced Specialization (12-15 units): Special Education 681 (in section approved by adviser); 9-12 units selected from Special Education 650 (1-3), 670, 771 (1-3), 798 (1-3), three units of approved electives at 600-level or above.

Culminating Experience (3-6 units): *Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

Learning Handicapped

Prerequisites: Special Education 500 and 501.

Core (15 units): Special Education 524, 634, 647, 648; *Education 690.

Advanced Specialization (9-12 units): Special Education 681 (in section approved by adviser); 6-9 units selected from Special Education 650 (1-3), 670, 771 (1-3), 798 (1-3), three units of approved electives at 600-level or above.

Culminating Experience (3-6 units): *Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

Resource Specialization

Prerequisites: Special Education 500 and 501.

Core (9-12 units): Education 690 and 6-9 units selected from the following categories:

3-6 units from Special Education 647, 648;

3-6 units from Special Education 524, 525, 529;

3-6 units from Special Education 645, 664;

3-6 units from Special Education 662, 663, 677;

3 units from Special Education 634, 635.

Advanced Specialization (12-15 units): 3-6 units selected from Special Education 651, 652, 653; 6-9 units selected from Special Education 670, 681, 771, 798; 3-6 units selected from Special Education 650; and other approved 600-level courses.

Culminating Experience (3-6 units): Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

Severely Emotionally Disturbed/ Behaviorally Disordered

Prerequisites: Special 500 and 501.

Core (15 units): Special Education 529, 634, 647, 677; *Education 690.

Advanced Specialization (9-12 units): Special Education 681 (in section approved by adviser); 6-9 units selected from Special Education 650 (1-3), 670, 771 (1-3), 798 (1-3), three units of approved electives at 600-level or above.

Culminating Experience (3-6 units): *Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

Severely Handicapped

Prerequisites: Special Education 500 and 501.

Core (15 units): Special Education 525, 635, 645, 664; *Education 690.

Advanced Specialization (9-12 units): Special Education 681 (in section approved by adviser); 6-9 units selected from Special Education 650 (1-3), 670, 771 (1-3), 798 (1-3), three units of approved electives at 600-level or above.

Culminating Experience (3-6 units): *Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

Teaching Low Achieving Students in the Mainstream

Prerequisites: Special Education 501; Special Education 971 (4-6 units).

Core (15 units): Special Education 553, 647, 648, 650 (3); *Education 690.

Advanced Specialization (9-12 units): Special Education 527, 670, 681 (in section approved by the adviser), 771 (1-3), 798, three units of approved electives at 600-level or above.

Culminating Experience (3-6 units): *Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

Vocational Transition

Prerequisite: Special Education 501 or Administration, Rehabilitation and Postsecondary Education 584.

Core (15-18 units): Special Education 663, 664; *Education 690; 6-9 units selected from (a) Special Education 524 or 525;

(b) Special Education 645 or 648; (c) Special Education 771 or Administration, Rehabilitation and Postsecondary Education 744 or Counseling and School Psychology 730; *Education 690.

Advanced Specialization (9-12 units): Special Education 681 (in section approved by adviser); 6-9 units selected from Special Education 645, 650, 662, 670, 798 (1-6), Administration, Rehabilitation and Postsecondary Education 645, 687, Counseling and School Psychology 650, 3-6 units of approved electives at the 600 or 700 level.

Culminating Experience (3-6 units): *Education 795A-795B or Education 791A, 791B, 791C or Education 799A.

* In departmentally approved sections.

Master of Science Degree in Rehabilitation Counseling

General Information

The rehabilitation counseling program has the primary objective of preparing rehabilitation students to enter the field of vocational rehabilitation, and provide rehabilitation counseling services to individuals with physical, emotional, and/or cognitive disabilities. Expanded curriculum in assistive technologies, rehabilitation of deaf and hard of hearing clients, vocational assessment, administration of rehabilitation programs, substance abuse, proposal development and work within the public and private sectors are highlighted. The degree is accredited by the Commission on Rehabilitation Education (CORE). A limited number of graduate stipends from the Rehabilitation Services Administration are available to (1) students who are committed to entering vocational rehabilitation in publicly supported programs after graduation, and (2) students with a financial need. Graduates qualify for CRC, CIRS, and CWAVES certification.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Two of this bulletin. The student must file an application for admission to San Diego State University with both the Office of Admissions and Records and the Rehabilitation Counseling Program.

Students seeking admission to the graduate program which leads to a Master of Science degree in rehabilitation counseling should address their inquiries to the coordinator 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 to file only the general university admission forms.

Students are typically admitted in the fall semester each year. Preference is given to applications that are completed and submitted by May 1.

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 program. In order to continue in the program, the student must demonstrate ongoing academic, professional, and personal growth.

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

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree in Rehabilitation Counseling

(Major Code: 12221)

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

40 units of required courses:

- ARP 584 Introduction to Rehabilitation Process (3)
- ARP 645 Assessment and Vocational Development (6)
- ARP 648 Group Dynamics in Rehabilitation (3)
- ARP 680 Seminar in Administration, Rehabilitation and Postsecondary Education (3)
- ARP 685A-685B Medical and Psychological Aspects of Disability (3-3)
- ARP 687 Placement of Individuals with Disabilities (3)
- ARP 710A-710B Seminar in Rehabilitation (3-3)
- CSP 615 Seminar in Multicultural Dimensions in Counseling (3)
- CSP 660 Theory and Process of Counseling (3)
- CSP 660L Counseling Prepracticum Laboratory (1) Cr/NC
- ED 690 Procedures of Investigation and Report (3)

12-15 units selected from the following:

- ARP 743 Fieldwork in Rehabilitation (3-6) Cr/NC
- ARP 744 Practicum in Rehabilitation (3-9) Cr/NC
- ARP 745 Internship in Rehabilitation (3-9) Cr/NC
- 5-8 units of electives as determined by consent of the faculty adviser.

Comprehensive Examination

A written comprehensive examination is required. The student must demonstrate satisfactory performance on a written comprehensive examination, in lieu of thesis, prepared by the rehabilitation counseling program. Reservations for the examination must be made in advance in the Rehabilitation Counseling Program Office, Hardy Annex, Room 146.

Program Structure

The rehabilitation counseling program offers a two-year, full-time format that leads to the Master of Science in rehabilitation counseling. Students are accepted on a full-time and part-time basis.

Master of Science Degree in Counseling General Information

The Department of Counseling and School Psychology offers graduate study leading to either the 30-unit Master of Arts degree in education with a concentration in counseling or the 60-unit Master of Science degree in counseling.

The Master of Science degree in counseling provides an integrated sequence of study in the theories, research, and practice of counseling. This program prepares the student for the profession of counseling as applied in the schools, human services agencies, and industry. The program is based on the premise that there is a generic core of competencies and experiences appropriate for counseling in a variety of settings with specialized study and experiences provided, including immersion in an appropriate fieldwork setting. Defined specializations are offered in Marriage, Family, and Child Counseling; School Counseling; and School Psychology. Within these specializations, individual needs are met through opportunities for student-initiated seminars and independent study.

The Department of Counseling and School Psychology offers courses which may be applied to either degree program. Course offerings are organized in three ways: full time or part time in the regular programs and full time in the Community Based Block.

Within the regular programs the majority of courses are available in the late afternoons or evenings thus accommodating students who intend to work or who have fieldwork placements. With careful planning and possible summer session courses, full-time students can complete the Master of Science degree in counseling in any of the specializations in three years. Part-time students who take at least two courses a semester and in summer session may expect to double the time needed to complete the degree. Student planning must be done with the adviser and should take into account the following guidelines: Education 690 should be taken as early as possible and must be completed prior to Counseling and School Psychology 640; Counseling and School Psychology 600 and 600L are to be completed prior to 660, 660 prior to 740, and 740 prior to 710B.

The Community Based Block (CBB) is a special unit within the Department of Counseling and School Psychology. The CBB is community based in two senses of the word "community." The basic approach to learning is the development of a total, self-contained "learning community" - a group of approximately 30 full-time graduate students and at least three core faculty members committed to working and learning together. The word "community" also refers to the locale of the program (almost all of the program is off-campus) and to its special focus on the inner-city and people of difference. The CBB deliberately recruits an extremely diversified group of students. Although the CBB places special emphasis on working in innercity settings with multiethnic populations, admission to the program is not limited to students committed to working with these populations. The program is designed for students who intend to work in a variety of settings and includes appropriate fieldwork placements.

The following departmental courses are open to students who have not been accepted into a program and are interested in exploring departmental offerings: Counseling and School Psychology 400, 401, 596, 600, 600L, 610A, 610B, 620, and 621. Credit from 500 and 600 level courses may be applied towards graduation if admitted to a program. Students should consult with the coordinator of the particular program in which they are interested about the credit application policy within the program.

Financial Assistance

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

Accreditation

The National Council for the Accreditation of Teacher Education (NCATE) has accredited the specializations in school counseling and, in conjunction with the National Association of School Psychologists (NASP), in school psychology. These national accreditations, however, do not guarantee certification or credentialing as school counselors or school psychologists outside of California. It is the student's responsibility to be aware of other states' requirements, and to arrange adjustment in the program accordingly if credentials are to be sought elsewhere.

Admission to Graduate Study

In seeking admission to graduate study in counseling, the student should write directly to the Department of Counseling and School Psychology, requesting appropriate application materials. Degree, program, and specialization information and detailed instructions concerning application procedures will be sent to the applicant along with all necessary forms. All application materials become the property of the department and will not be returned to the applicant.

In addition to application with the Department of Counseling and School Psychology, the student must file an application for admission to San Diego State University with the Office of Admissions and Records.

It is essential that the following application materials be submitted to the Department of Counseling and School Psychology by March 1 for fall admission.

1. Completed application form.
 2. At least three letters of recommendation.
 3. Transcripts of all collegiate work (official copies to the Graduate Division, photocopies to the department).
 4. Graduate Record Examination (GRE) scores - Aptitude portion (official copies to the Graduate Division, photocopies to the department).
 5. Applicants whose GRE scores and/or grade point averages fall below the University standard must supply additional data to support consideration for admissions.
- For school psychology and school counseling applicants:
6. California Basic Educational Skills Test (CBEST) must be taken.
 7. Portfolio submitted.

Recommendations are made by the Admissions Committee to the department faculty and chair who make the final recommendation for admission to the University.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, as described in Part Two of this bulletin and be recommended by the faculty. A student may be advanced to candidacy when the official program has been filed and after having earned a minimum grade point average of 3.0 in at least 24

units listed on the official program. A minimum of 18 units listed on the official program must be completed after advancement; coursework in progress at time of advancement can count as part of these 18 units.

Specific Requirements for the Master of Science Degree in Counseling

(Major Code: 08261)

In addition to meeting the requirements for admission to the University with classified graduate standing, the student must satisfy the basic requirements for the master's degree described in Part Two of this bulletin. In addition, the student must meet the requirements specified below.

Selection of Plan A or Plan B

The selection of Plan A, the thesis or project or Plan B, the comprehensive examination plan, is made in consultation with the adviser at the time the official program of study is filed. Plan A thesis is designed for students who have a particular research problem they wish to investigate in some detail. The Plan A project is expected to be a rigorous application of research and theory in a professional endeavor, e.g., designing an elementary school counseling program. The comprehensive examination option for Plan B requires demonstration of the integration and application of theory, research, and techniques. It is expected that the student will take the comprehensive examination concurrent with or following Counseling and School Psychology 710B. The examination is offered near the end of each semester. Information is available from the Counseling and School Psychology office.

Course Requirements

Students are expected to consult with their adviser prior to taking any coursework leading to the master's degree. Selections of courses have been designated for the specializations and must be reviewed with the adviser. Students are urged to take Education 690 and Counseling and School Psychology 600 and 600L as early as possible in their first graduate year.

The student must complete a minimum of 60 units (62 units for the Specialization in School Psychology) of 500-, 600-, 700-numbered courses, including:

1. Common Core (6 units):
 - ED 690 Procedures of Investigation and Report (3)
 - CSP 600 Counseling Communication Skills (2)
 - CSP 600L Counseling Prepracticum (1) Cr/NC
2. Foundations (a minimum of 9 units):
 - CSP 610A Determinants of Human Behavior: Personality (3)
 - CSP 610B Determinants of Human Behavior: Social and Cultural (3)
 - CSP 610C Determinants of Human Behavior: Development (3)
 - CSP 610D Determinants of Human Behavior: School Learning (3)
 - CSP 615 Seminar in Multicultural Dimensions in Counseling (3)
3. Theory, Research, and Techniques (a minimum of 12 units):
 - CSP 640 Theory and Process of Appraisal (3)
 - CSP 650 Theory and Process of Career Development (3)
 - CSP 651 Counseling for Sex Roles in Transition (3)

- CSP 660 Theory and Process of Counseling (3)
- CSP 662 Counseling Interventions with Children and Adolescents (3)

- CSP 670 Theory and Process of Group Counseling (3)
- CSP 680 Theory and Process of Consultation (3)
- CSP 685 Theories of Marriage and Family Therapy (3)

- CSP 686 Seminar: Gender and Ethnicity in Family Therapy (3)

4. Integration and Application of Theory, Research, and Techniques (a minimum of 6 units):

- CSP 730 Fieldwork in Counseling (2-6) Cr/NC
- CSP 740 Practicum: Individual Counseling (3) Cr/NC
- CSP 741 Practicum: Group Counseling (3) Cr/NC
- CSP 750 Advanced Seminar and Practicum: Individual Counseling (3-6) Cr/NC

- CSP 780 Internship (2-12) Cr/NC

5. Research (a minimum of 3 units):

- CSP 710A Professional Seminar (3) or
- CSP 799A Thesis (3) Cr/NC/SP

6. Electives: 24 units selected with adviser's approval.

Specialization in Marriage, Family, and Child Counseling

The Master of Science in counseling with a specialization in marriage, family, and child counseling, is designed to satisfy the coursework requirements for the California License for Marriage, Family, and Child Counselors. The student must design the sequencing of the degree program in consultation with the adviser, and must complete a minimum of 60 units of 500-, 600-, and 700-numbered courses, including:

1. Prerequisite:

Admission to the University and the Department of Counseling and School Psychology for specialized study in marriage, family, and child counseling.

2. Common Core (6 units):

- ED 690 Procedures of Investigation and Report (3)
- CSP 600 Counseling Communication Skills (2)
- CSP 600L Counseling Prepracticum (1) Cr/NC

3. Foundations (12 units):

- CSP 610A Determinants of Human Behavior: Personality (3)
- CSP 610B Determinants of Human Behavior: Social and Cultural (3)
- CSP 610C Determinants of Human Behavior: Development (3)
- CSP 615 Seminar in Multicultural Dimensions in Counseling (3)

4. Theory, Research, and Techniques (minimum of 12 units):

- CSP 640 Theory and Process of Appraisal (3)
- CSP 660 Theory and Process of Counseling (3)
- CSP 662 Counseling Interventions with Children and Adolescents (3)

- CSP 670 Theory and Process of Group Counseling (3)
- CSP 685 Theories of Marriage and Family Therapy (3)

- CSP 686 Seminar: Gender and Ethnicity in Family Therapy (3)

5. Integration and Application of Theory, Research, and Techniques (minimum 9 units).

- Six units selected from:
- CSP 740 Practicum: MFCC (3) Cr/NC and/or

- CSP 750 Advanced Seminar and Practicum: MFCC (3-6) Cr/NC

Minimum of three units selected from:

- CSP 730 Fieldwork in Counseling: MFCC (2-6) Cr/NC
- CSP 740 Practicum: Individual Counseling (3) Cr/NC

- CSP 740 Practicum: MFCC (3) Cr/NC

- CSP 750 Advanced Seminar and Practicum: MFCC (3-6) Cr/NC

- CSP 780 Internship: MFCC (2-12) Cr/NC

6. Additional requirements for the specialization (9 units):

- CSP 585A Human Sexuality for Counselors (3)
- CSP 585B Dynamics of Adjustment Behavior (3)
- CSP 605 Seminar in Ethical and Legal Issues for Counselors (3)

7. Research (3 units):

- CSP 710A Professional Seminar (3) or
- CSP 799A Thesis (3) Cr/NC/SP

8. Electives (9 units): Selected with approval of adviser.

For additional information related to the marriage, family, and child counselor specialization and licensure, contact the Department of Counseling and School Psychology or the director of the specialization.

Specialization in School Counseling

The Master of Science in counseling with a specialization in school counseling includes coursework and experiences designed to meet the competencies required for the California Pupil Personnel Services Credential (**Credential Code: 00800**). This credential authorizes the holder to function as a counselor or other pupil personnel specialist in grades K through 12. Additional information may be obtained from the Department of Counseling and School Psychology or the director of the school counseling specialization. The student must design the sequencing of the degree program in consultation with the program director, and must complete a minimum of 60 units of 500-, 600-, and 700-numbered courses, including:

1. Prerequisites:

Admission to the University and the Department of Counseling and School Psychology for specialized study in school counseling.

2. Common Core (6 units):

- ED 690 Procedures of Investigation and Report (3)
- CSP 600 Counseling Communication Skills (2)
- CSP 600L Counseling Prepracticum (1) Cr/NC

3. Foundations (minimum 9 units):

- CSP 610A Determinants of Human Behavior: Personality (3)
- CSP 610B Determinants of Human Behavior: Social and Cultural (3)
- CSP 610C Determinants of Human Behavior: Development (3)
- CSP 610D Determinants of Human Behavior: School Learning (3)

- CSP 615 Seminar in Multicultural Dimensions in Counseling (3)

4. Theory, Research, and Techniques (18 units):

- CSP 640 Theory and Process of Appraisal (3)
- CSP 650 Theory and Process of Career Development (3)

- CSP 660 Theory and Process of Counseling (3)
- CSP 662 Counseling Interventions with Children and Adolescents (3)

- CSP 670 Theory and Process of Group Counseling (3)
- CSP 685 Theories of Marriage and Family Therapy (3)

- CSP 670 Theory and Process of Group Counseling (3)
- CSP 680 Theory and Process of Consultation (3)

5. Integration and Application of Theory, Research, and Techniques (minimum 12 units):

- CSP 730 Fieldwork in Counseling: PPS (6) Cr/NC
- CSP 740 Practicum: Individual Counseling (3) Cr/NC
- CSP 780 Internship: PPS (2-12) Cr/NC

6. Additional requirements for specialization (minimum 3 units):

- CSP 620 Guidance Services in Public Education (3)
- CSP 745 Program Development for Pupil Services (3)

7. Research (a minimum of 3 units):

- CSP 710A Professional Seminar (3) or
- CSP 799A Thesis (3) Cr/NC/SP

8. Electives (9 units):

Selected with approval of adviser.

Students must receive a grade of B or better (Cr for credit/no credit graded courses) in every course to document attainment of the competencies required for the Pupil Personnel Services Credential. Students not meeting this requirement must immediately consult the department chair or the director of the school counseling specialization.

In addition to the required courses and experiences, the student must pass all components of the CBEST to be eligible for the credential. Students must have Certificate of Clearance prior to starting fieldwork (CSP 730), practicum (CSP 740), or internship (CSP 780). Students should contact the Center for Careers in Education (ED 100) regarding the CBEST and Certificate of Clearance.

Students already holding a master's degree in counseling or in a related area may apply for non-degree credential preparation in school counseling. These students must follow the regular application procedures and requirements. An individualized program of study may be designed on approval of the school counseling committee. To pursue the non-degree credential preparation, contact the school counseling program director.

Specialization in School Psychology

The Master of Science in counseling with a specialization in school psychology includes coursework and experiences designed to meet the competencies leading to the California credential in school psychology (**Credential Code: 00950**). The credential authorizes the holder to function as a school psychologist in grades K through 12. Additional information may be obtained from the office of the Department of Counseling and School Psychology or the director of the school psychology specialization. The student should design the sequencing of the degree program in consultation with the adviser, and must complete a minimum of 62 units of 500-, 600-, and 700-numbered courses, including:

1. Prerequisites:

a. Admission to the University and the Department of Counseling and School Psychology for specialized study in school psychology.

b. California Basic Educational Skills Test (CBEST) scores must be reported to the department prior to beginning this sequence of study. A photocopy will suffice.

c. The student should apply for a Certificate of Clearance prior to beginning the sequence of study. Consult the Center for Careers in Education, ED-100.

2. Common Core (6 units):
ED 690 Procedures of Investigation and Report (3)
CSP 600 Counseling Communication Skills (2)
CSP 600L Counseling Prepracticum (1) Cr/NC
3. Foundations (a minimum of 12 units):
CSP 610B Determinants of Human Behavior: Social and Cultural (3)
CSP 610C Determinants of Human Behavior: Development (3)
CSP 610D Determinants of Human Behavior: School Learning (3)
CSP 615 Seminar in Multicultural Dimensions in Counseling (3)
4. Theory, Research, and Techniques (a minimum of 15 units).
Required courses:
CSP 640 Theory and Process of Appraisal (3)
CSP 660 Theory and Process of Counseling (3)
CSP 680 Theory and Process of Consultation (3)
Six units from the following:
CSP 620 Guidance Services in Public Education (3)
CSP 650 Theory and Process of Career Development (3)
CSP 662 Counseling Interventions with Children and Adolescents (3)
CSP 670 Theory and Process of Group Counseling (3)
CSP 685 Theories of Marriage and Family Therapy (3)
5. Integration and Application of Theory, Research, and Techniques (a minimum 6 units):
CSP 730 Fieldwork in Counseling: School Psychology (2-6) Cr/NC
CSP 740 Practicum: Individual Counseling (3)Cr/NC
6. Additional requirements for specialization (a minimum of 14 units):
CSP 642A and 642B Individualized Appraisal of Learning Characteristics (4-4)
CSP 752 Seminar and Practicum: School Psychology (3-6) Cr/NC
7. Research (a minimum of 9 units).
Required:
CSP 710A Professional Seminar (3)
CSP 760 Advanced Seminar in School Psychology (3)
Three units from:
CSP 710B Professional Seminar (3)
CSP 799A Thesis (3) Cr/NC/SP

In addition to the courses required for the Master of Science in counseling with a specialization in school psychology, the following courses or equivalents are required for the California School Psychology Credential:

- SPED 500 Human Exceptionality (3)
CSP 621 Introduction to School Psychology (3)
CSP 760 Advanced Seminar in School Psychology (3)
CSP 780 Internship (2-12) Cr/NC

Students must receive a grade of B or better (Cr for credit/no credit graded courses) in every course to document attainment of the competencies required for the school psychology credential. Students not meeting this requirement must immediately consult with the adviser or the director of the school psychology specialization. In addition to the required courses and experiences, the

student must pass all components of the CBEST for eligibility for the credential.

The school psychology program, including degree and credentials requirements, may be completed on three-, four-, or five-year plans. The final year, Counseling and School Psychology 760, 780, and either 710B or 799A, is a full-time experience.

Students already holding a master's degree in counseling, psychology, or a related area may apply for non-degree credential preparation in school psychology. These students must follow the regular application procedures and requirements. An individualized program of study may be designed on approval of the school psychology committee.

After receiving the school psychology credential and completing two years of post-internship, full-time service as a school psychologist in the public schools, the school psychologist is eligible to take the standardized examination for licensure as an educational psychologist in California.

Selecting a Specialization

Students intending to pursue one of the three defined specializations should consult with the director of the specialization regarding application or declaration procedures. Students must declare their intent to specialize prior to filing the official program of study.

Section III. Other Programs Teaching/Service Credentials and Certificates

The College of Education offers programs which lead to teaching, specialist, and services credentials. Students who desire to seek a credential should consult with departmental advisers in order to determine their status and needed requirements. Information on these credentials is available in the offices of the several departments of the College of Education and in the Center for Careers in Education, ED-100.

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

Approved Credential Programs	School Service Authorized
1. Multiple subject	Teach in any self-contained classroom, kindergarten through twelfth grade.
2. Multiple subject bilingual	Teach primary language, cross-cultural language and academic development (BCLAD)
3. Multiple subject with a	Teach in specially academic instruction in English and ESL.
4. Single subject	Teach single subject area in grades kindergarten through twelve.

Specialist Credentials

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

Service Credentials

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

Specialist Certificates

Language Development Specialist
Resource Specialist

Bilingual/Cross-Cultural Specialist Credential

(Credential Code: 00440)

Candidates in the credential program must possess a valid California Teaching Credential, must have completed Education 451 or equivalent, and must successfully complete the following 24 units and a comprehensive examination. Also, oral and written proficiency in English and in a second language must be demonstrated prior to completion of the credential program. Candidates must have approval of their adviser for their course of study, and must apply for the credential through the Center for Careers in Education, ED-100, upon successful completion of the program.

	Units
PLC 553 Oral Language Assessment Techniques	3
PLC 602 Cross-Cultural Experience in Classroom Interaction	3
PLC 613 Organizational Strategies and Staff Development for the Multicultural School-Community	3
PLC 650 Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies	3
PLC 651 Multicultural Methods and Curriculum in Content Areas	3
PLC 652 Language Arts in the Multicultural Education Curriculum	3
ED 690 Procedures of Investigation and Report	3
Linguistics 550 Theory and Practice of English as a Second Language	3

Multiple Subject Credential (Elementary Education) (Credential Code: 00200)

Multiple Subject-Professional Clear Credential

Persons interested in teaching in the traditional elementary school will typically pursue the Multiple Subject credential which authorizes teaching service in self-contained classrooms in pre-schools, grades K-12, and in classes organized primarily for adults (classrooms in which one teacher is responsible for all the subjects commonly taught). Recommendation for this credential requires:

1. A baccalaureate or higher degree.
2. Completion of an approved program of professional education, including student teaching and coursework in reading methods with a grade point average of 3.0 or higher.
3. Basic skills competency as demonstrated through passing scores on the California Basic Educational Skills Test (CBEST).
4. Demonstrated subject matter competency through completion of an approved waiver program (Liberal Studies,

Emphasis in Education) or passing scores on the NTE Multiple Subjects Assessment for Teachers (MSAT) (must have scores taken within five years prior to recommendation).

5. Demonstrated knowledge of the principles and provisions of the United States Constitution through successful completion of a three-unit collegiate-level course or examination. (Courses are listed in the section of this catalog on "Graduation Requirements," IV. American Institutions Requirement, B.2. United States Constitution.)
6. Knowledge of health education in California, including substance abuse and nutrition: HS 101, 320 (preferred), or 321 and, as of 9/1/92, verification of CPR competency.
7. Demonstrated knowledge of PL 94-142: Needs of, and methods of providing educational opportunities to individuals with exceptional needs (mainstreaming), TE 526 or SPED 501.
8. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy): EDTEC 470.
9. Completion of a fifth year of study (30 units of upper division or graduate-level coursework completed **after** issuance of the baccalaureate degree; coursework in professional preparation, including student teaching, may apply if completed after the baccalaureate degree).

The Professional Clear Multiple Subject credential is valid for five years and requires completion of a minimum of 150 hours of approved professional growth activities and 90 days of teaching-related activities in order to be renewed.

Multiple Subject (Elementary)-Preliminary Credential

Candidates may be recommended for Preliminary Multiple Subject teaching credentials when they have satisfied requirements 1, 2, 3, 4, and 5 listed above. Applicants whose academic programs allow them to meet these requirements concurrently with their baccalaureate degrees will be eligible for preliminary certification. The Preliminary credentials have the same teaching authorizations as the Professional Clear credentials and are valid for five-year periods. Holders of the Preliminary credentials must complete items 6, 7, 8, and 9 within that five-year time period in order to be renewed as Professional Clear credentials. Five-year preliminary credentials may not be extended without completion of the additional requirements within the original five years of issuance.

NOTE: Undergraduate students in the Multiple Subject credential program may register for concurrent postbaccalaureate credit in their final semester prior to obtaining a baccalaureate degree as explained in the section of this catalog on "General Regulations."

Admission Standards and Qualifications for the Multiple Subject Credential Program

Candidates for the Multiple Subject Credential Program must satisfy the standards and qualifications listed below and submit complete application packets to the Center for Careers in Education within the specified application periods. Applications for program admission for the 1993 academic terms are available from Aztec Shops Copy Center during the following open enrollment dates:

For Spring 1994 – August 23 through October 8, 1993

For Fall 1994 – January 24 through March 11, 1994

Completed application packets will include items verifying satisfaction of the following:

- 1. CBEST Examination.** Students must pass the California Basic Educational Skills Test (CBEST) **prior to admission** to the Multiple Subject credential program. Information may be obtained from the Test Office, SS-2549. Candidates are urged to take this examination as early as possible. Candidates are required to submit both an official CBEST transcript and a photocopy of the individual score reports.
- 2. Subject Matter Competency.** Students must verify completion of subject matter competency in diversified subjects commonly taught in self-contained classrooms prior to admission to the Multiple Subject Credential Program. This may be done through successful completion of the Liberal Studies major, Emphasis in Education or its equivalent at another California teacher-training institution or passing scores on the NTE Multiple Subjects Assessment for Teachers (MSAT). Test scores submitted for verification of subject matter competency are valid for five years from the date of the examination and must be valid at the time of recommendation for the credential. Registration information and materials for the NTE are available through the Test Office, SS-2549.
- 3. Prerequisite Courses.** These courses or approved equivalents must be completed with grades of "C," "CR," or higher no more than five years prior to admission to the Multiple Subject Credential Program:
 - a. Education 451, "Introduction to Multicultural Education."** This course provides an introduction to ethnicity, language, and culture in education, particularly the ways in which those factors differentially affect educational outcomes for children. The course assists in preparing teacher applicants to work with students from diverse backgrounds by examining both societal and personal belief systems and the ways that those beliefs are expressed in public school classrooms.
 - b. Mathematics 210, "Structure and Concepts of Elementary Mathematics I."** This course covers pre-number concepts; development of whole numbers, integers, and their operations; number theory; geometric concepts of two and three-dimensional spaces; problem-solving strategies. With approval of the mathematics adviser, any of the following courses may be substituted for Mathematics 210: Mathematics 121, 150, 312.
 - c. Music 102, "Basic Musicianship for Non-Music Majors."** Topics in this course include rudimentary music theory involving the elements of music: melody, rhythm, and harmony; developing the understanding of these elements through instrumental and vocal experiences which include the use of unison and part-singing, the keyboard, and simple melodic and harmonic instruments.
 - d. Physical Education 241A-241B, "Physical Education of Children."** Course content includes discussion of scientific principles, programs, activities, and instructional techniques for physical education in

elementary schools. Practical field experience with elementary students is also required.

Candidates are required to submit unofficial transcripts from SDSU and/or official transcripts from all other colleges and universities attended including any current coursework-in-progress to verify completion of or enrollment in these courses.

- 4. Grade Point Average.** Candidates must have cumulative grade point averages (GPAs) within the upper one-half of undergraduate students in the candidates' majors. GPAs vary according to discipline and graduating institution. GPA requirements are available in the Center for Careers in Education, ED-100. Candidates are required to submit official copies of transcripts from all colleges and universities attended and unofficial copies of transcripts for SDSU coursework for GPA calculations.
- 5. TB Clearance.** Evidence of a negative tuberculosis test (these tests are valid for four years and must be in effect during the time that candidates are enrolled in the credential program). Clearance statements may be secured from Health Services, private physicians or HMO's, or public health agencies.
- 6. California Certificate of Clearance.** This certificate represents a background clearance and check conducted by the State Department of Justice and Federal Bureau of Investigation. Turnaround time for the clearance can take as long as eight months; forms are available in the Center for Careers in Education, ED-100. Possessors of K-12 California credentials may satisfy this requirement by submitting copies of those certificates. In lieu of the actual Certificate of Clearance or copy of a valid credential, candidates may submit their clearance application packets and fees concurrently with program applications.
- 7. Early Field Experience.** All candidates are required to participate in an early field experience in the public schools prior to admission to the program. This requirement can be satisfied through documented experience or completion of Liberal Studies 300, "Introduction to Liberal Studies."
- 8. Appeals Process.** Candidates who do not meet all the admission requirements may petition the Multiple Subject Admissions and Retention Committee for individual consideration; petition forms must be submitted concurrently with the applications packets.

In addition to the minimum admissions standards identified above, the Multiple Subject Admissions and Retention Committee also may consider qualifications such as previous teaching experience, relevant working experience with children, and second language ability. Due to the number of applicants, application to the program does not ensure admission.

NOTE: Appointments for discussion of individual concerns relative to the credential program may be made with the Multiple Subject Credential Program Adviser during the academic year through the Center for Careers in Education, ED-100, 594-5964. All candidates are urged to attend one of the regularly scheduled group advising sessions prior to making an individual appointment.

Multiple Subject Credential with a Cross-Cultural, Language and Academic Development Emphasis (CLAD)

(Credential Code: 00200)

The program of study leading to the Multiple Subject Credential with an emphasis in Cross-Cultural, Language, and Academic Development (CLAD) prepares candidates to teach in classrooms serving the increasing number of children in our schools with limited English proficiency in situations where bilingual teachers are not available. The CLAD program provides candidates with more training than basic credential candidates in three areas: language acquisition/development, culture, and pedagogical strategies for English language development. This credential will help meet the critical shortage of bilingual teachers in California public schools by preparing entry level teachers to deliver specially-designed academic instruction in English promoting both language development and academic success in all content areas.

Candidates recommended for the Multiple Subject Teaching Credential with a Cross-Cultural, Language and Academic Development Emphasis (CLAD) must meet all the requirements for the Multiple Subject Preliminary Credential and satisfy the admission standards and qualifications for the Multiple Subject Credential program listed above. In addition, they must complete the following prerequisites:

1. Experience Learning a Second Language

Six semester units of college coursework in a second language or equivalent experience such as three years of high school foreign language, Peace Corps training and service or residence in a non-English speaking country.*

2. Prerequisite Courses

Linguistics 420**	3 units
Linguistics 452**	3 units
Linguistics 550	3 units
Policy Studies in Language and Cross-Cultural Education 515	3 units

* Already required for Liberal Studies major and some single subject majors.
** Linguistics 420 and 452 are requirements for the Liberal Studies major.

Bilingual Cross-Cultural Language and Academic Development (BCLAD) Credential

(Credential Code: 00200)

The Bilingual Cross-Cultural Language and Academic Development (BCLAD) credential is available to students interested in teaching in a bilingual elementary school classroom. This credential authorizes the holder to teach in any self-contained bilingual or regular classroom in which one teacher is responsible for all the subjects commonly taught in the elementary schools. Candidates who pursue this credential need to specify "Multiple Subject with **Bilingual Emphasis**" in the application for admission to the University.

Standards for Admission

- 1. CBEST.** Students must pass the California Basic Educational Skills Test prior to admission to the BCLAD credential program. This examination is required by the Commission on Teacher Credentialing. Booklets containing

registration forms and test information are available from the Test Office in SS-2549 (594-5216).

- 2. Major.** The Liberal Studies major, Emphasis in Education may be selected in preparation for the teaching credential. Students who have academic majors other than liberal studies are required to pass the commission-approved National Teacher Examination (NTE) Multiple Subjects Assessment for Teachers (MSAT). Information may be obtained through the Test Office (SS-2549) or through advisers in the Policy Studies in Language and Cross-Cultural Education Department (PLC), ED-152.

3. Prerequisite Courses.

Policy Studies in Language and Cross-Cultural Education 515	3 units
Education 451	3 units
Linguistics 420	3 units
Linguistics 452	3 units
Linguistics 550	3 units
Mathematics 210*	3 units
Physical Education 241A, 241B	2 units
Art or Drama or Music - Art 100, 101, 157; Drama 105; Music 102	3 units

* With approval of the mathematics adviser, any of the following mathematics courses may be substituted for Mathematics 210: Mathematics 121, 150, 312.

- 4. Grade Point Average.** Students must have a grade point average (GPA) within the top half of students having a similar major. For CSU graduates completing 30 units or more at the graduating campus, the GPA is calculated on units completed at that institution only. For CSU graduates with fewer than 30 units at the graduating campus, the GPA is calculated on the cumulative units completed at all schools attended. The GPA for non-CSU graduates is computed on overall college units completed. CSU graduates' minimum GPA must be at or above the median GPA as posted by major and by campus. Non-CSU graduates must meet or exceed the CSU system average as posted by major. A "B" (3.0) GPA must be maintained throughout the credential program once a student is admitted.

- 5. Letters of Recommendation.** Three letters of recommendation must be submitted attesting to the applicants following characteristics: (a) attitude, aptitude and ability to teach children; (b) personality and character; (c) academic ability. At least one letter should be from an elementary school teacher the student has worked with and the others may be from faculty and administrators.

- 6. U.S. Constitution.** Knowledge of U.S. Constitution, as demonstrated by successful completion of an approved course. (See the section of this catalog on "Graduation Requirements.")

- 7. Tuberculin Clearance.** Provided through SDSU Health Services or family physician.

- 8. Early Field Experience.** A minimum of 60 hours in a typical elementary classroom with University supervision within the five years preceding admission.

- 9. Oral English and Written Statement.** Have an interview with the admissions committee of the PLC Department and write, under supervision, a statement of professional goals and philosophy.

10. Character or Identification Clearance. The State of California requires that credential candidates possess a valid certificate of clearance before admission to the program. Forms and fingerprint cards are available in the department's application package.

11. Credential Advising Appointment. Each applicant must meet with a faculty adviser to plan an appropriate program, which includes a minimum of 31 units as defined by the Commission on Teacher Credentialing. Make appointment in ED-152, telephone 594-5155.

12. Language and Culture. Passage of the Spanish Language Proficiency and Cultural Awareness Examination prior to entering the credential program. Please call 594-5155 for test date.

13. Application. Applicants should complete application procedures the semester prior to beginning the credential program.

New Students Who Seek to Complete a Credential

Teachers with preliminary credentials who are working toward clear credentials may have programs designed to fit their individual backgrounds. Evaluations of college credit and arrangements for programming should be made through the Center for Careers in Education, ED-100; telephone 594-5964.

Advanced Standing in Policy Studies and Cross-Cultural Education

A student transferring into San Diego State University with advanced standing must complete a minimum of six units of professional education work in residence at this university in order to obtain a recommendation for a credential, regardless of the extent of education work completed elsewhere.

Evaluation of Credits

After an interval of five years, prerequisites and courses in education are reevaluated and subject to reduction in credit in light of new requirements and changes in educational procedures. All courses taken either at this university or elsewhere must be approved by an official adviser in order to be credited toward meeting credential requirements or pattern requirements for a degree.

Program*	Units
PLC 910 Teaching Mathematics to Bilingual Elementary Students	3
PLC 911 Teaching Social Studies to Bilingual Elementary Students	2
PLC 912 Teaching Science to Bilingual Elementary Students	2
PLC 923 Psychological Foundations of Education and Bilingual Students	3
PLC 931 Skills in Teaching Reading to Bilingual Elementary Students	3
PLC 932 Teaching Spanish Language Arts to Bilingual Elementary Students	3
PLC 960 Student Teaching Seminar for Bilingual Elementary Students	2-3
PLC 961 Student Teaching for Bilingual Elementary Students	1-12

* Contact department for details.

Preliminary Credential Requirements

1. A bachelor's degree (or higher) with any major other than education.
2. Completion of an approved program of professional education. (See Department of Policy Studies in Language and Cross-Cultural Education for further information.)
3. Passage of National Teacher Examination (NTE) Multiple Subjects Assessment for Teachers (MSAT) or approved waiver program (Liberal Studies major, Emphasis in Education).
4. Passage of the Spanish Language Proficiency and Cultural Awareness Examination.
5. Knowledge of U.S. Constitution, as demonstrated by successful completion of an approved course. (See the section of this catalog on "Graduation Requirements.")
6. Knowledge of health education in California, including substance abuse and nutrition.
7. Passage of California Basic Educational Skills Test (CBEST).

Clear Credential Requirements

1. Completion of an approved fifth year program (a minimum of 30 upper division or graduate-level postbaccalaureate units).
2. Coursework/fieldwork to satisfy PL 94-142: Needs of, and methods of providing educational opportunities to individuals with exceptional needs (mainstreaming). (Teacher Education 526.)
3. Coursework/training in computer literacy (Educational Technology 470).
4. Verification of training in cardiopulmonary resuscitation (CPR). This may be verified as part of a class or through specialized training through a health agency (i.e. American Heart Association, American Red Cross, effective September 1, 1992).

Single Subject with Bilingual

Emphasis Credential (Credential Code: 00100)

The Single Subject with Bilingual Emphasis credential is available to students interested in teaching in a bilingual secondary school classroom. This credential authorizes the holder to teach in any self-contained bilingual or regular classroom in which one teacher is responsible for teaching the given subject area.

Candidates who pursue this credential need to specify "Single Subject with **Bilingual Emphasis**" in the application for admission to the University.

Standards for Admission

1. **CBEST.** Students must pass the California Basic Educational Skills Test (CBEST) prior to admission to the Single Subject Bilingual Emphasis credential program. This examination is required by the Commission on Teacher Credentialing. Booklets containing registration forms and test information are available from the Test Office in SS-2549 (594-5216).
2. **Major.** Students who complete their approved teaching major from San Diego State University must obtain a recommendation from the adviser in their single subject credential major. The recommendation is given on the basis of the evaluation of coursework. The requirements for the various single subject teaching credential majors are listed under the academic majors in this catalog. A PASS score

in the specialty areas of the National Teacher Examination may also be used to meet this requirement. Students passing the NTE in the specialty area of English must also pass the CLEP examination. Sign up at Test Office, SS-2549.

Students who complete a major at a California institution which has approved teaching majors may obtain a recommendation from the institution's credential analyst. Forms for this recommendation are available in ED-100. Students who have completed majors at institutions of higher education which do not have approved teaching majors must obtain a recommendation from the major adviser at San Diego State University.

3. Prerequisite Courses:

ED 451 Introduction to Multicultural Education.....3 units
PLC 400 The Secondary School and Bilingual Education3 units
PLC 515 Bilingual Teaching Strategies3 units

4. Grade Point Average. Students must have a grade point average (GPA) within the top half of students having a similar major. For CSU graduates completing 30 units or more at the graduating campus, the GPA is calculated on units completed at that institution only. For CSU graduates with fewer than 30 units at the graduating campus, the GPA is calculated on the cumulative units completed at all schools attended. The GPA for non-CSU graduates is computed on overall college units completed. CSU graduates' minimum GPA must be at or above the median GPA as posted by major and by campus. Non-CSU graduates must meet or exceed the CSU system average as posted by major. A "B" (3.0) GPA must be maintained throughout the credential program once a student is admitted.

5. Letters of Recommendation. Three letters of recommendation must be submitted attesting to the applicant's following characteristics: (a) attitude, aptitude and ability to teach children; (b) personality and character; (c) academic ability. At least one of these letters should be from a school teacher with whom the student has worked and the others may be from faculty and administrators.

6. U.S. Constitution. Knowledge of U.S. Constitution, as demonstrated by successful completion of an approved course. (See the section of this catalog on "Graduation Requirements.")

7. Tuberculin Clearance. Provided through SDSU Health Services or family physician.

8. Early Field Experience. Applicants must provide evidence of a minimum of 45 hours of experience with students in typical classroom settings within the last five years. Such evidence consists of a description and evaluation of the experience by a supervisor.

9. Oral English and Written Statement. Interview with the admissions committee of the PLC Department and write, under supervision, a statement of professional goals and philosophy.

10. Character and Identification Clearance. The State of California requires that credential candidates possess a valid certificate of clearance before admission to the program. Forms and fingerprint cards are available in the department's application package.

11. Credential Advising Appointment. Each applicant must meet with a faculty adviser to plan an appropriate

program, which includes a minimum of 31 units as defined by the Commission on Teacher Credentialing. Appointments can be made in ED-152, 594-5155.

12. Language and Culture Examination. All candidates must pass the Spanish Language Proficiency and Cultural Awareness Examination.

13. Application. Applicants should complete application procedures the semester prior to beginning the credential program.

New Students Who Seek to Complete a Credential

Teachers with preliminary credentials who are working toward clear credentials may have programs designed to fit their individual backgrounds. Evaluations of college credit and arrangements for programming should be made through the Center for Careers in Education, ED-100; 594-5964.

Evaluation of Credits

After an interval of five years, prerequisites and courses in education are reevaluated and subject to reduction in credit in light of new requirements and changes in educational procedures. All courses taken either at this university or elsewhere must be approved by an official adviser in order to be credited toward meeting credential requirements or pattern requirements for a degree.

Program

Units

Prerequisites

ED 451 Introduction to Multicultural Education.....3
PLC 400 The Secondary School and Bilingual Education.....3
PLC 515 Bilingual Teaching Strategies.....3

First Semester

PLC 914 (or TE 914 with consent of adviser) Teaching and Learning in the Content Area: Major.....3
PLC 924 Behavioral and Psychological Aspects of Teaching in the Bilingual Classroom.....4
PLC 954 Humanistic and Social Aspects of Teaching in the Bilingual Classroom.....4
PLC 963 Student Teaching for Bilingual Secondary Students I.....3-4

Second Semester

PLC 903 Bilingual Student Teaching Seminar.....2
PLC 933 Skills in Teaching Reading to Bilingual Secondary Students.....3
PLC 964 Student Teaching for Bilingual Secondary Students II.....9-12

Preliminary Credential Requirements

1. A bachelor's degree with one of the approved single subject majors listed in the School of Teacher Education single subject teaching credential catalog section. Credentials can be granted only in the designated single subject credential areas.
2. Completion of an approved program of professional education. (See Department of Policy Studies in Language and Cross-Cultural Education for further information about the approved programs.)
3. Major Adviser's Recommendation. Passage of subject matter examination(s) (NTE CAPA Test) or waiver thereof through completion of one of the approved single subject credential majors listed below with a written recommendation from the Ryan major adviser.

Art: Art**Business:** Accounting, Finance, Information Systems, Management, Marketing**English:** Comparative Literature, Drama, English, Journalism, Linguistics, Speech Communication**Foreign Languages:** Classics (Latin), French, German, Russian, Spanish**Health Science:** Health Science**History:** History**Industrial and Technology Education:** Industrial Technology**Life Sciences:** Biology**Mathematics:** Mathematics**Music:** Music**Physical Education:** Physical Education**Physical Sciences:** Chemistry, Physical Science**Social Science:** Social Science

4. Passage of the Spanish Language Proficiency and Cultural Awareness Examination.
5. Knowledge of U.S. Constitution, as demonstrated by successful completion of an approved course. (See the section of this catalog on "Graduation Requirements.")
6. Passage of California Basic Educational Skills Test (CBEST).

Persons whose programs allow them to meet these requirements would be eligible for a preliminary credential at the same time they finish a four-year college program.

NOTE: Undergraduate students in their final semester prior to obtaining a baccalaureate degree may sign up for concurrent postbaccalaureate credit as explained in the bulletin.

Clear Credential Requirements

1. Completion of an approved fifth year program (a minimum of 30 upper division or graduate-level postbaccalaureate units).
2. Knowledge of health education in California, including substance abuse and nutrition (HS 321).
3. Coursework/fieldwork to satisfy PL 94-142: Needs of, and methods of providing educational opportunities to individuals with exceptional needs (mainstreaming) (TE 526).
4. Coursework/training in computer literacy (EDTEC 470, Technologies for Teaching). (Effective July 1, 1988.)
5. Verification of training in cardiopulmonary resuscitation (CPR). This may be verified as part of a class or through specialized training through a health agency (i.e. American Heart Association, American Red Cross, effective September 1, 1992).

Single Subject Credential (Secondary Education) (Credential Code: 00100)

Single Subject-Professional Clear Credential

Persons interested in teaching in the traditional secondary school will typically pursue the Single Subject credential which authorizes teaching service in departmentalized, subject matter classrooms in preschools, grades K-12, and in classes organized primarily for adults (classes where instruction is provided in only one subject). Candidates must verify subject matter competency in one of the following subject fields:

ACCEPTABLE SINGLE SUBJECT CREDENTIAL AREAS AND APPLICABLE MAJORS**Art:** Art**Business:** Accounting, Finance, Information Systems, Management, Marketing**English:** Comparative Literature, Drama, English, Journalism, Linguistics, Speech Communication**Foreign Languages:** Classics (Latin), French, German, Russian, Spanish**Health Science:** Health Science**History:** History**Industrial and Technology Education:** Industrial Technology**Life Sciences:** Biology**Mathematics:** Mathematics**Music:** Music**Physical Education:** Physical Education**Physical Sciences:** Chemistry, Physical Science**Social Science:** Social Science

Recommendation for this credential requires:

1. A baccalaureate or higher degree.
2. Completion of an approved program of professional education, including student teaching with a grade point average of 3.0 or higher and coursework in reading methods. The required courses at SDSU are Teacher Education 453, 903, 914, 923, 933, 954, 963, 964.
3. Basic skills competency as demonstrated through passing scores on the California Basic Educational Skills Test (CBEST).
4. Demonstrated subject matter competency through completion of an approved waiver program in one of the California Single Subject areas, through a combination of coursework and competency examinations, or through NTE. Competency must be verified and assessed by a designated departmental adviser regardless of the means of establishing knowledge proficiency.
5. Demonstrated knowledge of the principles and provisions of the United States Constitution through successful completion of a three-unit collegiate-level course or examination. (Courses are listed in the section of this catalog on "Graduation Requirements," IV. American Institutions Requirement, C.2. United States Constitution.)
6. Knowledge of health education in California, including substance abuse and nutrition, HS 320 or 321 (preferred), and as of 9/1/92, verification of CPR competency.
7. Demonstrated knowledge of PL 94-142, needs of and methods of providing educational opportunities to individuals with exceptional needs (mainstreaming): TE 526 or SPED 501.
8. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy): EDTEC 470.
9. Completion of a fifth year of study (30 units of upper division or graduate-level coursework completed **after** issuance of the baccalaureate degree; coursework in professional preparation, including student teaching, may apply if completed after the baccalaureate degree).

The Professional Clear Single Subject credential is valid for five years and requires completion of a minimum of 150 hours of approved professional growth activities and 90 days of teaching-related activities in order to be renewed.

Single Subject-Preliminary Credential

Candidates may be recommended for Preliminary Single Subject teaching credentials when they have satisfied requirements 1, 2, 3, 4, and 5 listed above. Applicants whose academic programs allow them to meet these requirements concurrently with their baccalaureate degrees will be eligible for preliminary certification. The Preliminary credentials have the same teaching authorizations as the Professional Clear credentials and are valid for five-year periods. Holders of the Preliminary credentials must complete items 6, 7, 8, and 9 within that five-year time period in order to be renewed as Professional Clear credentials. Five-year Preliminary credentials may not be extended without completion of the additional requirements within the original five years of issuance.

Admission Standards and Qualifications for the Single Subject Credential Program

Candidates for the Single Subject Credential Program must satisfy the standards and qualifications listed below and submit complete application packets to the Center for Careers in Education within the specified application periods. Applications for program admission for the 1993 academic terms are available from Aztec Shops Copy Center during the following open enrollment dates:

For Spring 1994—August 23 through October 8, 1993

For Fall 1994—January 23 through March 11, 1994

Completed application packets will include items verifying satisfaction of the following:

1. **CBEST Examination.** Students must pass the California Basic Educational Skills Test (CBEST) prior to admission to the Single Subject Credential Program. Information may be obtained from the Test Office, SS-2549. Candidates are urged to take this examination as early as possible. Candidates are required to submit both an official CBEST transcript and a photocopy of the individual score reports.
2. **Subject Matter Competency.** Students must verify competency in a specified single subject area through a university assessment process which consists of reviewing coursework for completion of an approved teaching major or its equivalent at San Diego State University or another approved California teacher-training institution, passing scores on an NTE Specialty Area Examination (including CAPA where necessary), or a combination of coursework and examination scores. Competency will be assessed and verified by subject matter departments at SDSU. Requirements for the various single subject majors are listed with the academic majors in this catalog. Test scores submitted for verification of subject matter competency are valid for five years from the date of the examination and must be valid at the time of recommendation for the credential. Registration information and materials for the NTE are available through the Test Office, SS-2549.

Candidates for major assessment should seek information on recommendation forms and procedures through the Center for Careers in Education, ED-100, prior to contacting the individual academic advisers for review and evaluation. Procedures may vary according to discipline. Students who have completed approved waiver programs at other universities must still be

assessed by SDSU subject matter departments prior to admission to this university's credential program.

3. Prerequisite Courses. These courses or approved equivalents must be completed with grades of "C," "CR," or higher no more than five years prior to admission to the Single Subject Credential Program:

- a. **Education 451, "Introduction to Multicultural Education."** This course provides an introduction to ethnicity, language, and culture in education, particularly the ways in which those factors differentially affect educational outcomes for children. The course assists in preparing teacher applicants to work with students from diverse backgrounds by examining both societal and personal belief systems and the ways that those beliefs are expressed in public school classrooms.
- b. **Teacher Education 453, "The Secondary School."** This introductory course serves as an orientation to careers in secondary education. During this course, students will participate in supervised fieldwork assignments. A recommendation from a TE 453 professor is a requirement for program admission.

4. **Grade Point Average.** Candidates must have cumulative grade point averages (GPAs) within the upper one-half of undergraduate students in the candidate's majors. GPAs vary according to discipline and graduating institution. GPA requirements are available in the Center for Careers in Education, ED-100. Candidates are required to submit official copies of transcripts from all colleges and universities attended and unofficial copies of transcripts for SDSU coursework for GPA calculations.

5. **TB Clearance.** Evidence of a negative tuberculosis test (these tests are valid for four years and must be in effect during the time that candidates are enrolled in the credential program). Clearance statements may be secured from Health Services, private physicians or HMO's, or public health agencies.

6. **California Certificate of Clearance.** This certificate represents a background clearance and check conducted by the State Department of Justice and Federal Bureau of Investigation. Turnaround time for the clearance can take as long as eight months; forms are available in the Center for Careers in Education, ED-100. Possessors of K-12 California credentials may satisfy this requirement by submitting copies of those certificates. In lieu of the actual Certificate of Clearance or copy of a valid credential, candidates may submit their clearance application packets and fees concurrently with program applications.

7. **Appeals Process.** Candidates who do not meet all the admission requirements may petition the Single Subject Admissions and Retention Committee for individual consideration; petition forms must be submitted concurrently with the application packets.

In addition to the minimum admissions standards identified above, the Single Subject Admissions and Retention Committee also may consider qualifications such as previous teaching experience, relevant working experience with children, and second language ability. Due to the number of applicants, application to the program does not ensure admission.

NOTE: Appointments for discussion of individual concerns relative to the credential program may be made with the Single Subject Credential Program Adviser during the academic year through the Center for Careers in Education, ED-100, 594-5964. All candidates are urged to attend one of the regularly scheduled group advising sessions prior to making an individual appointment.

Information Applicable to Both Multiple Subject and Single Subject Credentials

Departmental admission to either the Multiple Subject or Single Subject credential program does not constitute admission to the university. Candidates who are entering the university for the first time, or who have graduated or who are graduating, and are planning to re-enroll for the credential program must file a separate application for admission to the university during the regular university application period.

New Students Who Seek to Complete a Credential

Teachers with Preliminary Multiple Subject or Single Subject credentials who are working toward Professional Clear certification may have individual programs designed to meet their needs and interest areas. Arrangements for evaluation of college credit and program design can be made through the Center for Careers in Education, ED-100, 594-5964.

Advanced Standing in Teacher Education

A student transferring into San Diego State University to complete requirements for either the Preliminary or Professional Clear Multiple Subject or Single Subject credential must complete a minimum of six units of professional education coursework in residence at SDSU in order to be recommended for certification regardless of the extent of education work completed at other institutions.

Evaluation of Credits

After an interval of five years, courses in education are reevaluated and subject to reduction in credit, in light of new requirements and changes in educational procedures. All courses taken either at this University or elsewhere must be approved by an official adviser in order to be credited toward meeting credential requirements or pattern requirements for a degree.

GPA Requirements For Continuation in Multiple Subject/Single Subject Credential Programs

A grade point average of 3.0 must be maintained each semester to permit a student to continue in the Multiple Subject and Single Subject credential programs.

Supplementary Authorizations

With completion of additional units in certain curriculum areas, both Single and Multiple Subject teachers can be granted supplementary authorizations to teach in generalized areas in middle and junior high schools (e.g., Introductory English). Single subject teaching credential candidates can also be granted supplementary authorizations to teach in specialized areas K-12 (e.g., psychology). Information on requirements for these supplementary authorizations is available through the Center for Careers in Education, ED-100.

Reading/Language Arts Specialist Credential

(Credential Code: 00410)

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

Requirements for Admission

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

Program

Curricular/Instructional Strand	Units
TE 530 Children's/Adolescents' Literature.....	3
TE 631 Seminar in Language Arts.....	3
TE 637 Instructional Strategies for Reading/Language Arts.....	3
TE 638 Topics in Reading Education.....	1
TE 639 Literacy and Language.....	3
Assessment	
TE 536 Assessment of Reading/Language Arts.....	3
TE 636 Leadership in Literacy Evaluation.....	3
TE 638 Topics in Reading Education.....	1
Research	
TE 634 Seminar in Research Investigations in Reading and Language Arts.....	3
Leadership	
TE 638 Topics in Reading Education.....	1
TE 736 Field Experience as a Reading Specialist.....	2

Additional Requirements

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

Special Education Specialist Credentials

San Diego State University offers programs leading to the following Special Education Specialist Credentials: Learning Handicapped (**Major Code: 00463**), Severely Handicapped (**Major Code: 00464**), Physically Handicapped (**Major Code: 00462**), and Gifted (**Major Code: 00465**). These credentials authorize the holders to teach in the special education setting designated. There are many common requirements between the specialist credential programs and the Master of Arts degree: coursework completed for the credential may count toward the M.A. degree. Once admitted, to retain classified graduate status, students must maintain a GPA of 3.0 and must successfully complete all enrollments attempted in SPED 771 or 980. Only grades of C or better will count toward a degree, a credential or a certificate. See Department handbook for policies related to these regulations.

Requirements for Admission

1. Admission to the appropriate program within the Department of Special Education.

- a. Complete application to department as well as to the University.
 - b. Meet all requirements for classified graduate standing as described in Part Two of this bulletin.
 - c. Satisfactory completion of the GRE General Test (verbal and quantitative sections).
 - d. A minimum grade point average of 2.5 for the last 60 undergraduate units attempted.
 - e. Admissions interview with faculty.
2. A valid basic California Teaching Credential.
 3. Completion of prerequisite coursework: For gifted education, Special Education 500. For all other programs, Special Education 500 and 501 (6 units).
 4. Evidence of successful experiences in educational settings with handicapped children and youth.

Program

1. Core Course
Special Education 553 (3) (Not required for the gifted specialization.)
2. Specialization Courses
 - a. Learning Handicapped - Special Education 524, 634, 647, 648, 979, 980A (4-6 units) and six units from the following: Special Education 527, 528, 529, 560, 662, 663 (23-25 units).
 - b. Severely Handicapped - Special Education 525, 526, 528, 560, 635, 645, 664, 979, 980 (4 or 6 units) (26-28 units).
 - c. Physically Handicapped - Special Education 526, 560, 634, 647, 648, 662, 979, 980 (4 or 6 units) (23-25 units).
 - d. Gifted - Special Education 508, 644, 649, three units of Special Education 650 (approved by adviser), 771 (2-4 units), and four units of approved electives (15-17 units).

Experimental Program for Teacher Preparation: A Combined Program for the Multiple Subject Credential and the Special Education Specialist Credential in Learning or Severely Handicapped

This experimental program provides concurrent coursework and fieldwork experiences in regular and special education that lead to the completion of both the Multiple Subject and the Special Education Specialist (Learning Handicapped and Severely Handicapped) credentials.

The experimental combined program is designed to respond to California's critical need for credentialed special education teachers and to evaluate methods of preparing regular classroom teachers to better meet the needs of all students who experience learning difficulties within the regular education environment.

The difference in this program from the existing programs is that it permits the completion of 48 semester units of work that meet all the requirements for the Multiple Subject Credential and the majority of the Special Education Specialist Credential in one calendar year (one summer and two full semesters). Then during the first year of fulltime employment as teacher, the candidates will be expected to complete the remaining 6 to 9 units of coursework required to obtain their clear specialist credentials.

This is an experimental program. A request has been submitted to the Commission on Teacher Credentialing to offer the program for three years.

Early Intervention Specialist Certificate

The purpose of this certificate is to prepare early intervention specialists to assume the roles as an infant specialist, parent/family educator, program developer and advocate, and team collaborator. For application or further information, see the program director of the Interdisciplinary Training Program on Early Intervention in the Interdisciplinary Center for Health and Human Services.

Admission Requirements

Applicant must have a bachelor's degree from an accredited institution with a major in a related field of study.

Applicant should be a graduate student in good standing in one of the participating schools or departments or have completed a master's degree in one of the disciplines participating in the certificate program.

Applicant must have a grade point average of at least 3.0 (when A equals 4) in the last 60 semester (90 quarter) units attempted.

Applicant must have a satisfactory score on the verbal and quantitative sections of the Graduate Record Examination (General Aptitude Test).

Applicant's prior educational experience cannot duplicate in content and level the coursework for the certificate program.

Course Requirements: (15 units)

- FSCS 570 Infant/Toddler Development (3 units)
- SPED 528 Early Intervention for Infants and Young Children with Handicaps and Their Families (3 units)
- SW 781 Seminar on Selected Populations-at-Risk (3 units)
- Gen S 650 Interdisciplinary Field Education (2 units)
- Gen S 650 Interdisciplinary Field Education Seminar (1 unit)
- Gen S 650 Interdisciplinary Field Practice (2 units)
- Gen S 650 Interdisciplinary Field Practice Seminar (1 unit)

Students may enroll in the certificate program and master's degree program concurrently. No more than three units of the coursework for the certificate program can be applied toward a master's degree with the approval of the respective departmental graduate adviser. In special cases, three units of General Studies 650 can be waived in lieu of a graduate elective course selected with the approval of the certificate coordinator. A grade point average of 3.0 is required for certificate coursework.

Resource Specialist Certificate of Competence

The Department of Special Education offers coursework leading to the California Resource Specialist Certificate. This certificate authorizes the holder to function as a Resource Specialist in special education settings. To be recommended for this certificate by San Diego State University, the candidate must hold a valid special education specialist credential, have completed three years of teaching in regular and special education settings, and must have satisfied the competencies specified in the three Resource Specialist courses: Special Education 651, 652, 653.

Rehabilitation Administration Certificate

The purpose of this certificate program is to provide the student with administrative knowledge and skills needed to develop and supervise rehabilitation programs and services for clients in a variety of settings. This academic training is designed for individuals who currently function or aspire to function as program

coordinators and administrators in state rehabilitation agencies and community rehabilitation programs.

This is an advanced academic certificate at the postbaccalaureate level. Admission requirements are a bachelor's degree in rehabilitation or a related field and relevant work experience in a rehabilitation agency or program. The program is intended to focus on a variety of specific client populations representative of the student's area of career interest. Examples are: Deaf and hearing impaired clients, clients with traumatic brain injury, and clients injured in the work site. A master's degree in rehabilitation counseling, as well as leadership experience in rehabilitation programs is strongly encouraged. Relevant work or academic training experience may be substituted in lieu of the above admission criteria at the discretion of the program director, except that a bachelor's degree is required. Students who do not have a master's degree are expected to achieve a score of 500 on the verbal section and 460 on the quantitative section of the Graduate Record Examination (GRE) and must have a GPA of at least 2.5 in the last 60 semester units attempted.

This is a 21-unit certificate program to include the following courses:

- ARP 710A Seminar in Rehabilitation (3)
- ARP 745 Internship in Rehabilitation (6)

With the approval of the Program Adviser, 12 units selected from:

- ARP 610 Educational Leadership (3)
- ARP 680 Seminar in Administration, Rehabilitation and Postsecondary Education (3)
- ARP 710B Seminar in Rehabilitation (3)
- ARP 720 Educational Personnel Management and Practices (3)
- ARP 747 Instructional Leadership in a Multicultural Society (3)
- ARP 750 Educational Organizational Behavior and Development (3)
- ARP 755 Educational Governance and Policy Development (3)
- ARP 798 Special Study (3) Cr/NC/SP

Contact the Director of Deafness Rehabilitation programs at (619) 594-6406 (V/TTY) for further information.

Students must maintain a minimum grade point average of 3.0 in all certificate coursework with no less than a grade of "C" in any course. Only three units of coursework with a grade of "C" will count towards a certificate. Maximum of three units of coursework repeatable.

Bilingual (Spanish) Special Education Certificate

This certificate program provides specialized preparation for teachers of learning handicapped children whose primary language is Spanish.

Prerequisites for admission include the following:

1. Completion of, or admission to, the departmental program for the Specialist Credential in Special Education (Learning Handicapped).
2. Special Education 527.
3. Spanish language proficiency at the S-3 (FSI 3) level.
4. Knowledge of the target culture and bilingual teaching strategies. Will satisfy prerequisites for Policy Studies in Language and Cross-Cultural Education 602. Proficiency may be demonstrated by passing the "Test of Culture and Teaching" used by the College of Education bilingual emphasis programs.

Certificate program requirements include the following: Policy Studies in Language and Cross-Cultural Education 553, 602, three units of special education selected with the approval of the department chair, and demonstration of competence in teaching learning handicapped students whose primary language is Spanish.

A grade point average of 3.0 must be obtained in the four courses. Contact the Department of Special Education for further information.

Instructional Microcomputer Software Design Certificate

The purpose of this certificate is to prepare specialists who can develop or assist in the development of microcomputer software to meet specific instructional, training or management needs. There are two competency areas incorporated in the certificate: instructional design and educational computing. Students must complete a minimum of 18 units with a 3.0 (B) grade point average and no less than a "C" in any course. For application or further information, see the director of the program in the Department of Educational Technology.

Prerequisites: A bachelor's degree from an accredited institution with a grade point average of at least 2.5 (when A equals 4) in the last 60 semester (90 quarter) units attempted. A satisfactory score on the verbal and quantitative sections of the GRE General Test.

Required Courses (18 units):

- EDTEC 540 Educational Technology (3)
- EDTEC 541 Multimedia Development (3)
- EDTEC 544 Instructional Design (3)
- EDTEC 572 Technology for Course Delivery (3)
- EDTEC 671 Software Design for Mastery Learning (3)
- Electives (3) To be selected with the approval of the program director.

Instructional Technology Certificate

Refer to General Catalog.

Language Development Specialist Certificate

The Language Development Specialist Certificate provides an interdisciplinary approach in linguistics and policy studies to train teachers in theory and application of English as a second language methodology for linguistically diverse students in grades K-12.

Requirements to exit the program:

1. Valid California teaching credential.
2. Six units of an appropriate foreign language at the college level.

The certificate program includes Linguistics 520, 550, 551, 552, and Policy Studies in Language and Cross-Cultural Education 553, 602, 650*, 651.

A grade point average of 3.0 must be obtained in the eight courses. Students who complete the certificate program are not eligible to receive the Basic Certificate in Applied Linguistics and English as a Second Language (ESL). This is a California State Department of Education approved program. Students who complete the program are eligible to take the Language Development Specialist examination for Commission on Teacher Credentialing certification.

* Prerequisites waived for students in this program.

Supported Employment and Transition Specialist Certificate

The purpose of this certificate is to prepare specialists who can develop and implement programs in supported employment and adult community living for youth and young adults with handicaps. A student may elect to emphasize programs for moderately and mildly handicapped youth or programs for severely and multiply handicapped youth. Students must complete a minimum of 21 units with a 3.0 (B) grade point average. For application or further information, see the program advisers for the Supported Employment and Transition Certificate program in the Department of Special Education.

Prerequisites: A bachelor's degree from an accredited institution with a grade point average of at least 2.5 (when A equals 4) in the last 60 semester (90 quarter) units attempted. A satisfactory score on the Graduate Record Examination. Special Education 500 and 971.

Required courses (12 units)

- SPED 501 Special Education Procedures (3) or
- ARP 584 Introduction to Rehabilitation Process (3)
- SPED 663 Theory and Process of Vocational Development for Youth with Handicaps (3)
- SPED 664 Issues Affecting Employment of Individuals with Severe Handicaps (3)
- SPED 771 Directed Internship: Special Education (3) Cr/NC or
- ARP 744 Practicum in Rehabilitation (3) Cr/NC or
- CSP 730 Fieldwork in Counseling (3) Cr/NC

Nine units from the following:

- SPED 645 Issues in Curriculum and Instruction for Students with Severe Handicaps (3)
- SPED 647 Instructional Adaptations for Students Who Are Learning Handicapped or Low Achieving (3)
- SPED 650 Special Topics in Special Education (3)
- SPED 798 or ARP 798 Special Study (3) Cr/NC/SP
- ARP 645 Assessment and Vocational Development (6)
- ARP 687 Placement of Individuals with Disabilities (3)
- CSP 650 Theory and Process of Career Development (3)
- TE 522 Substance Abuse in the Schools (3)

Program advisers will meet with each certificate student to design an individualized program of study based on the student's educational background and professional experience. Student may enroll in certificate program and master's degree program concurrently. No more than three units of the certificate program may be applied to a master's degree.

Teaching the Emotionally Disturbed/Behaviorally Disordered Certificate

This certificate provides specialized preparation for teachers of children with severe emotional disturbance who have been labeled as severely emotionally disturbed/behaviorally disordered in the school setting, including those children labeled as seriously emotionally disturbed.

Prerequisites to admission to the certificate program include the following:

1. Completion of, or admission to, the departmental program for the Specialist Credential in Special Education (Learning Handicapped or Severely Handicapped).
2. A graduate grade point average of 3.0.
3. Interview with program faculty.

Program requirements for the Certificate in Teaching the Emotionally Disturbed/Behaviorally Disordered include the following: Special Education 529, 634, 647, 648, 677, 771 (3 units, with approval of adviser), and demonstrated competence in teaching emotionally disturbed/behaviorally disordered students.

A grade point average of 3.0 is required for certificate coursework. Contact the Department of Special Education for further information.

Courses Acceptable on Master's and Doctoral Degree Programs in Education

GRADUATE COURSES

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

Twelve units of professional education are prerequisite for enrollment in all graduate courses.

GENERAL

690. Procedures of Investigation and Report (3)

Research methods in education. Location, selection and analysis of professional literature. Methods of investigation, data analysis and reporting. Required of all applicants for advanced degrees in education.

696. Selected Topics in Community Influences on Learning and Curriculum Planning (1-3)

Prerequisite: Teaching experience.

Intensive study in specific areas of education. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit six units of any 596 or 696 offered by the College of Education applicable to a master's degree.

791A. Evaluation Techniques (3)

Prerequisites: Education 690 and advancement to candidacy for the master's degree.

Theory and practice of instructional program and product evaluation.

791B-791C. Practicum: Evaluation (1-3)

791B: One lecture. 791C: Independent study.

Prerequisites: Education 791A and advancement to candidacy for the Master of Arts degree in education. Concurrent registration in Education 791B and 791C.

Supervised experience in conducting a program or product evaluation, strategy selection, procedures, reporting methods, culminating in a written project.

795A-795B. Seminar (3-3)

Prerequisites: Education 690 and advancement to candidacy for the Master of Arts degree in education.

An intensive study in selected areas of education culminating in a written project. Limited to students following Plan B for the Master of Arts degree in education.

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

Prerequisites: Education 690 and advancement to candidacy for the master's degree.

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

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy for the master's degree.

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

799B. Thesis Extension (0) Cr/NC

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

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

DOCTORAL COURSES**800. Professional Seminar (1)**

Prerequisite: Admittance to doctoral program.

Identification of professional goals and research interests. Includes exposure to major research activities in all areas of program and discussion of current problems and trends in these program areas.

801. Seminar on Social and Cultural Foundations of Multicultural Education (3-4)

Prerequisite: Admission to the doctoral program or consent of the graduate coordinator. Students are required to have a background in the social sciences or humanities relevant to such educational issues as social behavior and minority cultures.

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

804. Bilingual Education: Models and Current Research Trends (3-4)

Prerequisites: Education 801, a background in sociolinguistics or social anthropology and admission to the doctoral program or consent of graduate coordinator.

Analysis of existing models of bilingual education based on previously identified needs of linguistic minority students. Demonstrated needs from current research in classrooms by ethnographers. Significance of linguistic/cultural competencies for academic performance and validity of existing impact studies.

805. Practicum in Education of Ethnically Diverse Learners (1) Cr/NC

Two hours of activity.

Prerequisite: Concurrent registration in Education 806.

Culturally defined variables such as styles of communication, interaction, values, cognition and learning. Case studies, simulations and field experience.

806. Ethnically Diverse Learners: Public Policy and Classroom Practice (3-4)

Prerequisites: Education 801 and admission to the doctoral program or consent of the graduate coordinator. Background in psychological foundations of education and educational policy is required.

National, state, and school policy directed at providing the minority learner with equal educational opportunity. Discussion of legislation for desegregation, bilingual education, school implementation cases and classroom practices as these relate to equal educational opportunity.

810. Seminar in Curriculum Development (3-4)

Prerequisites: Administration, Rehabilitation and Postsecondary Education 630, Policy Studies in Language and Cross-Cultural Education 650, Teacher Education 600, and consent of graduate coordinator.

Examination of curricular issues with emphasis on the processes of decision making, curricular development, implementation and evaluation. Attention given to innovative programs and to role and process of legislation in curricular change.

811. Handicapped Individuals in Society: Issues in Practice and Policy (3-4)

Prerequisite: Admission to the doctoral program or consent of the graduate coordinator.

Issues relating to handicapped individuals in society. Current and historical practices in education and treatment and impact of public policy on service systems. Maximum credit four units.

812. Planning and Supervising Programs for Persons with Special Needs (3)

Prerequisites: Admission to doctoral program or consent of graduate coordinator; Education 811 or extensive background in special education or related field.

Program planning and development in settings serving special populations. Policy analysis, systems modeling, normalization, change theory, needs assessment, personnel development, supervision, manpower and resources development. Emphasizing services to the handicapped, adjustment to family living.

820. Advanced Educational Statistics (3-4)

Prerequisites: Education 690, Teacher Education 646, or equivalent graduate level course and consent of graduate coordinator.

Theory and practice of statistical inference for research in education. Probability and sampling theory, data collection and organization, computer applications in educational research, statistical significance testing and prediction, use of statistical computer program libraries.

825. Reading Research (3)

Prerequisites: Master of Arts degree in reading or related language area, and two years of teaching experience.

Analysis of existing literature in reading research and its application to the field. Exploration of areas of research need.

830. Seminar: Emerging Trends in Educational Systems and Technology (3)

Prerequisites: Admission to doctoral program or consent of graduate coordinator and credit or concurrent registration in Teacher Education 646 and Education 801.

Analysis, design, and application of technology for solving problems of learning and human performance in various social, organizational, and technological settings including schools, corporate training, and international environments.

831. Seminar: Educational Technology Research and Development (3)

Prerequisites: Admission to doctoral program or consent of graduate coordinator and credit or concurrent registration in Teacher Education 646 and Education 801.

Analysis of existing literature in educational technology research and its application to the field. Examination of current needs for research.

832. Leadership and Educational Technology (3)

Prerequisite: Admission to doctoral program or consent of graduate coordinator and credit or concurrent registration in Teacher Education 646 and Education 801.

Leadership and educational technology at personal, team, and organizational levels. Analysis of educational systems with emphasis on implementing organizational and cultural change through selected technological innovations.

890. Advanced Seminar: Processes of Reading (3)

Prerequisite: Admission to doctoral program or consent of graduate coordinator and Education 825.

Linguistic, cognitive, and affective factors that influence a reader while processing texts. Models of reading process, discourse analysis of written text, and models of reading instruction.

895. Seminar (1-8)

Prerequisite: Admission to the doctoral program or consent of the graduate coordinator.

Investigation of a particular topic or issue, emphasis on empirical research in education. See Class Schedule for specific content. Maximum credit eight units applicable to an advanced degree.

897. Doctoral Research (1-3) Cr/NC/SP

Prerequisite: Admission to the doctoral program. Independent investigation in the general field of the dissertation.

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

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

Preparation of the dissertation for the doctoral program. Enrollment is required during the term in which the dissertation is approved.



Administration, Rehabilitation and Postsecondary Education

In the College of Education

OFFICE: North Education 279
TELEPHONE: (619) 594-6115

Faculty

Fred R. McFarlane, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education, Chair of Department

Educational Leadership

Larry E. Frase, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education

Richard A. Gorton, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education

Raymond F. Latta, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education

Alfred Merino, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education

William E. Piland, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education, Program Coordinator

William A. Streshly, Ph.D., Associate Professor of Administration, Rehabilitation and Postsecondary Education

Carolyn Downey, Ph.D., Assistant Professor of Administration, Rehabilitation and Postsecondary Education

Rehabilitation Counseling

Bobbie J. Atkins, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education

John D. Chamley, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education

Ron Jacobs, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education

Richard D. Jones, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education

Fred R. McFarlane, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education

Courses Acceptable on Master's Degree Programs in Education

General

UPPER DIVISION COURSES

584. Introduction to Rehabilitation Process (3)

Two lectures and three hours of laboratory. Background and legislation related to vocational rehabilitation; client services, role and function of rehabilitation counselor as a professional. Orientation to community rehabilitation agencies. (Formerly numbered Administration, Rehabilitation and Postsecondary Education 684.)

596. Topics in Administration, Rehabilitation and Postsecondary Education (1-3)

Selected problems in administration, rehabilitation and postsecondary education. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

680. Seminar in Administration, Rehabilitation and Postsecondary Education (2-6)

Prerequisite: Consent of instructor.

Study of educational administration, rehabilitation, or postsecondary education in a specialized field, such as community college, school district, a subject field, or designated services. Field experience when appropriate. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

696. Advanced Topics in Administration, Rehabilitation and Postsecondary Education (1-3)

Prerequisite: Twelve units in Administration, Rehabilitation and Postsecondary Education.

Intensive study in specific areas of administration, rehabilitation and postsecondary education. May be repeated with new content. See Class Schedule for specific content. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

735. Measurement and Evaluation in Administration and Supervision (3)

Prerequisite: Education 690.

Research and evaluation methods to conduct investigations of administrative policies, styles, patterns, and impact on public schools and rehabilitation agencies. Use of inferential statistics to evaluate issues and outcomes related to program administration.

740. Advanced Seminar in Administration, Rehabilitation and Postsecondary Education (3)

Prerequisite: Consent of instructor.

Study of a selected area in educational administration, rehabilitation or postsecondary education, such as educational law, finance, supervision, personnel procedures, etc. May be repeated with new content. See Class Schedule for specific content. Maximum credit nine units applicable to a master's degree.

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

Prerequisite: Consent of staff; to be arranged with department chair and instructor. May involve fieldwork.

Individual study. Maximum credit six units applicable to a master's degree.

Educational Leadership

UPPER DIVISION COURSE

565. Psychological Foundations of Adult and Vocational Education (3) I, II, S

Prerequisite: Administration, Rehabilitation and Postsecondary Education 380 or 381.

Learning processes of adult and vocational education students in relation to theories of learning and methods of teaching.

GRADUATE COURSES

600. Principles of Educational Administration (3)

Educational administration and leadership as a profession. Related organizational concepts and management theories. Principles and competencies for leadership and administrative practice as each relates to the aspiring school administrator.

605. Postsecondary Education (3)

Philosophy, history, aims, scope, function, outcomes, principles and problems of postsecondary education. Relationship of K-12 education to postsecondary education. Fieldwork required.

610. Educational Leadership (3)

Concepts and techniques of leadership, analysis of the factors and practice in the procedures of individual and group leadership as applied to educational environments.

611. Curriculum Theory and Development in Postsecondary Education (3)

Prerequisite: Administration, Rehabilitation and Postsecondary Education 605 or appropriate experience.

Process of curriculum change and improvement. Development and evaluation of curricula in postsecondary education and selection of appropriate teaching strategies to meet learning needs of students.

630. Curriculum Design and Management (3)

Prerequisites: Administration, Rehabilitation and Postsecondary Education 610 and classified graduate standing.

Administrator's role in curriculum leadership and management in elementary, middle, and secondary school; emphasis on interrelationships within levels; supervision of curricular and supervisory personnel; use of research in curriculum development and implementation.

631. Seminar in Instructional Methods and Materials: Postsecondary Education (3)

Prerequisite: Administration, Rehabilitation and Postsecondary Education 611 or appropriate experience.

Teaching process at postsecondary education level addressing lesson planning, individualization of instruction, use of learning centers, interactive instruction, other audiovisual methods and procedures of evaluation.

652. Seminar in Instructional Improvement and Evaluation (3)

Prerequisites: Administration, Rehabilitation and Postsecondary Education 630 and classified graduate standing.

Improvement of instruction through application of principles and practices in assessment of teaching competency; development of teaching profiles; leadership skills in working with teachers to improve performance.

655. Administering Educational Organizations (3)

Prerequisite: Administration, Rehabilitation and Postsecondary Education 610.

Principles and practices in the administration and leadership of elementary, middle, junior high, and secondary schools and other educational organizations. (Formerly numbered Administration, Rehabilitation and Postsecondary Education 651.)

660. Field Experience in Educational Administration (1-6) Cr/NC/SP

Prerequisites: Nine units of required coursework in Administration, Rehabilitation and Postsecondary Education; classified graduate standing in the educational administration program.

Supervised field experience in schools or other educational settings. Monthly sessions with university faculty. Application to take this course must be made during preceding semester. Maximum credit 10 units of which 4 units are applicable to a master's degree.

701. School Law and Legal Issues for Administrators (3)

Prerequisites: Completion of a graduate degree and approval of department.

Impact of school law on administrative roles and processes including due process for policy formation in educational personnel, student, and instructional areas.

705. Directed Teaching: Postsecondary Education (4) Cr/NC

Prerequisite: Administration, Rehabilitation and Postsecondary Education 631.

Systematic observation, participation, and teaching under supervision in a postsecondary education setting. Weekly seminar or conference required. Application to take this course must be made in the preceding semester by preregistration with the postsecondary education program coordinator.

715. School Finance and Fiscal Management (3)

Prerequisites: Completion of a graduate degree and approval of department.

Financial practices and problems including state and federal support plans, school plant planning, school business management, resource allocation, budgeting, and educational accountability.

720. Educational Personnel Management and Practices (3)

Prerequisites: Completion of a graduate degree and approval of department.

Human resource management in educational administration including selection and evaluation of staff, contract management, and staff development. Personnel managerial styles, staff leadership, and motivation techniques as to morale and productivity. Analysis of educational personnel systems and employee assistance programs.

730. Seminar in Adult Learning (3)

Prerequisite: Administration, Rehabilitation and Postsecondary Education 611.

Patterns and implications for adult life-long learning.

747. Instructional Leadership in a Multicultural Society (3)

Prerequisites: Completion of a graduate degree and approval of department.

Current theory and practice in meeting needs of diverse learners. Leadership and administration of educational organizations as political, complex systems requiring consensus-building dynamics in a multicultural society.

750. Educational Organizational Behavior and Development (3)

Prerequisites: Completion of a graduate degree and approval of department.

Organizational theory and research; educational management and aspects of educational leadership; improvement of educational organizational efficiency and effectiveness.

755. Educational Governance and Policy Development (3)

Prerequisites: Completion of a graduate degree and approval of department.

Development of educational policy and impact of politics in governance and administration; control functions of federal, state, and local agencies; influence of lay citizens and special interest groups; roles of judiciary, employee organizations and students.

760. Internship in Educational Administration (2-6) Cr/NC/SP

Prerequisite: Consent of instructor.

Internship for prospective educational administrators. Application to take this course must be made in the preceding semester by preregistration with the credential program coordinator. Released time may be required. May be repeated. Maximum credit 12 units applicable to the Professional Administrative Services Credential.

**Rehabilitation Counseling
GRADUATE COURSES**

645. Assessment and Vocational Development (6)

Four lectures and six hours of laboratory.

Prerequisite: Admission to graduate program in rehabilitation counseling.

Rehabilitation assessment, labor market information, and vocational planning implications. Current assessment approaches and vocational theories related to individuals with disabilities.

648. Group Dynamics in Rehabilitation (3)

Prerequisite: Admission to graduate program in rehabilitation counseling.

Theory, dynamics, process and leadership function as applied to group work in rehabilitation. Development and application of group leadership skills/techniques for adjustment, support, skill training, organizational problem solving and team-building groups in rehabilitation.

685A-685B. Medical and Psychological Aspects of Disability (3-3)

Prerequisite: Open to rehabilitation graduate students and practitioners.

Disabling conditions, covering disabilities from perspective of medical and psychological implications for successful rehabilitation. Each disability is viewed in terms of functional limitations imposed and rehabilitative services needed. Administration, Rehabilitation and Postsecondary Education 685A not open to students with credit in Administration, Rehabilitation and Postsecondary Education 685; Administration, Rehabilitation and Postsecondary Education 685B not open to students with credit in Administration, Rehabilitation and Postsecondary Education 686.

687. Placement of Individuals with Disabilities (3)

Two lectures and three hours of laboratory.

Prerequisite: Admission to rehabilitation counseling program. Determination of employment and community integration needs of individuals with disabilities. Theories and techniques are presented through case study methods. Continuous surveys and readings focus on employment needs and opportunities in the wider community for individuals with disabilities.

710A-710B. Seminar in Rehabilitation (3-3)

Prerequisite: Completion of at least 24 units leading to Master of Science in rehabilitation counseling.

Selected areas with emphasis in research in rehabilitation counseling. See Class Schedule for specific content.

743. Fieldwork in Rehabilitation (3-6) Cr/NC

Prerequisite: Admission to graduate program in rehabilitation counseling.

Orientation to the rehabilitation process including agency goals, operating strategies, responsibilities and ethics, employee role expectations, and nature of rehabilitation client needs. Maximum credit six units applicable to a Master of Science degree in rehabilitation counseling.

744. Practicum in Rehabilitation (3-9) Cr/NC

Prerequisite: Admission to graduate program in rehabilitation counseling.

Clinical supervision of the rehabilitation process as it relates to outreach and referral, job development, placement, counseling, and caseload management. Maximum credit nine units applicable to a Master of Science degree in rehabilitation counseling.

745. Internship in Rehabilitation (3-9) Cr/NC

Prerequisite: Completion of at least 24 units leading to Master of Science in rehabilitation counseling.

Supervised internship in rehabilitation setting which involves application of rehabilitation counseling experiences. Maximum credit of nine units applicable to a Master of Science degree in rehabilitation counseling.

746. Seminar in Rehabilitation of Clients Who Are Deaf and Hard of Hearing (3)

Prerequisite: Consent of instructor.

Characteristics and needs of deaf clients with severe disabilities. Procedures for coordinating and providing rehabilitation services including vocational and psychological diagnosis, supported employment, independent living and cross-cultural counseling through American sign language.

Counseling and School Psychology

OFFICE: North Education 179
TELEPHONE: (619) 594-6109

In the College of Education

Faculty

Carol A. Robinson-Zañartu, Ph.D., Associate Professor of Counseling and School Psychology (Graduate Adviser), Chair of Department

Valerie J. Cook-Morales, Ph.D., Professor of Counseling and School Psychology

Emery J. Cummins, Ph.D., Professor of Counseling and School Psychology

Lawrence B. Feinberg, Ph.D., Professor of Counseling and School Psychology, Associate Dean of the Graduate Division and Research

Ralph Llewellyn Miller, Ph.D., Professor of Counseling and School Psychology

Maria Nieto Senour, Ph.D., Professor of Counseling and School Psychology

Colette L. Ingraham, Ph.D., Associate Professor of Counseling and School Psychology

Linda L. Terry, Ed.D., Associate Professor of Counseling and School Psychology

Gordon M. Thompson, Ph.D., Associate Professor of Counseling and School Psychology, Associate Dean of the College of Education

Roberto J. Velasquez, Ph.D., Associate Professor of Counseling and School Psychology

Sharon Grant-Henry, Ph.D., Assistant Professor of Counseling and School Psychology

Indra A. Rocha-Singh, Ph.D., Assistant Professor of Counseling and School Psychology

in this area. May be repeated with new content. See Class Schedule for specific content. Maximum credit of six units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree. (Formerly numbered and entitled Counselor Education 506, Guidance Conference, and 596.)

GRADUATE COURSES

600. Counseling Communication Skills (2)

Prerequisite: Concurrent registration in Counseling and School Psychology 600L.

Introduction to the discipline of counseling, fields utilizing this discipline, and concepts underlying effective counseling practice and interpersonal communication. (Formerly numbered Counselor Education 600.)

600L. Counseling Prepracticum (1) Cr/NC

Three hours of practicum.

Prerequisite: Credit or concurrent registration in Counseling and School Psychology 600.

Development of self-understanding. Communication skills needed for becoming an effective counselor. (Formerly numbered Counselor Education 600L.)

605. Seminar in Ethical and Legal Issues for Counselors (3)

Prerequisite: Credit or concurrent registration in Counseling and School Psychology 600.

Ethical and value issues. Code of ethics and professional standards of major professional mental health associations from a case study perspective. Legal obligations, constraints, and privileges of marriage, family, and child counselors, school counselors, and psychologists. (Formerly numbered Counselor Education 605.)

610. Determinants of Human Behavior (3)

Implications of theory and research in behavioral sciences for the understanding of human behavior. (Formerly numbered Counselor Education 610A, 610B, 610C, 610D.)

- | | |
|------------------------|--------------------|
| A. Personality | C. Development |
| B. Social and Cultural | D. School Learning |

615. Seminar in Multicultural Dimensions in Counseling (3)

Issues, insights and techniques for improving effectiveness in working with culturally different populations. (Formerly numbered Counselor Education 615.)

620. Guidance Services in Public Education (3)

Historical, philosophical and legal bases of pupil personnel services; staff roles and relationships in a variety of organizational patterns. (Formerly numbered Counselor Education 620.)

621. Introduction to School Psychology (3)

Introduction to school psychology: roles (assessing, counseling, consulting); skills (innovative techniques, consultation); and issues (modifying the system, multicultural impact). (Formerly numbered Counselor Education 621.)

Courses Acceptable on Master's Degree Programs in Counseling

UPPER DIVISION COURSES

585A. Human Sexuality for Counselors (3)

Prerequisite: Upper division course in human sexuality.

Dimensions of human sexuality that bear directly on the role and function of helping professions. Human sexual development, sexual variations, sexual dysfunctions, intimate life styles, treatment modalities and sexual ethics. Fulfills MFCC licensure requirement. (Formerly numbered Counselor Education 585A.)

585B. Dynamics of Adjustment Behavior (3)

Prerequisite: Upper division course in abnormal psychology.

Philosophies and dynamics of adjustment behavior, patterns and types of abnormal behavior, and treatment modalities. Fulfills MFCC licensure requirement. (Formerly numbered Counselor Education 585B.)

596. Selected Studies (1-3)

Prerequisite: Consent of instructor.

A series of lecture and discussion sessions centering on current problems in counseling and guidance. Designed to serve the needs of any person desiring to keep informed of developments

640. Theory and Process of Appraisal (3)

Prerequisite: Education 690.

Measurement theory and procedures, including interpretation of test results. Not open to students with credit in Counseling and School Psychology 645. (Formerly numbered Counselor Education 640.)

640L. Appraisal Laboratory (1) Cr/NC

Three hours of laboratory.

Prerequisite: Credit or concurrent registration in Counseling and School Psychology 640.

Directed laboratory activity focusing on topics presented in Counseling and School Psychology 640. (Formerly numbered Counselor Education 640L.)

642A-642B. Individualized Appraisal of Learning Characteristics (4-4)

Three lectures and three hours of laboratory.

Prerequisite: Counseling and School Psychology 640. Counseling and School Psychology 642A is prerequisite to 642B.

Administration and interpretation of instruments and techniques for assessing learning characteristics of children from multicultural settings. 642A: Individualized intellectual assessment of school-aged children. 642B: Scholastic status, learning aptitudes, social maturity, interpersonal relations and behavioral adjustment. (Formerly numbered Counselor Education 642A-642B.)

650. Theory and Process of Career Development (3)

Vocational choice theory, occupational and educational materials used in career planning. Not open to students with credit in Counseling and School Psychology 645. (Formerly numbered Counselor Education 650.)

650L. Career Development Laboratory (1) Cr/NC

Three hours of laboratory.

Prerequisite: Credit or concurrent registration in Counseling and School Psychology 650.

Directed laboratory activity focusing on materials and processes used in career planning and other topics presented in Counseling and School Psychology 650. (Formerly numbered Counselor Education 650L.)

651. Counseling for Sex Roles in Transition (3)

Development of counseling skills in career development, educational, psychological and social forces affecting contemporary women and men. Impact of these forces upon relationships between the sexes and personal definitions of femininity and masculinity. (Formerly numbered Counselor Education 651.)

660. Theory and Process of Counseling (3)

Prerequisites: Counseling and School Psychology 600, 600L, and 610A or 610C.

Counseling process theories, approaches to and techniques for counseling, and research concerning counseling effectiveness. Not open to students with credit in Counseling and School Psychology 667. (Formerly numbered Counselor Education 660.)

660L. Counseling Prepracticum Laboratory (1) Cr/NC

Three hours of laboratory.

Prerequisite: Credit or concurrent registration in Counseling and School Psychology 660.

Supervised practice in and critique of counseling and other topics presented in Counseling and School Psychology 660. (Formerly numbered Counselor Education 660L.)

662. Counseling Interventions with Children and Adolescents (3)

Prerequisites: Counseling and School Psychology 610C and 660.

Counseling theories, processes and approaches appropriate to children and adolescents in multicultural school and community settings. Application of theories and research for individual, group, and systems interventions. (Formerly numbered Counselor Education 662.)

670. Theory and Process of Group Counseling (3)

Prerequisites: Counseling and School Psychology 600, 600L, and 610B.

Group process, theories of group interaction, and group leadership techniques with children, adolescents, adults, couples, and families. Not open to students with credit in Counseling and School Psychology 667. (Formerly numbered Counselor Education 670.)

670L. Group Counseling Laboratory (1) Cr/NC

Three hours of laboratory.

Prerequisite: Credit or concurrent registration in Counseling and School Psychology 670.

Supervised practice in group counseling, group leadership, and other topics presented in Counseling and School Psychology 670. (Formerly numbered Counselor Education 670L.)

680. Theory and Process of Consultation (3)

Prerequisites: Counseling and School Psychology 600 and 600L.

Consultation theory, process, and research for counselors and school psychologists. Emphasis on mental health and problem-solving consultation in education and mental health settings. (Formerly numbered Counselor Education 680.)

685. Theories of Marriage and Family Therapy (3)

Prerequisite: Counseling and School Psychology 660.

Counseling modalities, family intervention strategies and techniques of co-counseling in marriage and family therapy. Systems approaches and behavioral contracting. Fulfills MFCC licensing requirement. (Formerly numbered Counselor Education 685.)

686. Seminar: Gender and Ethnicity in Family Therapy (3)

Prerequisites: Counseling and School Psychology 685 and 740.

Integration of gender and cultural factors into family systems therapy theory and practice. (Formerly numbered Counselor Education 686.)

696. Selected Topics in Counseling and School Psychology (1-3)

Prerequisite: Consent of instructor.

Intensive study in specific areas of counseling and school psychology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree. (Formerly numbered Counselor Education 696.)

710A-710B. Professional Seminar (3-3)

Prerequisites: Education 690. Six units from Counseling and School Psychology 640, 650, 660, and 670. Counseling and School Psychology 710A and 740 are prerequisite to 710B.

Study of selected areas in counseling culminating in a written project with emphasis on counseling as a profession. See Class Schedule for specific content. (Formerly numbered Counselor Education 710A-710B.)

730. Fieldwork in Counseling (2-6) Cr/NC

Prerequisite: Counseling and School Psychology 660 or 662 or 670.

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 to a master's degree in counseling. (Formerly numbered Counselor Education 730.)

740. Practicum: Individual Counseling (3) Cr/NC

Prerequisite: Counseling and School Psychology 660.

Supervised experience in individual counseling and career planning. May be repeated with new content. Maximum credit six units applicable to a master's degree in counseling. (Formerly numbered Counselor Education 740.)

741. Practicum: Group Counseling (3) Cr/NC

Prerequisite: Counseling and School Psychology 670.

Supervised experience in group counseling and career planning. May be repeated with new content. Maximum credit six units applicable to a master's degree. (Formerly numbered Counselor Education 741.)

745. Program Development for Pupil Services (3)

Prerequisites: Counseling and School Psychology 620, 730, and Education 690.

Development, management, and evaluation of pupil services in schools. Analysis of models and practice in planning. (Formerly numbered Counselor Education 745.)

750. Advanced Seminar and Practicum: Individual Counseling (3-6) Cr/NC

Prerequisite: Counseling and School Psychology 740.

Supervised experience in individual counseling and study of problems, issues, and research. May be repeated. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree in counseling. (Formerly numbered Counselor Education 750.)

752. Seminar and Practicum: School Psychology (3-6) Cr/NC

Nine hours of practicum for three units.

Prerequisites: Counseling and School Psychology 730, credit or concurrent registration in Counseling and School Psychology 642A-642B.

School psychology in multicultural school settings; implications for standard and innovative school psychology practices. (Formerly numbered Counselor Education 752.)

760. Advanced Seminar in School Psychology (3)

Prerequisites: Counseling and School Psychology 621, 710A, and 752.

Study of selected areas in school psychology which culminates in a written project with emphases on research, problems and/or issues. See Class Schedule for specific content. (Formerly numbered Counselor Education 760.)

770. Advanced Seminar in Counseling (3)

Prerequisite: Advancement to candidacy or counseling experience.

Selected areas in counseling culminating in a written project with emphasis on research, problems, and issues. See Class Schedule for specific content. (Formerly numbered Counselor Education 770.)

780. Internship (2-12) Cr/NC

Prerequisite: Counseling and School Psychology 730.

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 to a master's degree. Maximum credit 24 units applicable to the specialization in school psychology. (Formerly numbered Counselor Education 780.)

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

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

Individual study. Maximum credit six units applicable to a master's degree. May involve fieldwork. (Formerly numbered Counselor Education 798.)

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

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

Preparation of a thesis for the Master of Science degree in counseling. (Formerly numbered Counselor Education 799A.)

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 Thesis 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. (Formerly numbered Counselor Education 799B.)

Educational Technology

In the College of Education

OFFICE: North Education 280
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Faculty

Patrick J. Harrison, Ph.D., Professor of Educational Technology,
Chair of Department
Brockenbrough S. Allen, Ph.D., Professor of Educational
Technology
Allison Rossett, Ed.D., Professor of Educational Technology
Farhad Saba, Ph.D., Professor of Educational Technology
Bernard J. Dodge, Ph.D., Associate Professor of Educational
Technology
Donn C. Ritchie, Ph.D., Assistant Professor of Educational
Technology

Courses Acceptable on Master's Degree Program in Education

UPPER DIVISION COURSES

532. Production of Instructional Materials (3) I, II

Six hours of activity.

Instructional media production for professionals in organizational settings such as hospitals, law offices, accounting firms, publishing companies. Use of videotape, laser disc, multi-image and digital telecommunications for training. Not open to students in educational technology degree and certificate programs or to students with credit in Educational Technology 541.

540. Educational Technology (3) I, II, S

Six hours of activity.

Rationale, foundations, theories, careers, trends, and issues in educational technology. Implications of educational technology for instruction and information in schools, government, and corporations.

541. Multimedia Development (3) I, II, S

One lecture and six hours of laboratory.

Prerequisite: Basic computer literacy and elementary knowledge of an authoring system.

Systems, communication, aesthetic, and learning theories applicable to designing instructional products. Planning, producing, and disseminating technology-based instruction with authoring systems composed of integrated text, audio, graphics, and electronic dissemination. Not open to students with credit in Educational Technology 532.

544. Instructional Design (3) I, II

One lecture and six hours of laboratory.

Prerequisite: Educational Technology 540.

Systematic approach to instructional design. Review of research and theory in instructional strategy development. Analysis, design and development of instructional and training products and programs.

553. Educational Television (3) I, II

One lecture and six hours of laboratory.

Prerequisite: Basic audio and video recording skills.

Implications of theory and research for designing, producing, disseminating, and using linear and interactive instructional video programs. Planning pre-production, managing production and post-production. Not open to students with credit in Telecommunications and Film 320.

561. Advanced Media Production (3)

Six hours of activity.

Prerequisites: Educational Technology 541, 544, and 553.

Experimental, creative, and practical approaches to aesthetic design and production of multimedia instructional programs. Integration of graphic, dramatic, and music design principles.

572. Technology for Course Delivery (3) I, II

One lecture and six hours of laboratory.

Prerequisite: Educational Technology 541.

Using the computer, especially the microcomputer, as an instructional tool.

596. Topics in Educational Technology (1-3)

Selected problems in educational technology. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

640. Psychology of Technology-Based Learning (3)

Six hours of activity.

Prerequisites: Educational Technology 541 and 544.

Principles of human learning applied to design of educational products and technology-based learning systems. Contemporary issues relating to psychology of product design.

644. Advanced Instructional Design (3)

Two lectures and three hours of laboratory.

Prerequisites recommended: Educational Technology 540 and 544.

Roles and theories associated with instructional design. Problem solving on current design issues. Needs assessment and product development for community based clients. (Formerly numbered Educational Technology and Librarianship 676.)

650. Distance Education (3)

Two lectures and three hours of laboratory.

Prerequisites: Educational Technology 540, 541, 544, and 553.

Theories and models of tele-education at home, place of work and school. Design, development, and evaluation of instructor-led and learner-directed tele-lessons for integrated electronic dissemination systems. Social, economic and organizational context of learning at a distance.

653. Multimedia and Hypermedia (3)

One lecture and six hours of laboratory.

Prerequisites: Educational Technology 544, 553, and 572. Recommended: Educational Technology 670 or 671.

Current trends, recent research, and innovative applications. Designing, developing, prototyping, and using educational products and systems that integrate computer controlled text, graphics, animation, audio, and video.

670. Exploratory Learning Through Simulation and Games (3)

Prerequisites: Educational Technology 540 and 541.

Design, evaluation and use of simulations and games for education and training. Instructional applications of computer-based simulations, interactive fiction, board games and role play.

671. Software Design for Mastery Learning (3)

One lecture and six hours of laboratory.

Prerequisite: Educational Technology 544.

Prescriptive theories and systems for computer-based instruction. Screen and user interface design. Principles of mastery learning. Frame-based versus other design approaches.

684. Management of Educational Technology (3)

Prerequisite recommended: Educational Technology 544.

Research reviewed and findings related to current practices. Management of instructional design and training projects and programs. Role of educational technology and training in organizations. Recent trends evaluated.

685. Informational and Instructional Technologies for Organizations (3)

Six hours of workshop and activities.

Prerequisites: Educational Technology 540 and 541.

Educational Technology

Organizational and informational technologies to support instructional products and services. Individual, team, and organizational analyses. Incentives, feedback, coaching, job-aid, selection and other strategies in relation to instructional technologies.

700. Seminar in Educational Technology (1-3)

Prerequisite: Educational Technology 540.

Selected areas, topics in educational technology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

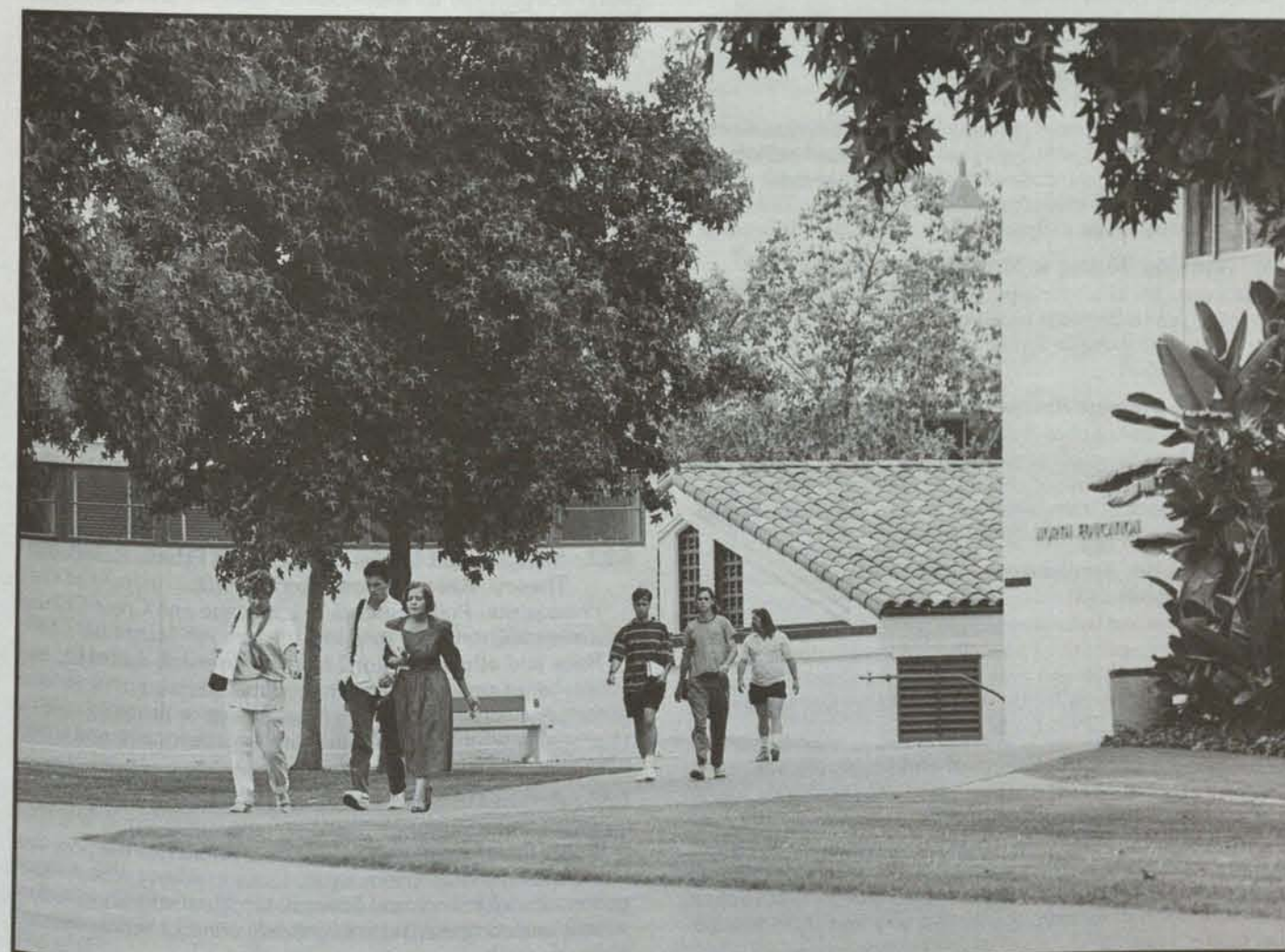
775. Directed Internship in Educational Technology (2-6) Cr/NC

Supervised internship in an educational setting. Application to take course must be made during preceding semester.

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

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

Individual study. May involve fieldwork. Maximum credit six units applicable to a master's degree.



Policy Studies in Language and Cross-Cultural Education

In the College of Education

OFFICE: Education 152
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Faculty

- Natalie A. Kuhlman, Ph.D., Associate Professor of Policy Studies in Language and Cross-Cultural Education, Chair of Department
- Ruben W. Espinosa, Ph.D., Professor of Policy Studies in Language and Cross-Cultural Education
- Alberto M. Ochoa, Ed.D., Professor of Policy Studies in Language and Cross-Cultural Education
- Richard Pacheco, Ph.D., Professor of Policy Studies in Language and Cross-Cultural Education
- Lilia I. Bartolome, Ph.D., Assistant Professor of Policy Studies in Language and Cross-Cultural Education
- Russell L. Young, Ph.D., Assistant Professor of Policy Studies in Language and Cross-Cultural Education

UPPER DIVISION COURSES

515. Bilingual Teaching Strategies (3)

Prerequisite: Consent of instructor.

Legal and historical developments leading to bilingual teaching in the United States. Interactive and individualized techniques appropriate for bilingual students. Language assessment methods for grouping and evaluating bilingual students. Fieldwork required. May be taught in Spanish.

552. Teaching Writing in Multilingual Settings (3)

Methodologies in teaching primarily expository writing to students from various language backgrounds, focusing on skills such as those needed to avoid syntactic, semantic and stylistic language interference.

553. Oral Language Assessment Techniques (3)

Theoretical and applied linguistics; language functions in the bilingual classroom; implications of sociolinguistics for diagnosis and classification of bilingual children; analysis and application of language assessment instruments; comparison of diverse linguistic systems associated with different cultures.

575. Computer Applications in the Bilingual Classroom (3)

Two lectures and three hours of laboratory.

Computer applications for bilingual instructional setting including examination and evaluation of instructional software and authoring systems for developing curriculum for limited English proficient (LEP) students.

596. Special Topics in Bilingual and Multicultural Education (1-3)

Prerequisite: Consent of instructor.

Selected topics in bilingual, cross-cultural education and policy studies. See Class Schedule for specific content. Maximum credit of six units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

602. Cross-Cultural Experience in Classroom Interaction (3)

Prerequisite: Consent of instructor.

Analysis of teacher's verbal and nonverbal communicative strategies; teacher's classroom management style; and children's sociolinguistic repertoire within learning situation.

612. Ethnographic Approach to Classroom Interaction (3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 602.

Interpersonal interaction in classrooms via analysis of linguistic, paralinguistic, kinesic, and proxemic behaviors of teachers and students; levels of communicative competence and teach/learning patterns.

613. Organizational Strategies and Staff Development for the Multicultural School-Community (3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 653.

Leadership skills and change strategies for designing and implementing instructional programs, staff development approaches, and establishing a structural and functional organizational school climate that promotes culturally pluralistic educational services.

614. Strategies for Educational Change: Development and Implementation of School Site Programs for Multicultural Education (3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 653.

Legal and educational framework for developing educational programs reflective of the sociocultural characteristics of the school determinants; assessment of school site program effectiveness, development of educational strategies for implementing school site programs.

622. Analysis and Issues in Race and Ethnic Relations: Theory, Research and Action (3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 653.

Race and ethnic relations from theoretical, research, and action-based perspectives; investigates social, political, economic, and educational factors that hinder or promote cultural relativism and interracial harmony, domestically and internationally.

623. Action-Oriented Policy Research (3)

Prerequisite: Education 690.

Policy research aimed at educational reform for the poor and ethnic minority child; major equity issues including school segregation, school finance and bilingual-bicultural education. Offers writing and computer skills to critically conduct action-oriented policy research.

650. Bilingual/Cross-Cultural Curriculum Development and Teaching Strategies (3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 602.

Bilingual/cross-cultural teaching materials and methodologies for implementation in the multicultural classroom.

651. Multicultural Methods and Curriculum in Content Areas (1-3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 650.

Variety of instructional areas (mini-courses), each focusing on a single topic dealing with multicultural education. Of three required units at least one must be taken from basic content areas, such as social studies, science or mathematics. See Class Schedule for specific content. Maximum credit three units applicable to a master's degree.

652. Language Arts in the Multicultural Education Curriculum (3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 650.

Research and teacher curricular strategies related to English literacy and oral language development for bilingual and limited English proficient students.

653. Language Policies and Practices (3)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 602.

Historical and present day analysis of how non-English speakers have been educated, including methodologies, relevant legislation, formal and informal policies, teaching practices, and the implications for schools and society.

686. Seminar in Multicultural Education (1-6)

Prerequisite: Policy Studies in Language and Cross-Cultural Education 602.

Topics dealing with current issues in multicultural education. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

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

Individual study. May involve fieldwork. Maximum credit six units applicable to a master's degree.

903. Bilingual Secondary Student Teacher Seminar (1-3) I, II Cr/NC

Two lectures and two hours of activity for three units.

Prerequisites: Policy Studies in Language and Cross-Cultural Education 924, 954, and concurrent registration in Policy Studies in Language and Cross-Cultural Education 964.

Planning and organizing instruction for Spanish/English bilingual and nonbilingual student teaching assignments. Focus on role of the bilingual teacher and discipline specific methods in English, ESL, mathematics, science, social science, and foreign language. Course taught in Spanish and/or English. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 403.)

910. Teaching Mathematics to Bilingual Elementary Students (3) II

Two lectures and two hours of activity.

Prerequisite: Admission to BCLAD multiple subject credential program.

Underlying learning theories for teaching mathematical concepts, computation, and problem-solving skills to bilingual students. Taught in Spanish. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 410.)

911. Teaching Social Studies to Bilingual Elementary Students (2) II

One lecture and two hours of activity.

Prerequisite: Admission to BCLAD multiple subject credential program.

Conceptual approaches for teaching bilingual social studies curriculum, incorporating sociocultural characteristics of multicultural community, social concepts, and community social issues. Taught in Spanish. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 411.)

912. Teaching Science to Bilingual Elementary Students (2) II

One lecture and two hours of activity.

Prerequisite: Natural Science 412A or 412B or 412C.

Strategies for development of process skills and concept acquisition. Methodology for teaching activity-oriented science class in English and Spanish. Taught in Spanish. (Formerly numbered Policy Studies in Language and Cross Cultural Education 412.)

914. Teaching and Learning in the Content Area: Major (3)

Prerequisites: Education 451, Policy Studies in Language and Cross-Cultural Education 400, 515.

Teaching strategies in content specific fields from second language acquisition perspective taken concurrently with student teaching. See Class Schedule for specific content. May be repeated with new content. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 414.)

923. Psychological Foundations of Education and Bilingual Students (3) I

Two lectures and two hours of activity.

Prerequisite: Admission to BCLAD multiple subject credential program.

Major theories of learning and cognition as applied to bilingual students and their relation to child development, first and second language acquisition, and approaches to teaching in bilingual classroom. Taught in Spanish and English. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 323.)

924. Behavioral and Psychological Aspects of Teaching in the Bilingual Classroom (4) I

Prerequisites: Policy Studies in Language and Cross-Cultural Education 400; concurrent registration in Policy Studies in Language and Cross-Cultural Education 954 and 963; admission to the single subject bilingual emphasis program.

Bilingual learning theory as it affects adolescent growth, individualized instruction, classroom management and discipline, and methods of measuring and evaluating achievement. Taught in Spanish and English. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 423.)

931. Skills in Teaching Reading to Bilingual Elementary Students (3) I

Two lectures and two hours of activity.
Prerequisite: Admission to BCLAD multiple subject credential program.

Teaching reading in English, including methods, strategies, assessment, materials, and techniques of transition for implementing reading programs in the bilingual classroom. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 431.)

932. Teaching Spanish Language Arts to Bilingual Elementary Students (3) II

Two lectures and two hours of activity.
Prerequisite: Admission to BCLAD multiple subject credential program.

Assessing language proficiency; selecting, designing, and evaluating learning experiences to develop Spanish and English language arts. Taught in Spanish. (Formerly numbered Policy Studies in Language and Cross Cultural Education 432.)

933. Skills in Teaching Reading to Bilingual Secondary Students (3)

Prerequisites: Upper division standing. Admission to single subject bilingual emphasis program.

Methods of teaching and diagnosing reading skills in Spanish and English, including ESL methods and individualized instruction. Transition skills. Taught in Spanish. (Formerly numbered Policy Studies in Language and Cross Cultural Education 433.)

954. Humanistic and Social Aspects of Teaching in the Bilingual Classroom (4) I

Prerequisites: Policy Studies in Language and Cross-Cultural Education 400; concurrent registration in Policy Studies in Language and Cross-Cultural Education 924 and 963; admission to the single subject bilingual emphasis program.

Interaction between school and society, including equity issues, values, sociocultural variables, achievement of Spanish/English bilingual students; models for appropriate curricula. Taught in Spanish and English. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 454.)

960. Student Teaching Seminar for Bilingual Elementary Students (1-4) I, II Cr/NC

Prerequisites: Policy Studies in Language and Cross-Cultural Education 923 and admission to BCLAD multiple subject credential program.

Bilingual instructional practices, classroom management, curricula discipline, micro-teaching in Spanish and English, legal liability, and daily problems encountered in the bilingual classroom. Taught in English and Spanish. Maximum credit four units. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 360.)

961. Student Teaching for Bilingual Elementary Students (1-12) I, II Cr/NC

Prerequisite: Admission to BCLAD multiple subject credential program. Student must provide own transportation to student teaching site.

Field experience at two grade levels in a multicultural setting and a bilingual elementary classroom; student teacher assumes responsibility for planning and instruction for specified time to comply with State requirements. Maximum credit twelve units. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 460.)

963. Student Teaching for Bilingual Secondary Students I (3-4) I, II Cr/NC

Prerequisites: Policy Studies in Language and Cross-Cultural Education 400; concurrent registration in Policy Studies in Language and Cross-Cultural Education 924 and 954; admission to the single subject bilingual emphasis program. Students must provide own transportation to student teaching site.

On-site, part-time experience to implement bilingual teacher competencies introduced in Policy Studies in Language and Cross-Cultural Education 515, 924, and 954. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 463.)

964. Student Teaching for Bilingual Secondary Students II (9-12) I, II Cr/NC

Prerequisites: Policy Studies in Language and Cross-Cultural Education 924 and 963; concurrent registration in Policy Studies in Language and Cross-Cultural Education 903. Students must provide own transportation to student teaching site.

On-site, full-day experience in State approved bilingual and nonbilingual classes to implement teacher competencies as developed in the total professional sequence. Maximum credit twelve units. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 464.)

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Faculty

Ian R. Pumpian, Ph.D., Professor of Special Education, Chair of Department
Patricia T. Cegelka, Ed.D., Professor of Special Education
Donald H. Doorlag, Ph.D., Professor of Special Education (Graduate Adviser)
Margie K. Kitano, Ph.D., Professor of Special Education, Associate Dean for Faculty Development and Research, College of Education
Rena B. Lewis, Ph.D., Professor of Special Education
Eleanor W. Lynch, Ph.D., Professor of Special Education
Patricia L. Patton, Ed.D., Professor of Special Education
Richard C. Brady, Ph.D., Associate Professor of Special Education
Anne W. Graves, Ph.D., Associate Professor of Special Education
Belinda D. Karge, Ph.D., Assistant Professor of Special Education

UPPER DIVISION COURSES

All 500-level courses in special education, with the exception of Special Education 500 and 501, are reserved for students officially admitted to one of the programs in special education.

500. Human Exceptionality (3) I, II, S

Historical, philosophical, and legal backgrounds which affect special education practices. Identifying and programming for students with exceptionalities: principles, procedures, and techniques. Fieldwork.

501. Special Education Procedures (3) I, II, S

Procedures, legal requirements, and interpersonal processes in the identification, prescription, teaching, and evaluation of instructional programs for students with handicaps.

508. Characteristics and Identification of Students Who Are Gifted and Talented (3) I

Prerequisite: Special Education 500.
Historical and philosophical foundations of education for the gifted, including review of research on characteristics screening and identification procedures.

524. Characteristics and Education of Students with Learning Handicaps (3) I

Prerequisites: Credit or concurrent registration in Special Education 500 and 501.

Historical and philosophical perspectives of programs related to students with learning handicaps, including review of research on educational programs, curricular approaches, and characteristics.

525. Characteristics and Education of Students with Severe Handicaps (3) I

Prerequisites: Credit or concurrent registration in Special Education 500 and 501.

Historical and philosophical perspectives of programs related to students with severe handicaps, including review of research on educational programs, curricular approaches, and characteristics.

Special Education

In the College of Education

526. Characteristics and Education of Students with Physical Handicaps (3) I

Prerequisites: Credit or concurrent registration in Special Education 500 and 501.

Historical and philosophical perspectives of programs related to students with physical handicaps, including review of research on students' characteristics, educational programs, and curricular approaches.

527. Ethnolinguistic Diversity and Students with Learning Handicaps (3) II

Prerequisites: Special Education 500 and 501.

Historical and philosophical perspectives of programs related to ethnolinguistically diverse students who also have learning handicaps, including review of research on educational programs, curricular approaches, and instructional needs.

528. Early Intervention for Infants and Young Children with Handicaps and Their Families (3) I

Prerequisites: Special Education 500 and 501 or equivalent coursework in another discipline.

Characteristics and needs of infants, toddlers, and preschoolers with handicaps and their families, focusing on approaches to educational service delivery, review of research, and analysis of best practices in a pluralistic society.

529. Characteristics and Education of Students with Serious Emotional Disturbances (3) I

Prerequisites: Special Education 500 and 501.

Historical and philosophical perspectives of programs for students with emotional disturbances and behavior disorders, including review of research on student characteristics, educational programs, and curricular approaches.

553. Dynamics of Behavior Change of the Exceptional Individual (3) I, II, S

Prerequisites: Special Education 500 and 501.

Management and treatment of individuals with exceptional needs. Current theories and programs in behavioral change studies, analyzed with reference to their applications for the educational environment. Not open to students with credit in Special Education 513A, 513B, or 513C.

560. Applications of Technology for Exceptional Learners (3) I, II, S

Prerequisite: Special Education 500.

Educational applications of current technologies for learners who are handicapped and/or gifted. Selection, modification, and classroom use of technologies to improve or bypass physical, sensory, communicative, learning, and social disabilities and for environmental control.

596. Selected Topics in Special Education (1-4) I, II, S

Specialized study of selected topics in special education. May be offered as either a workshop or lecture/discussion. See Class Schedule for specific content. Maximum credit of six units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

634. Issues in Assessment of Students with Learning Handicaps (3)

Prerequisite: Special Education 524.

Assessment for instructional decision making including alternative data collection strategies, models for analysis and synthesis of assessment information, influences of cultural and linguistic diversity, and implications for instruction. (Formerly numbered Special Education 534.)

635. Assessment in Early Intervention and Programs for Individuals with Severe Handicaps (3)

Prerequisite: Special Education 525 or 528.

Models of family and community based assessment of infants and preschoolers with disabilities and individuals with severe handicaps. Emphasis on a transdisciplinary approach; decision making based on performance in home, school, and society with application in a multicultural context. (Formerly numbered Special Education 535.)

643. Educational Interventions for Infants, Toddlers, and Preschoolers with Handicaps (3)

Prerequisites: Special Education 500 and 528.

Developing, implementing, monitoring, and evaluating educational interventions in center and home based programs with an emphasis on family-professional collaborations in a pluralistic society. (Formerly numbered Special Education 571.)

644. The Gifted Student (3)

Prerequisite: Special Education 508.

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

645. Issues in Curriculum and Instruction for Students with Severe Handicaps (3)

Prerequisite: Special Education 525.

Design and implementation issues of instructional programs for students with severe handicaps; approaches which foster school and community integration and active family involvement will be analyzed. (Formerly numbered Special Education 545.)

646. Educational Adaptation for Ethnolinguistically Diverse Students with Learning Handicaps (3)

Prerequisites: Special Education 527 and 634.

Data-based approaches to developing and selecting programs and establishing procedures for monitoring and evaluating progress of students with learning handicaps from diverse backgrounds. (Formerly numbered Special Education 546.)

647. Instructional Adaptations for Students Who Are Learning Handicapped or Low Achieving (3)

Prerequisite: Special Education 524.

Analysis and application of research related to meeting the basic academic skill needs of students who are learning handicapped or low achieving. (Formerly numbered Special Education 544.)

648. Interventions for Students Who Are Learning Handicapped or Low Achieving (3)

Prerequisite: Special Education 524.

Strategies for adaptive behavior interventions. Systematic instruction in social skills, study skills, learning strategies, and vocational skills for students who are learning handicapped or low achieving. (Formerly numbered Special Education 547.)

649. Curriculum Models for Students Who Are Gifted and Talented (3)

Prerequisite: Special Education 508.

Philosophical, theoretical, and research bases for curriculum design and program implementation for students who are gifted and talented. (Formerly numbered Special Education 542.)

650. Special Topics in Special Education (1-4)

Prerequisites: Special Education 500, 501, 971.

Instructional sequences (mini-courses) focusing on a single topic or competency dealing with special education. Topics differ each semester to adjust to current literature in the field, training needs, and resource availability. Maximum combined credit of nine units for Special Education 650A, 650B, 650C, 650D applicable to a master's degree. Offered in four categories:

- | | |
|--|---|
| A. Consultant Skills/
Multidisciplinary Teams | C. Specialized Assessment
Techniques |
| B. Affective and Social
Development | D. Instructional Programming |

651. Legislation and Management of Special Education Services (3)

Prerequisites: Special Education 500 and 501, and 15 additional units of coursework in special education.

Implementation of laws, regulations and compliance requirements in special education. Requirements to and approaches for managing school and delivery of school and related services within a multidisciplinary context. Meets competencies for Resource Specialist Certificate.

652. Parent Education and Staff Development in Special Education (3)

Prerequisites: Special Education 500 and 501, and 15 additional units of coursework in special education.

Issues relating to and development of skills for working with parents and school staff to develop skills and competencies needed to optimize the educational progress of handicapped students. Meets competencies for Resource Specialist Certificate.

653. Advanced Programming and Consultation in Special Education (3)

Prerequisites: Special Education 500, 501, a course in special education curriculum and instruction and behavior management, and 15 additional units of coursework in special education.

Education programming and consultation for working with teachers in instructional delivery for handicapped students. Skills in behavior management, assessment, programming, evaluation, and vocational plans. Meets competencies for Resource Specialist Certificate.

662. Collaborative Partnerships in Special Education (3)

Prerequisite: Special Education 528 or 644 or 645 or 647.

Validated collaboration models for working with aides, parents, administrators, other professionals and representatives from related services; interpersonal processes, communication skills, conflict resolution, decision-making models, and team functions. (Formerly numbered Special Education 562.)

663. Theory and Process of Vocational Development for Youth with Handicaps (3)

Prerequisite: Credit or concurrent registration in Special Education 524 or 525.

Historical background, research issues, applied practices, and innovative strategies for enhancing the quality of life for youth with handicaps in education, employment, and community living. (Formerly numbered Special Education 563.)

664. Issues Affecting Employment of Individuals with Severe Handicaps (3)

Prerequisite: Special Education 525.

Transition from school special education programs into supported employment and community living; research issues, applied practices, and innovative strategies for enhancing integrated adult options. (Formerly numbered Special Education 564.)

670. Seminar in Education of Exceptional Children (3)

Prerequisites: Special Education 524 or 525 or 526.

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

677. Educational Management of Severe Behavior Disorders (3)

Prerequisite: Special Education 553.

Nature and educational treatment of severe behavioral problems in handicapped students. Review of research on effectiveness of various interventions and development of skills needed to implement appropriate strategies to evaluate, manage and treat these behaviors.

681. Advanced Seminar in Special Education (3)

Prerequisites: Special Education 524 or 525 or 526.

Nature and educational needs of students in area of exceptionality. Current educational theories and philosophies, research findings, and issues and trends in the field. Application of research literature to solution of educational problems. May be taken in each of the areas of exceptionality:

- | |
|-------------------------|
| A. Learning Handicapped |
| B. Severely Handicapped |

696. Advanced Topics in Special Education (3)

Prerequisite: Twelve units in special education.

Intensive study in specific areas of special education. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

771. Directed Internship: Special Education (1-4) Cr/NC

Prerequisite: Permission of graduate adviser. Application to be made during previous semester.

Extensive daily participation or teaching in public schools and preparation for teaching of exceptional individuals.

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

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

Individual study. May involve fieldwork. Maximum credit six units applicable to a master's degree.

971. Fieldwork in Special Education (2-3) I, II Cr/NC

Supervised observation and participation in classroom and related school activities of handicapped students (e.g., mentally retarded, gifted, learning disabled, and others). Maximum credit 12 units, of which no more than three units are applicable to a bachelor's degree. (Formerly numbered Special Education 471.)

979. Fieldwork Seminar (1) Cr/NC

Prerequisites: Admission to department as a postbaccalaureate classified student; credit or concurrent registration in all core courses for specific specialist credential (see catalog for listing of core courses by credential); concurrent registration in Special Education 980.

Analyze and critique teaching performances using such protocols as videotapes, case studies, and observational data. Not applicable to the M.A. degree.

980. Advanced Practicum for Specialist Credential (4 or 6) Cr/NC

Prerequisites: Admission to department as a postbaccalaureate classified student; credit or concurrent registration in all core and specialization courses for specific specialist credential (see catalog for listing of courses by credential); concurrent registration in Special Education 979.

Integration and application of skills and knowledge gained in specialization coursework. Analysis and critique of teaching performance. May be repeated in other specialty areas. Not applicable to the M.A. degree. (Formerly numbered Special Education 480.)

- | | |
|-------------------------|---------------------------|
| A. Learning Handicapped | C. Physically Handicapped |
| B. Severely Handicapped | D. Gifted |

Teacher Education

In the College of Education

Faculty

George L. Mehaffy, Ph.D., Professor of Teacher Education, Director of School
Lester A. Becklund, Ph.D., Professor of Teacher Education
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Alan McCormack, Ed.D., Professor of Teacher Education
Steve G. Moreno, Ed.D., Professor of Teacher Education
Thomas S. Nagel, Ph.D., Professor of Teacher Education
Robert B. Pehrson, Ph.D., Professor of Teacher Education
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Rafaela M. Santa Cruz, Ph.D., Associate Professor of Teacher Education
Barbara Armstrong, Ph.D., Assistant Professor of Teacher Education
Jesus Nieto, Ph.D., Assistant Professor of Teacher Education
Randolph A. Philipp, Ph.D., Assistant Professor of Teacher Education
My Luong Tran, Ph.D., Assistant Professor of Teacher Education

UPPER DIVISION COURSES

- 508. Teaching in the Middle School (3) I, II, S**
Prerequisite: Completion of or admission to a credential program in elementary or secondary education.
Developmental characteristics of early adolescents that affect teaching and learning, rationale for organizational features unique to middle schools, and interdisciplinary curriculum development.
- 511. Diagnosis and Remediation of Difficulties in Mathematics (3)**
The assessment and remediation of underachievers in mathematics. Techniques in determining difficulties in mathematics and prescribing remedial work; for use by elementary and secondary classroom teachers and mathematics education specialists.
- 512. Arts and Crafts for Teachers: A Multicultural Approach (3)**
One lecture and four hours of activity.
Prerequisite: Twelve units in education.
Art histories and craft traditions from world cultures. Creation of instructional materials from different cultural sources.

- 522. Substance Abuse in the Schools (3)**
Prerequisite: Health Science 574.
Development of school policy and school plan to include substance abuse prevention, identification, intervention, referral, and aftercare. Collaboration with parents, schools, agencies, and local communities.
- 525. Discipline and Classroom Management (3) I, II**
Prerequisite: Six upper division units in education, psychology or sociology.
Analysis of research and theories of classroom discipline, management, and teaching effectiveness, with practical application to the elementary and secondary classroom setting.
- 526. Teaching the Special Child in the Regular Classroom (2)**
Prerequisite: Teaching credential or admission to multiple or single subject credential programs.
Knowledge, skills, and instructional programs for teaching handicapped students in the regular classroom. Meets the mainstreaming requirements for the California Multiple Subject credential (clear). Not open to students with credit in Special Education 550, Teaching the Special Child in the Regular Classroom.

530. Children's/Adolescents' Literature (3) I, II

Survey of children's/adolescents' literature and its incorporation into the classroom curriculum.

531. Storytelling (3)

Art of storytelling, including planning of the story hour, locating suitable materials, techniques for learning and presenting various story types. Selection of literature appropriate for oral presentation to different groups and age levels.

536. Assessment of Reading/Language Arts (3)

Prerequisites: Valid teaching credential and consent of instructor.

Formal and informal assessment of reading and language arts abilities.

596. Topics in Teacher Education (1-3 or 6) I, II SP*

Designed to meet the needs of individuals or groups of teachers who wish to develop or continue the study of some problem. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

* Specified sections.

GRADUATE COURSES

600. Curriculum Development in Education (3)

Prerequisite: Consent of instructor.

Advanced study of the research in curriculum development, construction and evaluation. (Formerly numbered Secondary Education 610.)

604. Advanced Problems in Instruction (3)

Prerequisites: Teaching experience and consent of instructor.

Scientific research and philosophical principles which underlie school instruction.

605. Innovations in Instruction (1-3)

Prerequisite: Teaching experience.

Exploration of innovative instructional practice in the public and private schools, with emphasis on innovative teaching strategies. An evaluation of the motivational effect and structural validity of promising instructional practices. See Class Schedule for specific content. Maximum credit three units applicable to a master's degree.

607. Seminar in Research in Curricular Problems (1-3)

Prerequisites: Consent of the Director of the School of Teacher Education and instructor.

Individual study by graduate students who have demonstrated exceptional ability. Maximum credit three units applicable to a master's degree.

610A. Seminar in Mathematics Education — Elementary School (3)

Prerequisite: Consent of instructor.

Factors affecting the elementary school mathematics curriculum; recent trends and current research in the teaching of elementary school mathematics.

610C. Seminar in Science in Elementary Education (3)

Prerequisite: Consent of instructor.

Advanced study of the problems of teaching science in the elementary school with emphasis on the literature of science education.

613. Seminar in Mathematics Education - Secondary School (3)

Factors affecting the secondary school mathematics curriculum; recent trends and current research in the teaching of secondary school mathematics.

625. Instruction in Mathematical Problem Solving (3)

Two lectures and three hours of laboratory.

Prerequisite: Teaching credential.

Design, implementation, and evaluation of mathematical problem-solving programs in elementary and secondary grades. Use of microcomputers and hand-held calculators to solve mathematical problems. (Formerly numbered Education 625.)

626. Advanced Educational Psychology (3)

Prerequisite: Teacher Education 923 or valid teaching credential.

Advanced study of the research in educational psychology and its application to learning and human growth.

630. Seminar in Reading Education (3)

Prerequisite: 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.

631. Seminar in Language Arts (3)

Advanced study of problems in teaching language arts. The study of the scientific research and application in the field.

634. Seminar in Research Investigations in Reading and Language Arts (4)

Prerequisite: Consent of instructor.

Emphasis on interpreting, evaluating, conducting, and implementing findings of research and evaluation in reading and language arts.

636. Leadership in Literacy Evaluation (3)

Prerequisite: Teacher Education 536.

Theoretical knowledge and practical skill in assessing reading/language arts abilities. Emphasis on informal measure in an interdisciplinary center requiring contacts with allied professionals in the community and parents.

637. Instructional Strategies for Reading/Language Arts (3)

Two lectures and three hours of laboratory.

Prerequisites: Teacher Education 530 or concurrent enrollment, and Teacher Education 536, 636.

Supervised experience utilizing instructional strategies in individual and small group settings.

638. Topics in Reading Education (1-6)

Prerequisite: California Teaching Credential.

A variety of instructional sequences (mini-courses), each focusing on a single topic or competency dealing with reading instruction. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

639. Literacy and Language (3)

Prerequisite: Teacher Education 930A or 933.

Theories of literacy and methods for developing literacy in language, reading and writing. Instructional methods and assessment techniques for children and adults.

646. Seminar in Educational Measurement (3)

Problems in educational testing. Emphasis on construction, administration and validation of teacher-made tests.

650. Seminar in International Education (3)

Prerequisites: Teaching experience and consent of instructor.

Major themes and issues in international education as they relate to classroom instruction.

652. 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.

653. Values in Education (3)

Prerequisite: Valid teaching credential or enrollment in a credential program.

Analysis of various strategies that promote clarification of values and moral dilemmas. Development of classroom strategies to measure values and implement value clarification.

655. Social Foundations of American Education (2 or 3)

Prerequisite: Admission to teacher education.

Sociological, historical, and philosophical foundations of American education and their influences on present-day educational practices.

656. Comparative Education (3)

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

657. Philosophy of Education (3)

Advanced study of philosophical backgrounds of educational thought; a study of comparative philosophies, and an analysis of selected current trends and problems.

696. Selected Topics in Community Influences on Learning and Curriculum Planning (1-3)

Prerequisite: Teaching experience.

Intensive study in specific areas of teacher education. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit six units of any 596 or 696 offered by the College of Education on a master's degree.

736. Field Experience as a Reading Specialist (2)

Prerequisite: Eighteen units of core courses.

Individually designed practicum for the reading specialist.

790. Seminar in Teacher Education (3)

Prerequisite: Advancement to candidacy.

Intensive consideration of selected topics of current importance in teacher education. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

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

Individual study. May involve fieldwork. Maximum credit six units applicable to a master's degree.

901. Skills in Curriculum Organization (2) I, II

Four hours of activity.

Prerequisite: Admission to multiple subject credential program.

Skills in planning, following and evaluating long-range instruction in the various school subjects. (Formerly numbered Teacher Education 301.)

902. Classroom Management Skills (1) I, II

Two hours of activity.

Prerequisite: Provisional or complete admission to multiple subject credential program.

Skills in interpreting the legal aspects of education, identifying various kinds of school and classroom organization, and using instructional media and verbal stimuli to facilitate learning. (Formerly numbered Teacher Education 302.)

903. Secondary School Student Teaching Seminar (1-3) I, II Cr/NC

Prerequisites: Teacher Education 453, 922, 933, 954, 963. To be taken concurrently with Teacher Education 964.

To plan and organize instruction in relation to all competencies acquired and to be implemented in an on-site, full-time student teaching assignment. May be repeated with new content. Maximum credit three units. (Formerly numbered Teacher Education 403.)

910A. Teaching Mathematics in the Elementary School (1-3) I, II

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Instructional methods for development of children's conceptual understanding, computational, and problem-solving skills in mathematics, including use and development of materials and programs. (Formerly numbered Teacher Education 410A.)

910B. Teaching Social Studies in the Elementary School (1-3) I, II

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Developing curriculum, principles and materials of instruction, including instructional media and participation in elementary social studies education. (Formerly numbered Teacher Education 410B.)

910C. Teaching Science in the Elementary School (1-3) I, II

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Developing research-based science curriculum, principles and materials of instruction, including instructional media and participation in elementary science education. (Formerly numbered Teacher Education 410C.)

910D. Teaching Art in the Elementary School (1-2) I, II

Two hours of activity per unit.

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Developing curriculum, principles, and materials of instruction, including instructional media and participation in elementary art education. (Formerly numbered Teacher Education 410D.)

910E. Teaching Music in the Elementary School (1-2) I, II

Two hours of activity per unit.

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Developing curriculum, principles and materials of instruction, including instructional media and participation in elementary music education. (Formerly numbered Teacher Education 410E.)

910F. Teaching Science and Social Studies in the Elementary School (1-3) I, II

Two hours of activity per unit.

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Developing and using instructional programs to facilitate growth in critical thinking and using informational resources to learn and apply concepts and generalizations from the various sciences and social sciences. (Formerly numbered Teacher Education 410F.)

914. Teaching and Learning in the Content Area: Major (3)

Prerequisite: Admission to teacher education credential program.

Teaching strategies in content specific fields of study taken concurrently with student teaching. See Class Schedule for specific content. May be repeated with new content. (Formerly numbered Teacher Education 414.)

921. Skills in Applying Instructional Principles (2) I, II

Four hours of activity.

Prerequisite: Admission to multiple subject credential program.

Skills in using the principles of instruction related to readiness, motivation, efficiency of learning and transfer of learning to organize an effective learning environment for children. (Formerly numbered Teacher Education 321.)

922. Behavioral and Psychological Aspects of Teaching (4) I, II

Prerequisites: Teacher Education 453 and admission to single subject credential program. To be taken concurrently with Teacher Education 954 and 963.

Teacher competencies as they relate to learning theories, adolescent growth, self-assessment, measurement and evaluation. (Formerly numbered Teacher Education 423.)

923. Psychological Foundations of Education (1-3) I, II, S

Prerequisites: Psychology 101 and admission to multiple subject credential program.

Implementing learning process through interactive skills, using instructional principles to facilitate learning and changes in behavior and techniques used in assessing instruction and pupil growth. (Formerly numbered Teacher Education 323.)

930A. Teaching Reading in the Elementary School (1-3) I, II

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Nature of reading as a human behavior, various approaches, materials, and techniques used in teaching reading. (Formerly numbered Teacher Education 430A.)

930B. Teaching Language Arts in the Elementary School (1-3) I, II

Prerequisite: Admission to multiple subject credential program or possession of a teaching credential.

Selecting, designing and evaluating appropriate learning experiences to assure children's growth in language arts. (Formerly numbered Teacher Education 430B.)

933. Teaching of Reading in the Secondary School (3) I, II

Teacher competencies as they relate to the teaching of reading/writing and diagnosing needs in the content areas. For students completing a credential at SDSU, this course must be taken concurrently with enrollment in first or second semester single subject credential program. (Formerly numbered Teacher Education 433.)

950. Community Study Skills (2) I, II

Four hours of activity.

Prerequisite: Provisional or complete admission to multiple subject credential program.

Skills in observing and interpreting professional values and the diversity of social, cultural, economic and educational values within elementary school communities. (Formerly numbered Teacher Education 350.)

954. Humanistic and Social Aspects of Teaching (4) I, II

Prerequisites: Teacher Education 453 and admission to single subject credential program. To be taken concurrently with Teacher Education 922 and 963.

Teacher competencies as they relate to values, awareness, self-concept, rights and responsibilities. (Formerly numbered Teacher Education 454.)

960. Basic Student Teaching Seminar (1-2) I, II Cr/NC

Prerequisites: Admission to multiple subject credential program and concurrent registration in Teacher Education 965.

Discussion of immediate problems in student teaching with emphasis on children's growth and development. (Formerly numbered Teacher Education 360.)

961. Advanced Student Teaching Seminar (1-2) I, II Cr/NC

Prerequisites: Satisfactory completion of Teacher Education 960, 965; and concurrent registration in Teacher Education 966.

Discussion of immediate problems in student teaching with emphasis on the influence of philosophical, social and cultural factors on learning. (Formerly numbered Teacher Education 361.)

962. Fieldwork in Community Service in Education (2) I, II

Four hours of activity.

Working on a tutorial basis with children and youth. Maximum credit four units. (Formerly numbered Teacher Education 362.)

963. Secondary School Student Teaching I (1-6) I, II Cr/NC/SP

Prerequisites: Teacher Education 453 and admission to single subject credential program. To be taken concurrently with Teacher Education 922 and 954. Teacher Education 933 is highly recommended to be taken at this time. Student must provide own transportation to student teaching site.

On-site, part-time experience to implement teacher competencies developed in Teacher Education 922 and 954. Maximum credit six units. (Formerly numbered Teacher Education 463.)

964. Secondary School Student Teaching II (1-12) I, II Cr/NC/SP

Prerequisites: Teacher Education 453, 922, 933, 954, 963. To be taken concurrently with Teacher Education 903. Student must provide own transportation to student teaching site.

On-site, full-day experience to implement teacher competencies as developed from the total professional sequence. Maximum credit twelve units. (Formerly numbered Teacher Education 464.)

965. Basic Student Teaching in Elementary Schools (1-12) I,II Cr/NC

Prerequisites: Admission to multiple subject credential program and concurrent registration in Teacher Education 960.

Day-to-day teaching experiences including selected instructional activities for which a teacher in a classroom is normally responsible. (Formerly numbered Teacher Education 460.)

966. Advanced Student Teaching in Elementary Schools (1-12) I,II Cr/NC

Prerequisites: Satisfactory completion of Teacher Education 960, 965, and concurrent registration in Teacher Education 961.

Teaching experiences including all the instructional activities for which a teacher in a classroom is normally responsible. (Formerly numbered Teacher Education 461.)

967. Elementary School Student Teaching (15) (Offered at IVC only)

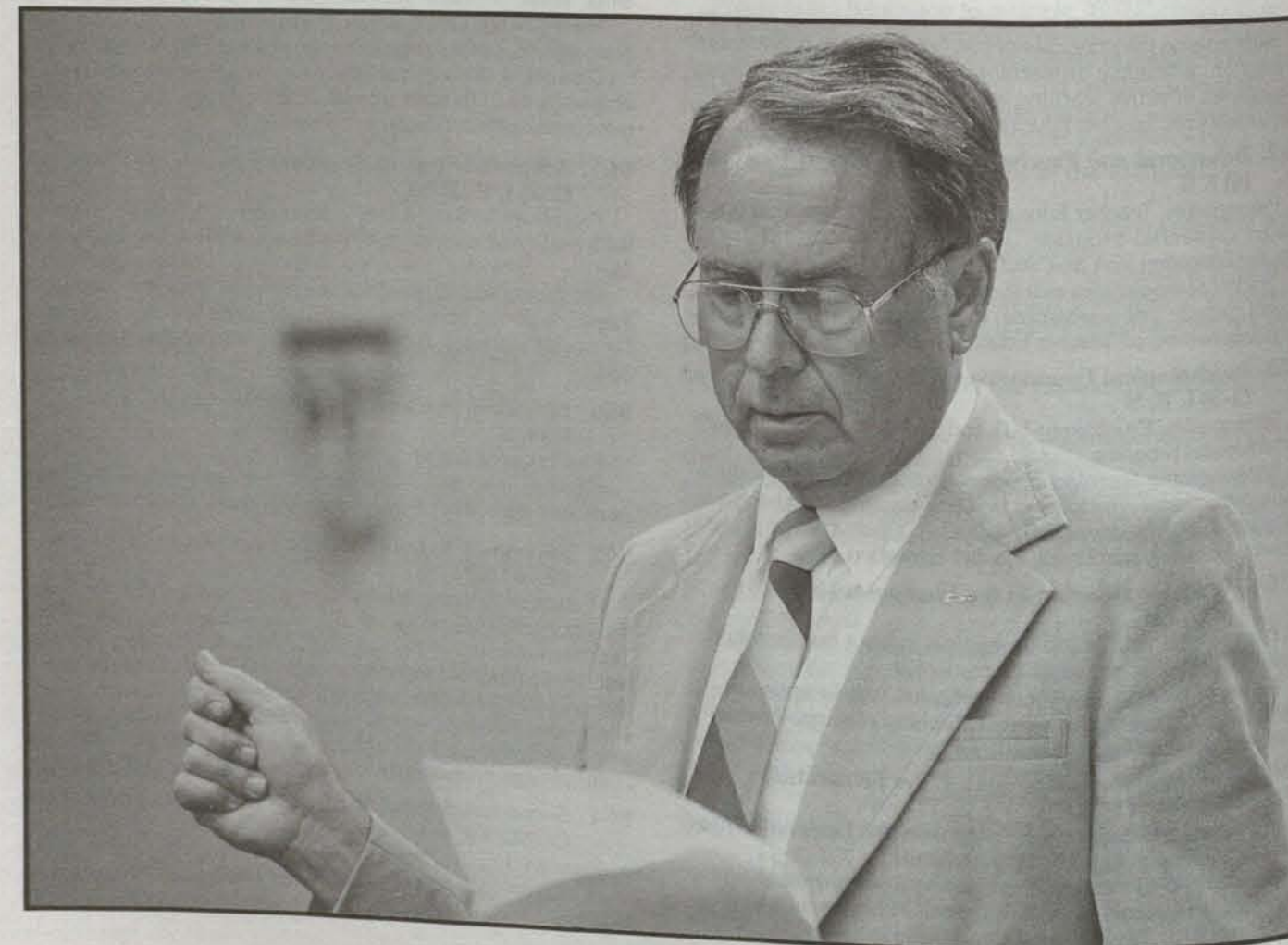
Prerequisites: Admission to multiple subject credential program and concurrent registration in Teacher Education 960 and 961.

On-site, full-day teaching experiences. Two consecutive eight week assignments at two different broad levels of schooling. Each eight week assignment will provide typical responsibilities of teachers through a graduated series of experiences, such as class preparation, instruction of students, maintaining accurate student records, attending faculty meetings and parent conferences. Not open to students with credit in Teacher Education 460 and 461.

968. Secondary School Student Teaching (15) (Offered at IVC only)

Prerequisites: Admission to single subject credential program and concurrent registration in Teacher Education 903.

On-site, full-day teaching experiences. Two consecutive eight week assignments in single subject content area; one in junior high school and one in senior high school. Each eight week assignment will provide typical responsibilities of teachers through a graduated series of experiences, such as class preparation, instruction of students, maintaining accurate student records, attending faculty meetings and parent conferences. Not open to students with credit in Teacher Education 463 and 464.



Engineering

In the College of Engineering

OFFICE: Engineering 426B
TELEPHONE: (619) 594-6061

Assistantships

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

General Information

The College of Engineering offers graduate study leading to the Ph.D. degree in engineering science/applied mechanics and Master of Science degrees in aerospace, civil, electrical, and mechanical engineering. The Ph.D. degree is offered jointly with the University of California, San Diego. These curricula are designed to augment the student's undergraduate training by advanced study in one of the various fields of engineering. Recognizing the increasing importance in modern technology of the engineer-scientist team, San Diego State University has developed an academic pattern which offers to one holding a first degree in engineering, an opportunity to pursue advanced study in a specialized area of knowledge.

Section I. Master's Degree Programs

Admission to Graduate Study

All students must satisfy the general requirements for admission to the Graduate Division with classified graduate standing as described in Part Two of this bulletin. Candidates for admission to aerospace engineering, civil engineering, electrical engineering and mechanical engineering programs must have attained a grade point average of at least 2.75 (when A equals 4) in the last 60 semester (90 quarter) units attempted in the undergraduate degree program. In addition, the student must have a bachelor's degree in a field of engineering appropriate to the field in which he/she desires to earn an advanced degree or in a field closely related thereto from an institution acceptable to the College of Engineering. If undergraduate preparation is deemed insufficient, the student will be required to take specified courses for the removal of the deficiency. Such courses, taken as an unclassified student, are in addition to the minimum of 30 units for the master's degree in engineering.

Students should contact specific engineering department for GRE test requirements.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, which are described in Part Two of this bulletin.

Specific Requirements for the Master of Science Degrees

In addition to meeting the requirements for classified graduate standing as stated above, the student must satisfy the basic requirements for the master's degree as described in Part Two of this bulletin. With the approval of the appropriate department the student working toward the master of science degree may

elect either Plan A, requiring a thesis and an oral defense, or Plan B, requiring a comprehensive written examination.

Students shall arrange their course pattern, in conference with their graduate adviser, according to the following requirements for the specific degree.

Aerospace Engineering (Major Code: 09021)

General information: The Department of Aerospace Engineering and Engineering Mechanics offers graduate study leading to the Master of Science degree in aerospace engineering.

Students are encouraged to engage in thesis research or special study projects. Available areas of research include experimental, theoretical and computational aerodynamics and fluid mechanics, structural mechanics, fracture mechanics, composite structures, random vibrations, fluid-structure interactions, acoustics, and aircraft and spacecraft stability and control

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

1. Twenty-one units of 600- and 700-numbered courses in aerospace engineering and/or engineering mechanics. At least one course must be outside the student's area of specialization.
2. Nine additional units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

Areas of Specialization in Aerospace Engineering and Engineering Mechanics

1. Aerodynamics/Astronautics

- AE 600. Seminar (1-3)
- AE 601. Computational Fluid Mechanics (3)
- AE 612. Compressible Fluid Flow (3)
- AE 620. Incompressible Aerodynamics (3)
- AE 643. Laminar Flow (3)
- AE 644. Turbulent Flow (3)

2. Structural Mechanics

- EM 600. Seminar (1-3)
- EM 601. Advanced Dynamics (3)
- EM 611. Vibration of Elastic Solids (3)
- EM 621. Theory of Elasticity (3)
- EM 703. Theory of Vibrations (3)
- EM 711. Structural Acoustics (3)
- EM 724. Theory of Plates and Shells (3)
- EM 727. Theory of Elastic Stability (3)

Civil Engineering (Major Code: 09081)

General information: The Department of Civil Engineering offers graduate study leading to the Master of Science degree in civil engineering. Available areas of research include geotechnical engineering, structural engineering, transportation engineering, and water resources and environmental engineering. Programs



of study may also include combinations of the above areas and related courses from other disciplines subject to the approval of the graduate adviser.

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

1. Twenty-one units of 600- and 700-numbered courses in civil engineering. A minimum of four courses should be selected from one of the specialty areas listed below; in exceptional cases, this requirement may be waived at the discretion of the graduate committee, provided the substitute course is in the College of Engineering and enhances a coherent program in a specific professional area.
2. At least nine additional units of 500-, 600- or 700-numbered courses, approved by the graduate adviser.
3. The total combined units of 797, 798, and 799 shall not exceed six units on the program.

Areas of Specialization in Civil Engineering

1. **Geotechnical Engineering**
CE 640. Advanced Soil Mechanics (3)
CE 641. Advanced Foundation Engineering (3)
CE 642. Seepage and Earth Dams (3)
CE 643. Soil and Site Improvement (3)
2. **Structural Engineering**

- CE 605. Prestressed Concrete Structures (3)
- CE 607. Dynamics of Structures (3)
- CE 608. Earthquake Engineering (3)
- CE 610. Finite Element Analysis of Structures (3)
- CE 780. Seminar in Structural Engineering (2 or 3)

3. **Transportation Engineering**
CE 620. Traffic Engineering (3)
CE 621. Transportation Demand Analysis (3)
CE 622. Mass Transit Engineering (3)
CE 781. Seminar in Transportation Engineering (2 or 3)
4. **Water Resources and Environmental Engineering**
CE 632. Computational Hydraulics and Hydrology (3)
CE 634. Surface Water Hydrology (3)
CE 635. Water Quality Engineering (3)
CE 636. Water Quality Processes (3)
CE 638. Sedimentation and River Engineering (3)

Electrical Engineering (Major Code: 09091)

General information: The Department of Electrical and Computer Engineering offers graduate study leading to a Master of Science degree in Electrical Engineering. The program provides balanced opportunities to study practical engineering design and do research. Research assistantships are available in the research areas of computer engineering and digital system

design, digital signal processing and communications, electro-optic system design and instrumentation, applied electron and molecular spectroscopy, power systems, and biomedical/rehabilitation engineering.

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

1. Eighteen units of 600- and 700-numbered courses in electrical engineering.
2. At least six additional units of 500-, 600- or 700-numbered courses in the College of Engineering or, with the prior approval of the graduate adviser, in the College of Sciences.
3. Six elective units of 500-, 600- or 700-numbered courses approved by the graduate adviser.
4. Prerequisites for all courses taken for the degree must be completed with a grade of C or better.
5. As a breadth requirement, each classified graduate student is required to complete with approval of the graduate adviser at least one course from four of the following disciplines: Communications, Computers, Electronics/Networks, Physical Electronics, Power/Control Systems. If the course content is appropriate, the graduate adviser may approve certain Electrical Engineering 596 and 600-numbered courses to satisfy part of the breadth requirement.

Disciplines and related courses:

Communications: Electrical Engineering 553, 556, 558, 560, 647, 650, 652, 653, 657, 658.

Computers: Electrical Engineering 571, 572, 576, 672, 675, 676, 677, 678, 679.

Electronics/Networks: Electrical Engineering 530, 554, 570, 631, 634.

Physical Electronics: Electrical Engineering 534, 540, 541, 546, 642, 644, 645.

Power/Control Systems: Electrical Engineering 520, 521, 580, 581, 582, 622, 680.

6. Students selecting Plan B must pass a written comprehensive examination. The examination tests the student's understanding and mastery of *fundamental principles* and their ability to apply them to engineering problems. Members of the ECE faculty will grade the comprehensive examination for technical correctness, completeness and clarity of expression. After two unsuccessful attempts, the student may not take the examination again without specific, written permission from the department chair. The chair, at this time, may require the student to successfully complete certain courses before taking the comprehensive examination a third and final time.

Mechanical Engineering

(Major Code: 09101)

General information: The Department of Mechanical Engineering offers graduate study leading to the Master of Science degree in mechanical engineering.

Available opportunities for thesis research and special study projects include heat transfer, thermodynamics, fluid mechanics, mechanical design which includes vibration, controls, CAD/CAM and robotics, materials, optimization and bioengineering.

Specific Requirements for the M.S. Degree: The

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

1. Twenty-one units of 600- and 700-numbered courses in mechanical engineering to include 12 units in one area of specialization (designated as Group A and Group B) and Mechanical Engineering 797.
2. Nine additional units of 500-, 600- and 700-numbered courses approved by the graduate adviser.

Areas of Specialization in Mechanical Engineering

Group A: Thermal Sciences

- ME 651. Analytical Thermodynamics (3)
- ME 661. Gas Dynamics (3)
- ME 663. Boundary Layers in Internal Flows (3)
- ME 671. Conduction Heat Transfer (3)
- ME 673. Convection Heat Transfer (3)
- ME 675. Radiation Heat Transfer (3)

Group B: Engineering Design

- ME 610. Finite Element Methods in Mechanical Engineering (3)
- ME 614. Engineering Design: Analytical Methods (3)
- ME 621. Mechanical Vibrations (3)
- ME 632. Advanced Topics in Automatic Controls (3)
- ME 645. Mechanical Metallurgy for Engineers (3)

Section II: Doctoral Program

Engineering Sciences/Applied Mechanics

(Major Code: 09012)

The cooperating faculties of the Department of Applied Mechanics and Engineering Sciences (AMES) at the University of California, San Diego and the College of Engineering at San Diego State University offer a joint doctoral program in engineering sciences/applied mechanics. The Doctor of Philosophy degree in engineering sciences/applied mechanics will be awarded jointly by the Regents of the University of California and the Trustees of The California State University in the names of both cooperating institutions.

The Ph.D. degree in engineering sciences/applied mechanics is a research degree and represents both attainment of advanced knowledge and demonstration of research skills. It is not awarded solely for the fulfillment of technical requirements such as academic residence and coursework. A typical student with an appropriate bachelor of science degree in engineering may complete the joint program in four to five years of full-time study and research. A student with advanced standing may complete the program in a shorter period of time.

The research interests of the participating faculty members cover a wide range of mechanics including: acoustics, biomechanics, boundary layer separation, boundary layer stability, computational fluid mechanics, experimental fluid mechanics, finite element methods in structural analysis, flow field acoustic interaction, gas physics, hydrology, hypersonic flow field, low speed aerodynamics, soil mechanics, structural fluid interaction, and two phase flows.

At SDSU, the major areas of research at the graduate level and the participating faculty members include:

Acoustics: M. Pierucci

Aerodynamics: J. Katz, A. Plotkin

Bioengineering: J. Pinto, A. Szeto

Combustion: S. Bhattacharjee
Computational Mechanics: J. Katz, V. Ponce, N. Sharabi, K.C. Wang
Engineering Physics: P. Lowrey, G. Massey
Experimental Mechanics: Z. Bayasi
Fluid Mechanics: J. Katz, N. Nosseir, A. Plotkin, K.C. Wang
Hydrology: H. Chang, V. Ponce
Soil Mechanics: I. Noorany, B. Westermo
Structural Fluid Interactions: M. Pierucci, B. Westermo
Structural Mechanics: Z. Bayasi, C. Lyrantzis, M. Pierucci, N. Sharabi, B. Westermo
Thermal Sciences: S. Bhattacharjee, H. Güven

Financial Support

Students admitted to the program will be eligible for teaching assistantships, associateships, and graduate assistantships. It is the policy of SDSU College of Engineering to support doctoral students during their entire tenure as long as they are in good standing and are making satisfactory progress toward their degree and are in residence at one of the two institutions.

For further information, the student should write to the Director of the Engineering Sciences/Applied Mechanics Joint Doctoral Program at the College of Engineering, San Diego State University, San Diego, CA 92182.

Program

Preparation for Admission

Applicants must have an acceptable bachelor's degree or master's degree and must meet the requirements for admission to the Graduate Division of UCSD and SDSU. Students are expected to have engineering degrees in the classical applied mechanics areas (i.e., aerospace, civil, mechanical, engineering science). Students with degrees in one of the allied fields (i.e., physics, mathematics, electrical engineering, and engineering physics) will be required to remove any academic deficiencies by completing a series of courses normally required of the students who have academic degrees in the applied mechanics areas.

APPLICATIONS MUST BE RECEIVED NOT LATER THAN FEBRUARY 15 FOR THE PH.D. PROGRAM IN ENGINEERING SCIENCES/APPLIED MECHANICS.

Application

Students seeking admission to the joint doctoral program in engineering sciences/applied mechanics should write directly to the Doctoral Program Adviser, Dr. M. Pierucci, requesting application materials. A complete application requires that the following information be provided:

The appropriate application forms.

Three letters of recommendation.

An official transcript of academic work completed at all institutions attended. A minimum grade point average of 3.0 in the major field for students with the B.S. degree or 3.4 for students with the M.S. degree.

Acceptable scores on both the qualitative and the quantitative sections of the Graduate Record Examination General Test (GRE).

The applicant must be recommended to the Deans of the Graduate Divisions at SDSU and UCSD by the faculty of the joint doctoral program on each campus. Entry occurs when the student is formally accepted by both graduate deans.

Residency Requirements

The student must spend at least one academic year in full-time residence at each of the two institutions. The definition of such residence must be in accord with the regulations of the Graduate Divisions of UCSD and SDSU.

Advising Committee

When a student is admitted to the joint doctoral program, the chairs of the Department of Applied Mechanics and Engineering Sciences at UCSD and of the graduate group in applied mechanics at SDSU will appoint a three-member advising committee consisting of at least one member from each institution. It is the responsibility of this committee to develop in consultation with the student a course of study and a plan of preparation for the joint doctoral qualifying examination, which should be taken as soon as possible after the two years of study at the two institutions. Students with advanced standing may be capable of taking the examination earlier. Upon the student's successful completion of the examination the advising committee will recommend to the chairs of the Department of Applied Mechanics and Engineering Sciences and of the graduate group in applied mechanics the membership of the student's joint doctoral committee, which, upon appointment, will supersede the advising committee and be responsible for the student's program of study and dissertation research. The joint doctoral committee will consist of three members from each institution; one of the three will be from outside of the Department of Applied Mechanics and Engineering Sciences and one outside the graduate group in applied mechanics.

Course Requirements

The Doctor of Philosophy degree in engineering sciences/applied mechanics is a research degree and represents both attainment of advanced knowledge and demonstration of research skills. Therefore, no specific course requirements for the joint doctoral program exist; however, the joint doctoral program qualifying examination is based on a certain level of competence in the general areas of: (1) fluid mechanics, (2) solid mechanics, and (3) applied mathematics.

Qualifying Examinations

Joint Qualifying Committee

The joint doctoral program qualifying examination is administered by the student's advising committee supplemented, if appropriate, by faculty appointed by the chairs of the Department of Applied Mechanics and Engineering Sciences and the graduate group in applied mechanics. The examination will be oral, will cover at least four areas selected to ensure appropriate competence in the general area of applied mechanics, and will be at the level and content of the UCSD and SDSU courses. The specific areas will be approved in advance by the chair of the Department of Applied Mechanics and Engineering Sciences and the graduate group in applied mechanics. One of the areas may be satisfied by completing a series of courses in the area with at least a B grade in each course.

Joint Dissertation Committee

Upon successful completion of the joint doctoral qualifying examination, a joint doctoral committee shall be appointed by the Deans of the Graduate Divisions of UCSD and SDSU upon the recommendation of the chairs of the Department of Applied Mechanics and Engineering Sciences and the graduate group in applied mechanics. The doctoral committee shall supervise the

study and research programs of the student. The chair of the committee may be from either the graduate group in applied mechanics from SDSU or the Department of Applied Mechanics and Engineering Sciences at UCSD.

Senate Qualifying Examination

The major requirement for the doctorate under the Joint Doctoral program in engineering sciences/applied mechanics is the completion of a dissertation, based on original research, that contributes new knowledge to the fields. The Senate Qualifying Examination consists of a presentation of initial dissertation results and plans for future research. The chair of the joint doctoral committee will determine in consultation with the student when the Senate Qualifying Examination will be held. Approval of a student's dissertation topic by the joint doctoral committee implies that the committee believes that the work will contain the potential for one or more articles publishable in refereed journals.

Dissertation

The joint doctoral committee will administer the final examination, which will consist of the student's presentation and defense of the dissertation, with particular emphasis on the principal findings and areas of future research. The first part of this examination is open to the public; a concluding portion involves appropriate questioning of the student by the committee.

The detailed requirements concerning the preparation of the dissertation, the number of copies, the editorial style, etc., are set forth in the UCSD document entitled "Instructions for the Preparation and Submission of Doctoral Dissertations and Masters' Theses." Acceptance of the dissertation by the University Librarian at UCSD and the Graduate Division at SDSU represents the final step in completion of the student's degree requirements.

Satisfactory Progress

The students admitted to this program are expected to make continuous, satisfactory progress and to remain in good standing at both institutions.

Award of the Degree

The Doctor of Philosophy degree in engineering sciences/applied mechanics will be awarded jointly by the Regents of the University of California and the Trustees of The California State University in the names of both cooperating institutions.

Faculty

The following faculty members of the cooperating institutions participate in the joint doctoral program in engineering sciences/applied mechanics and are available for direction of research and as members of joint doctoral committees.

San Diego State University:

Program Director: M. Pierucci

Committee Members:

J. Katz, N. Nosseir, M. Pierucci, A. Plotkin, K.C. Wang (Aerospace Engineering and Engineering Mechanics).
 H. Chang, I. Noorany, V. Ponce, N. Sharabi, B. Westermo (Civil Engineering). G. Massey, A. Szeto (Electrical Engineering and Computer Engineering).
 H. Güven, J. Pinto (Mechanical Engineering).

Associate Members:

Z. Bayasi, S. Bhattacharjee, P. Lowrey, C. Lyrantzis.

University of California, San Diego:

Program Director: D.A. Gough

Committee Members:

H. Aref, D. Benson, P.C. Chau, Y.C. Fung, M. Gharib, C.H. Gibson, D.A. Gough, G.A. Hegemier, R.K. Herz, M. Intaglietta, J. Lasheras, P.A. Libby, S.C. Lin, J.E. Luco, S. Middleman, D.R. Miller, H. Murakami, W. Nachbar, S. Nemat-Nasser, D.B. Olfe, S.S. Penner, N. Priestley, S. Rand, B.D. Rao, G.W. Schmid-Schoenbein, A.M. Schneider, F. Seible, K. Seshadri, H.W. Sorenson, D.D. Sworder, J.B. Talbot, F.E. Talke, C.W. Van Atta, F.A. Williams (Department of Applied Mechanics and Engineering Sciences).

Courses Acceptable on Master's Degree Programs in Engineering

UPPER DIVISION COURSES

510. Methods of Analysis (3) I, II

Prerequisite: Engineering 280 with a minimum grade of C. Selected topics from vector calculus, partial differential equations, and complex analysis, with engineering applications.

511. Digital Solutions of Engineering Problems (3)

Prerequisites: Engineering 120 or Computer Science 107 or Electrical Engineering 160, and Engineering 280.

Digital solution of classes of engineering problems. Application of numerical methods with consideration of limitations imposed by computer and programming language characteristics.

Courses Acceptable on Doctoral Degree Program in Engineering

GRADUATE COURSES

800. Seminar (1) Cr/NC

Prerequisite: Admission to the doctoral program. Doctoral students are expected to attend a weekly seminar dealing with current topics in different areas of applied mechanics. Course is to be taken every semester.

896. Doctoral Laboratory and Computer Research (1-15) Cr/NC/SP

Prerequisite: Admission to the doctoral program. Independent research in laboratory and computer settings in the areas of applied mechanics. Content to be determined after consultation with adviser.

897. Doctoral Research (1-15) Cr/NC/SP

Prerequisite: Admission to the doctoral program. Independent research in general areas of applied mechanics. Content to be determined after consultation with adviser.

898. Doctoral Special Study (1-15) Cr/NC/SP

Prerequisite: Advancement to candidacy. Individual study leading to study and research required for doctoral dissertation.

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

Prerequisites: An officially constituted joint doctoral committee and successful completion of Senate Qualifying Examination. Final research and preparation of dissertation for doctoral degree. Enrollment required during term in which dissertation is approved.

Aerospace Engineering and Engineering Mechanics

In the College of Engineering

Faculty

Nagy Nosseir, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics, Chair of Department
John F. Conly, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Sangiah Nadar Dharmarajan, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Joseph Katz, D.Sc., Professor of Aerospace Engineering and Engineering Mechanics
Balbir S. Narang, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Mauro Pierucci, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Allen Plotkin, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Kuo Chang Wang, Ph.D., Professor of Aerospace Engineering and Engineering Mechanics
Constantinos S. Lyrintzis, Ph.D., Associate Professor of Aerospace Engineering and Engineering Mechanics (Graduate Adviser)

UPPER DIVISION COURSES IN AEROSPACE ENGINEERING

520. Intermediate Aerospace Flight Mechanics (3)

Prerequisite: Aerospace Engineering 320.
A continuation of Aerospace Engineering 320 to include orbit determination techniques, general and special perturbations, artificial satellites, rocket dynamics and transfer orbits, earth-moon trajectories, and interplanetary trajectories.

530. Rocket and Space Propulsion (3)

Prerequisite: Aerospace Engineering 430.
Equilibrium combustion thermodynamics. Performance of rocket propelled vehicles. Rocket propulsion fundamentals. Topics in chemical (solid and liquid) and electrical propulsion systems.

540. Aircraft Stability and Control II (3)

Prerequisite: Aerospace Engineering 440.
Dynamic stability and control of rigid aircraft; general equations of unsteady motion, stability derivatives, perturbed state thrust forces and moment, special problems in dynamic stability and response.

550. Viscous Flow (3)

Prerequisites: Credit or concurrent registration in Engineering Mechanics 340, and Engineering 510.
Kinematics of fluid motion. Conservation of mass, momentum and energy. Navier-Stokes equations; exact solutions. Boundary-layer approximations, turbulent flow. (Formerly numbered Engineering Mechanics 540.)

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596. Advanced Aerospace Engineering Topics (3)

Prerequisite: Consent of instructor.
Modern developments in aerospace engineering. See Class Schedule for specific content. Maximum credit of six units for any combination of Aerospace Engineering or Engineering Mechanics 496, 499, and 596 applicable to a bachelor's degree. Maximum combined credit of six units of Aerospace Engineering or Engineering Mechanics 596 and 696 applicable to a 30-unit master's degree.

UPPER DIVISION COURSES IN ENGINEERING MECHANICS

510. Finite Element Methods in Aerospace Structures (3)

Prerequisite: Aerospace Engineering 410.
Static and dynamic analysis of aerospace structures utilizing finite element methods. (Formerly numbered Aerospace Engineering 510.)

530. Composite Structural Analysis (3)

Prerequisites: Engineering 280 and Civil Engineering 301.
Strength of composite materials; lamination theory; strength analysis of laminates; bending, buckling and vibration of composite plates.

596. Advanced Engineering Mechanics Topics (1-3) I, II

Prerequisite: Consent of instructor.
Modern developments in engineering mechanics. See Class Schedule for specific content. Maximum credit of six units for any combination of Engineering Mechanics 496, 499 and 596 applicable to a bachelor's degree. Maximum combined credit of six units of Engineering Mechanics 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES IN AEROSPACE ENGINEERING

600. Seminar (1-3)

Prerequisite: Consent of the graduate adviser and instructor.
Intensive study of one of the following topics: Incompressible aerodynamics, aeroelasticity, aerodynamic noise, aerothermal structural analysis, hydrodynamic stability, hypersonic flow theory, magnetofluid mechanics, rarified and real gas flows, electromagnetic propulsion, boundary layers, and other areas of aerospace engineering. See Class Schedule for specific content.

601. Computational Fluid Mechanics (3)

Prerequisites: Credit or concurrent registration in Aerospace Engineering 302 and Engineering 510.
Finite difference method of solving general fluid mechanics problems. Study of stability, convergence, compatibility, dissipation, and dispersion. A project is required.

612. Compressible Fluid Flow (3)

Prerequisites: Aerospace Engineering 302 and credit or concurrent registration in Engineering 510.
Theory of flow at supersonic speeds. Linearized theory, three-dimensional wings in steady flight, slender-body theory, methods of characteristics.

620. Incompressible Aerodynamics (3)

Prerequisites: Aerospace Engineering 301 and Engineering 510.
Theory of incompressible aerodynamics; airfoil and wing theory; computational methods.

643. Laminar Flow (3)

Prerequisites: Aerospace Engineering 302 and Engineering 510.
Fluid kinematics and dynamics. Governing equations in general coordinate systems. Navier-Stokes equations; exact solutions, approximations including boundary layer. Three-dimensional flows. Numerical methods. Vector and tensor notation will be used.

644. Turbulent Flow (3)

Prerequisites: Engineering Mechanics 340 and Engineering 510.
Nature of turbulence based on simple flow observations and a theoretical basis for interpreting and predicting the behaviors of specialized turbulent flow problems.

696. Advanced Topics in Aerospace Engineering (2 or 3)

Intensive study in specific areas of aerospace engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

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

Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable to a master's degree.

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

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

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

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

Prerequisite: Prior registration in Thesis or Project 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.

Aerospace Engineering and Engineering Mechanics

GRADUATE COURSES IN ENGINEERING MECHANICS

600. Seminar (1-3)

Prerequisite: Consent of the graduate adviser and instructor.
Intensive study of one of the following topics: Nonlinear vibrations, random vibrations, continuum mechanics, anisotropic elasticity, energy methods, plasticity, and other areas of engineering mechanics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

601. Advanced Dynamics (3)

Prerequisites: Engineering Mechanics 220 and Engineering 280.
Kinematics and kinetics of systems of particles and rigid bodies with special reference to engineering problems. Moving reference axes, generalized coordinates, Lagrangian equations, Hamilton's principle and variational methods.

611. Vibration of Elastic Solids (3)

Prerequisites: Engineering 510 and Aerospace Engineering 410 or Mechanical Engineering 520.
Vibrational characteristics of elastic media. Vibration of plates. Longitudinal and transverse wave motion in infinite, semi-infinite and finite thickness media.

621. Theory of Elasticity (3)

Prerequisites: Civil Engineering 301 and credit or concurrent registration in Engineering 510.
Analysis of stress and strain: stress-strain relations; the equations of elasticity; uniqueness theorem; compatibility conditions; flexure and torsion.

703. Theory of Vibrations (3)

Prerequisites: Engineering Mechanics 601 and credit or concurrent registration in Engineering 510.
Linear and nonlinear periodic phenomena as applied to discrete systems and continuous media with application to physical problems.

711. Structural Acoustics (3)

Prerequisites: Engineering 510 and Engineering Mechanics 611.
Acoustic radiation from different sources. Vibration of and acoustic radiation from beams, plates, and other solids. Effect of fluid loading.

724. Theory of Plates and Shells (3)

Prerequisite: Engineering Mechanics 621.
Bending and buckling of plates. Membrane and bending theory of shells of revolution. Discontinuity analysis of shells. Not open to students with credit in Engineering Mechanics 725 or 726.

727. Theory of Elastic Stability (3)

Prerequisite: Engineering Mechanics 621.
Stability of elastic systems. Differential equations of stability by summation of forces and moments, and by the variational method. Applications.

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

Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable to a master's degree.

Civil Engineering

In the College of Engineering

OFFICE: Engineering 424
TELEPHONE: (619) 594-6071

Faculty

Janusz C. Supernak, Ph.D., Professor of Civil Engineering,
Chair of Department
James H. Banks, Ph.D., Professor of Civil Engineering
Howard H. Chang, Ph.D., P.E., Professor of Civil Engineering
(Graduate Adviser)
Fang-Hui Chou, Ph.D., P.E., Professor of Civil Engineering,
Assistant Dean for Student Affairs, College of Engineering
Govindarajulu Krishnamoorthy, Ph.D., Professor of Civil
Engineering
Robert D. McGhie, Ph.D., P.E., Professor of Civil Engineering
Iraj Noorany, Ph.D., P.E., Professor of Civil Engineering
Victor M. Ponce, Ph.D., Professor of Civil Engineering
Frank E. Stratton, Ph.D., P.E., Professor of Civil Engineering
Bruce D. Westermo, Ph.D., Professor of Civil Engineering
M. Nazmi Sharabi, Ph.D., Associate Professor of Civil
Engineering
M. Ziad Bayasi, Ph.D., P.E., Assistant Professor of Civil
Engineering

UPPER DIVISION COURSES

- 521. Structural Analysis II (3) I**
Prerequisite: Civil Engineering 321 with minimum grade of C.
Analysis of statically indeterminate structures by virtual work. Advanced treatment of slope deflection, moment distribution. Arch analysis, secondary stresses in trusses. Advanced treatment of influence lines. Introduction to matrix analysis of structures.
- 525. Design of Steel Structures (3) I, II**
Prerequisite: Civil Engineering 321 with minimum grade of C.
Mechanical behavior of structural steel. Design of steel beams, girders, columns and members subjected to combined stresses. Design of various types of connections of steel structures; plate girders, continuous beams and rigid frames.
- 530. Open Channel Hydraulics (3) I, II**
Prerequisite: Civil Engineering 444 with minimum grade of C.
Open channel flow theory, analysis and problems, including studies of critical flow, uniform flow, gradually varied and rapidly varied flow—all as applied to the design of channels, spillways, energy dissipators, and gravity pipelines.
- 555. Water and Wastewater Engineering (3) I**
Prerequisite: Civil Engineering 355 with minimum grade of C.
Water and wastewater. Physical, chemical and biological methods of treatment. Advanced waste treatment processes. Water reclamation.
- 596. Advanced Civil Engineering Topics (1-3) I, II**
Prerequisites: Minimum grade point average of 3.0 and consent of instructor.
Modern developments in civil engineering. See Class Schedule for specific content. Maximum credit of six units for any combination of Civil Engineering 496, 499 and 596 applicable to a bachelor's degree. Maximum combined credit of six units of Civil Engineering 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

- 605. Prestressed Concrete Structures (3)**
Prerequisite: Civil Engineering 421 with minimum grade of C.
Fundamental concepts of prestressed concrete theory. Design applications to various types of structures.
- 607. Dynamics of Structures (3)**
Prerequisite: Civil Engineering 521 with minimum grade of C.
Dynamic disturbances, structures with variable degrees of freedom, free vibrations of slender elastic beams; continuous beams, rigid frames, floor systems. Energy methods in structural dynamics.
- 608. Earthquake Engineering (3)**
Prerequisite: Civil Engineering 607.
Elements of seismology. Methods of analysis for earthquake loads. Procedures and code provisions for the design of earthquake-resistant structures.
- 610. Finite Element Analysis of Structures (3)**
Prerequisites: Engineering 120 and Civil Engineering 521 with minimum grade of C.
General procedure, various types of finite elements; analysis and design of isotropic and orthotropic plates and shells, deep beams, and shear walls using finite element technique; use of digital computers for solutions. Application to civil engineering structures.
- 620. Traffic Engineering (3)**
Prerequisite: Consent of instructor.
Traffic characteristics and studies. Control and regulation of street and highway traffic. Parking facilities, mass transportation, traffic engineering administration.
- 621. Transportation Demand Analysis (3)**
Prerequisite: Civil Engineering 481 or Geography 559 or City Planning 625.
Travel demand modeling with emphasis on application to growing metropolitan areas; four-step travel demand forecasting; disaggregate, behavioral, and activity-based approaches; recent methodological developments; transportation-land use interactions.
- 622. Mass Transit Engineering (3)**
Prerequisite: Consent of instructor.
Urban transportation and land use, characteristics of urban travel patterns, estimation of transit usage, planning of transit systems, economic problems of mass transportation. Case studies of existing and proposed systems.
- 632. Computational Hydraulics and Hydrology (3)**
Prerequisite: Civil Engineering 444.
Computational methods applied to hydraulics and hydrology. Explicit and implicit schemes for solving hyperbolic problems. Method of characteristics. One- and two-dimensional nonsteady open channel flow simulation.

634. Surface Water Hydrology (3)

Prerequisite: Civil Engineering 445.
Hydrologic systems. Physical hydrology. Kinematic wave theory. Diffusion and dynamic wave theories. Watershed and stream channel routing. Hydrologic simulation.

635. Water Quality Engineering (3)

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

636. Water Quality Processes (3)

Prerequisite: Civil Engineering 555 with minimum grade of C.
Two lectures and three hours of laboratory.
Theoretical and laboratory study of the chemical and microbiological processes which govern modern water and wastewater treatment.

638. Sedimentation and River Engineering (3)

Prerequisite: Civil Engineering 444 with a minimum grade of C.
Hydraulics of sediment transport and related erosion and sedimentation problems in natural streams. River mechanics and morphology. Design of alluvial channels. Mathematical modeling of erodible channels.

640. Advanced Soil Mechanics (3)

Prerequisites: Civil Engineering 462 and 463 with minimum grades of C.
Advanced theories of soil mechanics and their applications to design, including physicochemical behavior of soils, theories of compaction, consolidation, stress distribution, shear strength, settlement analyses, lateral pressures, and bearing capacity of soils.

641. Advanced Foundation Engineering (3)

Prerequisite: Civil Engineering 640.
Advanced theories of soil bearing capacity and stress distribution in soils. Analysis and design of foundations and retaining walls. Shallow foundations, piles, piers and caissons. Design of foundations for dynamic loads. Dewatering and other field problems.

642. Seepage and Earth Dams (3)

Prerequisites: Civil Engineering 462 and 463.
Seepage and flow nets in earth dams and dam foundations. Stability analysis and design of earth and rock fill dams.

643. Soil and Site Improvement (3)

Prerequisite: Civil Engineering 640.
Soil and site improvement techniques used in geotechnical engineering.

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

Intensive study in specific areas of civil engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of Civil Engineering 596 and 696 applicable to a 30-unit master's degree.

780. Seminar in Structural Engineering (2 or 3)

Prerequisites: Minimum grade point average of 3.0 and consent of instructor.

An intensive study in structural engineering. Maximum credit six units applicable to a master's degree.

781. Seminar in Transportation Engineering (2 or 3)

Prerequisites: Minimum grade point average of 3.0 and consent of instructor.

An intensive study in transportation engineering. Maximum credit six units applicable to a master's degree.

797. Independent Research (1-3) Cr/NC/SP

Prerequisite: Consent of graduate adviser.
Independent research in civil engineering. Maximum credit three units applicable to a master's degree.

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

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

Individual study. Maximum credit three units applicable to a master's degree.

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree.

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

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

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

Electrical and Computer Engineering

In the College of Engineering

Faculty

Leonard R. Marino, Ph.D., Professor of Electrical and Computer Engineering, Chair of Department
Hüseyin Abut, Ph.D., Professor of Electrical and Computer Engineering
Ching-Ten Chang, Ph.D., Professor of Electrical and Computer Engineering
fredric j. harris, M.S.E.E., P.E., Professor of Electrical and Computer Engineering
Jay H. Harris, Ph.D., Professor of Electrical and Computer Engineering
Alexander Iosupovici, Ph.D., Professor of Electrical and Computer Engineering
Long C. Lee, Ph.D., Professor of Electrical and Computer Engineering
Mao-Shiu Lin, Ph.D., Professor of Electrical and Computer Engineering
Gail A. Massey, Ph.D., Professor of Electrical and Computer Engineering
Nicholas Panos, M.S.E.E., P.E., Professor of Electrical and Computer Engineering
Masako Suto, Ph.D., Professor of Electrical and Computer Engineering
Andrew Y.J. Szeto, Ph.D., P.E., Professor of Electrical and Computer Engineering
Kadayam S. Thyagarajan, Doct. Eng., Professor of Electrical and Computer Engineering (Graduate Adviser)
Ramon Betancourt, Ph.D., Associate Professor of Electrical and Computer Engineering
Paul T. Kolen, Ph.D., Associate Professor of Electrical and Computer Engineering
Patrick A.D. Powell, Ph.D., Associate Professor of Electrical and Computer Engineering

UPPER DIVISION COURSES

- 502. Electronic Devices for Rehabilitation (3) II**
Two lectures and three hours of laboratory.
Prerequisite: Electrical Engineering 303 or 330.
Recent developments in electronic assistive devices and microcomputers for persons with various disabilities; assessment of disabled persons for suitable technological assistive devices.
- 520. Feedback Control Systems (3) I**
Prerequisite: Electrical Engineering 410. Recommended: Electrical Engineering 420.
Analysis of regulatory systems including servomechanisms by the Laplace transform method. System performance and stability; Nyquist, Bode, and root-locus diagrams; elementary synthesis techniques. Practical components and examples of typical designs.

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- 521. Advanced Feedback Control Systems (3) II**
Prerequisite: Electrical Engineering 520.
A continuation of Electrical Engineering 520 to include feedback compensation, advanced compensation techniques, signal flow theory, state-variable techniques, introduction to nonlinear and sampled-data control systems.
- 530. Analog Integrated Circuit Design (3) I, II**
Prerequisite: Electrical Engineering 430.
Advanced treatment of transistor pairs, device mismatches, differential amplifiers, current mirrors, active loads, level shifting, and output stages. Parasitic and distributed device parameters. Economics of IC fabrication and impact on design.
- 534. Solid-State Devices (3)**
Prerequisite: Electrical Engineering 430.
Conduction theory of solids. Characteristics of tunnel, backward, breakdown, multilayer and varactor diodes; silicon controlled rectifiers and switches, unijunction transistors, hot electron devices. Lasers and laser applications.
- 540. Microwave Communications (3) II**
Prerequisite: Electrical Engineering 340. Recommended: Engineering 510.
Applications of Maxwell's equations to wave propagation; skin effect, circuit impedance elements; vector potential, and other time-varying electrical phenomena; waveguides and resonators, strip line circuits, electromagnetic radiation.
- 540L. Microwave Measurements Laboratory (1) II**
Three hours of laboratory.
Prerequisites: Credit or concurrent registration in Electrical Engineering 430L and 540.
Experimental study of microwave generation including klystrons, Gunn and IMPATT oscillators. TWT and microwave transistor amplifiers. Microwave modulation and detection. Microwave transmission and antennas.
- 541. Electro-Optics (3) II**
Prerequisite: Electrical Engineering 340.
Optical/electronic devices and systems; wave beams; light-matter quantum interactions; incoherent and laser light sources; modulators and detectors. Applications in data transmission, measurement, and materials processing.
- 546. Optical Fiber Communications Systems (3)**
Prerequisite: Electrical Engineering 434.
Optical fiber attenuation and dispersion, light-emitting diodes and laser diodes, pin diodes and avalanche photodiodes, receiver designs, optical power budgets and rise time budgets, applications in digital and analog communication systems.
- 553. Stochastic Signals (3) I**
Prerequisite: Electrical Engineering 410.
Random signals, correlation functions, power spectral densities, the Gaussian process, narrow band processes. Applications to communication systems.

- 554. Communication Principles and Circuits (3) II**
Prerequisite: Electrical Engineering 430.
Signal transmission in linear networks; modulators and detectors; wide-band and narrowband amplifiers; oscillators; AM, FM, and phase modulation; transient response of amplifiers.
- 556. Digital Signal Processing (3)**
Prerequisite: Electrical Engineering 410 or Physics 516A.
Digital signal processing. Discrete-time signals, transform techniques, and digital filters. Design of FIR and IIR filters, FFTs, and finite-length effects on digital systems.
- 558. Communication Systems II (3) II**
Prerequisite: Electrical Engineering 458.
Performance of analog and digital communication systems. Effects of noise and spectral characteristics.
- 558L. Communications and Digital Signal Processing Laboratory (1)**
Prerequisite: Electrical Engineering 558.
Experiments in modulation techniques, effects of noise on system performance, digital filters, and signal processing. (Formerly numbered Electrical Engineering 554L.)
- 560. Computer and Data Networks (3)**
Prerequisites: Electrical Engineering 371 and 410.
Wide area and local area networks. Multi-layered protocol models, telephone systems, modems, and network applications.
- 570. Advanced Digital Circuits (3)**
Prerequisite: Electrical Engineering 470.
Digital applications of linear devices, the digital/analog interface, and ultra high speed logic devices.
- 571. Bit-Slice Digital Systems (3) I**
Prerequisites: Electrical Engineering 373 and 470.
Design of high-speed microprogrammable bit-slice digital systems. Case studies of CPU and controller designs.
- 572. VLSI Circuit Design (3) I**
Prerequisites: Electrical Engineering 330 and 371.
Design of digital integrated circuits based on CMOS technology; characterization of field effect transistors, transistor level design and simulation of logic gates and subsystems; chip layout, design rules, introduction to processing; ALU architecture. (Formerly numbered Electrical Engineering 578.)
- 576. Microprocessor Systems Development (3) I**
Prerequisite: Electrical Engineering 373.
Design and development of software for real-time microprocessor-based systems using modern tools. In-circuit emulation. Multi-tasking and interrupt programming. Assembler and C-language.
- 580. Modern Power Systems I (3) I**
Prerequisites: Engineering 280, Electrical Engineering 310 and 380.
Modern power system elements; calculation of load flow, fault currents, and system stability.
- 581. Modern Power Systems II (3) II**
Prerequisite: Electrical Engineering 580.
Transient response of modern power system elements; positive, negative and zero sequence impedance; subharmonic effects.

Electrical and Computer Engineering

- 582. Power Relay Systems (3) I**
Prerequisite: Electrical Engineering 380.
Power relays including metering and control as used in modern power systems. Characteristics of operations and applications of equipment. Demonstrations on individual component relays. Basic relay calculations.
- 596. Advanced Electrical Engineering Topics (1-3) I, II**
Prerequisite: Consent of instructor.
Modern developments in electrical engineering. See Class Schedule for specific content. Maximum credit of six units for any combination of 496, 499 and 596 applicable to a bachelor's degree. Maximum combined credit of six units of Electrical Engineering 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

- 600. Seminar (1-3)**
Prerequisite: Consent of instructor.
An intensive study in advanced electrical engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.
- 605. Seminar in Communications Systems (1-3)**
Prerequisite: Consent of instructor.
An intensive study in communication theory and systems. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.
- 606. Seminar in Computer Engineering (1-3)**
Prerequisite: Consent of instructor.
Intensive study in computer engineering topics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.
- 622. Sampled-Data Systems (3)**
Prerequisite: Electrical Engineering 520.
Analysis and synthesis of sampled-data and digital control systems; techniques for the design of time optimal sampled-data control systems; z-transform calculus and difference equation synthesis techniques for determining stability and system response.
- 631. Integrated Circuit Technologies (3)**
Prerequisite: Electrical Engineering 430 or 470.
Modern industrial practice in BJT, MOS, and GaAs technologies; systematic layout rules, scaling, layout topology, fabrication techniques and circuit structures for VLSI and buffers.
- 634. Semiconductor RF Circuit Design (3)**
Prerequisite: Electrical Engineering 540.
Wide band amplifiers, low level RF amplifiers and mixers, IF amplifiers, AGC, tuning and stability problems, unilateralization and mismatching techniques, harmonic oscillators, VHF power amplifiers including varactor multipliers.
- 642. Optical Communications (3)**
Prerequisite: Electrical Engineering 340.
Advanced topics of interest in electro-optical communications, including lasers, background light sources, modulators, receivers, optical fiber and atmospheric channels, and adaptive techniques.
- 644. Optical Data Processing (3)**
Prerequisites: Electrical Engineering 340 and 410.
Electro-optical systems for processing electronic data or images. Spatial frequency analysis, filtering, convolution, and correlation based on light diffraction. Film as a recording medium. Acousto-optic and electro-optic processing devices and their applications.

645. Antennas and Propagation (3)

Prerequisite: Electrical Engineering 540.
Impedance characteristics and radiation patterns of thin linear antenna elements; field intensity calculations. Tropospheric and ionospheric propagation; propagation anomalies.

647. Radar Systems (3)

Prerequisite: Electrical Engineering 540.
Radar equation, range and Doppler resolution, design principles, signal processing, waveforms, synthetic aperture radar and target imaging.

650. Modern Communication Theory I (3)

Prerequisite: Electrical Engineering 553 or Mathematics 550.
Probability theory, random variables, random processes, Gaussian process, random signals through linear systems, noise considerations, optimum receiver design, applications to digital and wave-form communication.

652. Principles and Applications of Information Theory (3)

Prerequisite: Electrical Engineering 553 or 558.
Measure of information; digital communication systems, Shannon theorems, channel coding for applications in interference, noise combatting and jamming; source encoding for data compression. Multichannel and multi-user information theory with applications to diversity, multipath and other environments.

653. Coding Theory (3)

Prerequisite: Electrical Engineering 553.
The theory of coding to combat noise over communication channels. Redundancy added to messages to assure arbitrarily small error rates at a given information rate. Discussion of channels and capacity. Block codes, cyclic codes, BCH codes, convolutional code.

657. Digital Image Processing (3)

Prerequisite: Electrical Engineering 556.
Theory of two-dimensional signals and systems, image transforms, image enhancement, restoration and compression, image analysis and computer vision. (Formerly numbered Electrical Engineering 557.)

658. Advanced Applications of Digital Signal Processing (3)

Prerequisite: Electrical Engineering 556 or 657.
Concepts of spectral analysis. Applications of DSP to speech encoding. Image coding, fast algorithms applied to speech, image, radar, sonar and geophysical signal processing.

672. VLSI System Design (3)

Prerequisite: Electrical Engineering 572.
Design of microprocessor data paths and controllers, memory management, pipelines, multipliers, Risc and multi-processor systems and applications. (Formerly numbered Electrical Engineering 579.)

673. System Scale Integration (3)

Prerequisite: Electrical Engineering 430 or 470.
Gigachip engineering with emphasis on performance and reliability; feasibility criteria, circuit design, chip layout, test strategies, and system simulation. Illustrative examples from memories and arithmetic processors.

675. Advanced Microprocessors (3)

Prerequisite: Electrical Engineering 475.
Program development, circuit design, direct-memory access, multiprocessing, co-processing, and standardized bus design for a 32-bit microprocessor.

676. Fault Tolerant Computing (3)

Prerequisite: Electrical Engineering 373.
Redundancy in computer design. Reliability modelling for digital systems. State-of-the-art in fault tolerant computers. Testing and diagnostics of digital systems. Designing for testability.

677. Topics in Logic Design (3) II

Prerequisite: Electrical Engineering 571.
Review of current technical periodic literature in logic design and digital systems. Stress on specialized synthesis techniques and recent theoretical developments.

678. Advanced Computer Design (3)

Prerequisite: Electrical Engineering 373.
Design principles for high performance computers. State-of-the-art in parallel computer systems, including pipelined computers, array processors and multiprocessor systems.

679. Real-Time Software Engineering (3)

Prerequisite: Electrical Engineering 675.
Principles of real-time programming and software engineering for microprocessor systems. Concurrent programming and multitasking. Structured programming. Software validation. Team programming projects.

680. Computer Methods in Advanced Power System Analysis (3)

Prerequisite: Electrical Engineering 580.
Computer modeling and analysis techniques applied to large power systems.

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

Prerequisite: Consent of department chair.
Research in engineering. Maximum credit six units applicable to a master's degree.

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

Prerequisite: Consent of department chair.
Individual study. Maximum credit three units applicable to a master's degree.

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

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

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

Mechanical Engineering

In the College of Engineering

OFFICE: Engineering 323M
TELEPHONE: (619) 594-6067

Faculty

John G. Pinto, Ph.D., Professor of Mechanical Engineering, Chair of Department (Graduate Adviser)
George T. Craig, Ph.D., Professor of Mechanical Engineering, Dean of the College of Engineering
Nihad A. Hussain, Ph.D., Professor of Mechanical Engineering, Associate Dean of the College of Engineering
George A. Mansfield Jr., M.S.M.E., P.E., Professor of Mechanical Engineering
Robert J. Murphy, Ph.D., P.E., Professor of Mechanical Engineering
Basil Ohnysty, M.S., P.E., Professor of Mechanical Engineering
Halil M. Güven, Ph.D., Associate Professor of Mechanical Engineering
D. Preston Lowrey III, Ph.D., Associate Professor of Mechanical Engineering
Larry D. Thompson, Ph.D., Associate Professor of Mechanical Engineering
Subrata Bhattacharjee, Ph.D., Assistant Professor of Mechanical Engineering

UPPER DIVISION COURSES

NOTE: Proof of completion of prerequisites required for all Mechanical Engineering 300-, 400-, and 500-level courses: Grade report or copy of transcript. In addition, Mechanical Engineering 390, 450, 490A, and 530 require evidence of concurrent registration in appropriate courses.

510. Advanced Machine Design (3) I, II

Prerequisites: Mechanical Engineering 314 and 340.
Application of advanced topics in strength of materials to the design of mechanical elements. Energy methods, stress concentrations, curved beams, and thick-walled cylinders. Practical application of principles through case studies or design projects.

512. Simulation of Engineering Systems (3) I, II

Two lectures and three hours of laboratory.
Prerequisites: Mechanical Engineering 314 and 395.
Analysis and design of engineering systems using modern analog and digital computers. Simulation of dynamic systems. Application to problems in mechanics, heat transfer, thermodynamics, and control systems.

516. Engineering Design: Mechanisms (3)

Prerequisite: Mechanical Engineering 512.
Design of linkages, cams, and gears wherein displacement, velocity and acceleration are paramount considerations.

520. Introduction to Mechanical Vibrations (3)

Prerequisites: Mechanical Engineering 512 and Civil Engineering 301.
Analysis of mechanical vibration; single- and multi-degree of freedom systems; free and forced vibrations; vibration isolation; vibration absorbers. Theory of vibration measuring instruments.

521. Vibration, Shock and Noise Measurements (3)

Prerequisites: Mechanical Engineering 512 and Civil Engineering 301.
Experimental problems utilizing vibration excitation equipment, recording systems, transducers, sound analysis systems and analog computers.

530. Automatic Control Systems (3)

Prerequisites: Engineering 280 with a grade of C or better, and credit or concurrent registration in Mechanical Engineering 512.
Analysis of the dynamic characteristics of control components and systems. Stability and response of closed loop systems. Design of control systems.

540. Nonmetallic Materials (3)

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.

542. Production Engineering (3)

Prerequisites: Mechanical Engineering 340 and Engineering 280 with a grade of C or better.
Quantitative techniques including regression analysis, linear programming, network and simulation methods as applied to planning, forecasting, scheduling and maintaining of modern production and manufacturing systems.

544. Advanced Manufacturing Processes (3)

Prerequisites: Mechanical Engineering 195, 314, 340, 350; and Engineering 280 with a grade of C or better.
Theory and techniques of metal cutting, forming, non-cutting metal removal, computer controlled machining.

546. Computer Aided Manufacturing (3)

Prerequisites: Mechanical Engineering 195, 340; Engineering 120 and 280, both with a grade of C or better.
Computer controlled manufacturing and assembly techniques and devices. Data bases and special languages.

570. Thermal Systems Analysis and Design (3)

Prerequisite: Mechanical Engineering 470.
Analysis, design and optimization of thermal systems using microcomputers. Modelling of thermal systems and components. Thermal system component characteristics and their effect on overall system performance. Relationship among thermal sciences in design process. Introduction to thermoeconomic optimization.

580. Elements of Energy Conversion (3)

Prerequisite: Mechanical Engineering 350.
Principles of physics and chemistry applied to the analysis of a broad spectrum of energy conversion devices from an engineering point of view.

582. Thermal Environmental Engineering (3)

Prerequisite: Mechanical Engineering 470.
Psychrometrics. Mass transfer. Two-phase flow. Heat transfer. Thermoelectric refrigeration. Change of phase.

586. Solar Energy Conversion (3)

Prerequisites: Mechanical Engineering 450, 470 and Engineering Mechanics 340.

Application of thermodynamics, fluid mechanics and heat transfer to the thermal design of solar energy conversion systems. Computer simulations utilized.

590. Biomechanics (3)

Prerequisites: Civil Engineering 301 and Engineering Mechanics 340.

Application of engineering methodologies for quantitative understanding of biological/physiological phenomena. Continuum mechanics principles. The cardiovascular systems and its components viewed from a mechanistic standpoint.

596. Advanced Mechanical Engineering Topics (1-3) I, II

Prerequisite: Consent of instructor.

Modern developments in mechanical engineering. See Class Schedule for specific content. Maximum credit of six units for any combination of Mechanical Engineering 496, 499 and 596 applicable to a bachelor's degree. Maximum combined credit of six units of Mechanical Engineering 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES**610. Finite Element Methods in Mechanical Engineering (3)**

Prerequisites: Engineering 280 with a grade of C or better and Mechanical Engineering 510.

Development of finite elements and an introduction to solution methods. Problems from various fields of study in mechanical engineering such as stress analysis, vibrations and heat transfer. Introduction to finite element programs such as NASTRAN.

614. Engineering Design: Analytical Methods (3)

Prerequisites: Mechanical Engineering 512 and Engineering 510.

Classical optimization techniques, digital computer methods of optimization, design decision theory, reliability in design.

615. Vibration and Stress Measurement Systems (3)

Two lectures and three hours of guided measurement activities.

Prerequisites: Mechanical Engineering 390, 510, and 520.

Experiment planning, accelerometer and strain gauge theory, data acquisition techniques, data reduction techniques, data analysis techniques.

621. Mechanical Vibrations (3)

Prerequisites: Mechanical Engineering 512, 520 and Engineering 510.

Topics in vibration relating to mechanical design such as non-linear vibrations, distributed mass systems, random vibrations, mobility analysis, isolator design. (Formerly numbered Mechanical Engineering 621A.)

632. Advanced Topics in Automatic Controls (3)

Prerequisite: Mechanical Engineering 530.

Analysis and synthesis of sample data systems. State space analysis of multivariable systems, optimal control systems.

Prerequisite: Mechanical Engineering 510.

Behavior of materials in mechanical design. Analysis, prediction and prevention of failure.

642. Corrosion (3)

Prerequisite: Mechanical Engineering 340.

The destructive attack of a metal by chemical or electrochemical reaction with its environment. Thermodynamics of cells, E-pH diagrams, and electrode kinetics; corrosion resistant metals, polymers and composites.

645. Mechanical Metallurgy for Engineers (3)

Prerequisites: Mechanical Engineering 340 and 350.

Fundamentals of plastic deformation of crystalline solids; elementary theory of statics and dynamics of dislocations, deformation, fracture and metallurgical variables on mechanical properties; environment-failure interactions.

651. Analytical Thermodynamics (3)

Prerequisite: Engineering 280 with a grade of C or better.

Advanced concepts of macroscopic thermodynamics. Application of thermodynamics to special systems.

661. Gas Dynamics (3)

Prerequisites: Mechanical Engineering 450 and Engineering 510.

Thermodynamics of high velocity compressible fluid flow. Adiabatic and diabatic flow; shock phenomena; imperfect gases; multidimensional flow. Applications to the propulsive duct and turbomachinery.

663. Boundary Layers in Internal Flows (3)

Prerequisites: Mechanical Engineering 470 and Engineering 510.

Conservation laws applied to boundary layers in viscous, heat conducting fluids; analysis of the boundary layer equations; applications to internal flows.

671. Conduction Heat Transfer (3)

Prerequisites: Mechanical Engineering 470 and Engineering 510.

Conduction heat transfer; multidimensional and transient processes; analytical and numerical models of conduction phenomena.

673. Convection Heat Transfer (3)

Prerequisites: Mechanical Engineering 470, Engineering 510. Concurrent registration in Mechanical Engineering 663.

Convection heat transfer processes under laminar and turbulent flow conditions. Analytical and numerical modeling of processes.

675. Radiation Heat Transfer (3)

Prerequisites: Mechanical Engineering 470 and Engineering 510.

Radiation heat transfer processes. Radiative properties of surfaces and gases. Multimode heat transfer in thermal systems. Numerical modeling.

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

Intensive study in specific areas of mechanical engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of Mechanical Engineering 596 and 696 applicable to a 30-unit master's degree.

700. Seminar (1-3)

Prerequisite: Consent of the graduate adviser and instructor. An intensive study in advanced mechanical engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable on a master's degree.

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

Prerequisites: Consent of graduate adviser and advancement to candidacy.

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

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

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

Individual study. Maximum credit three units applicable to a master's degree.

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

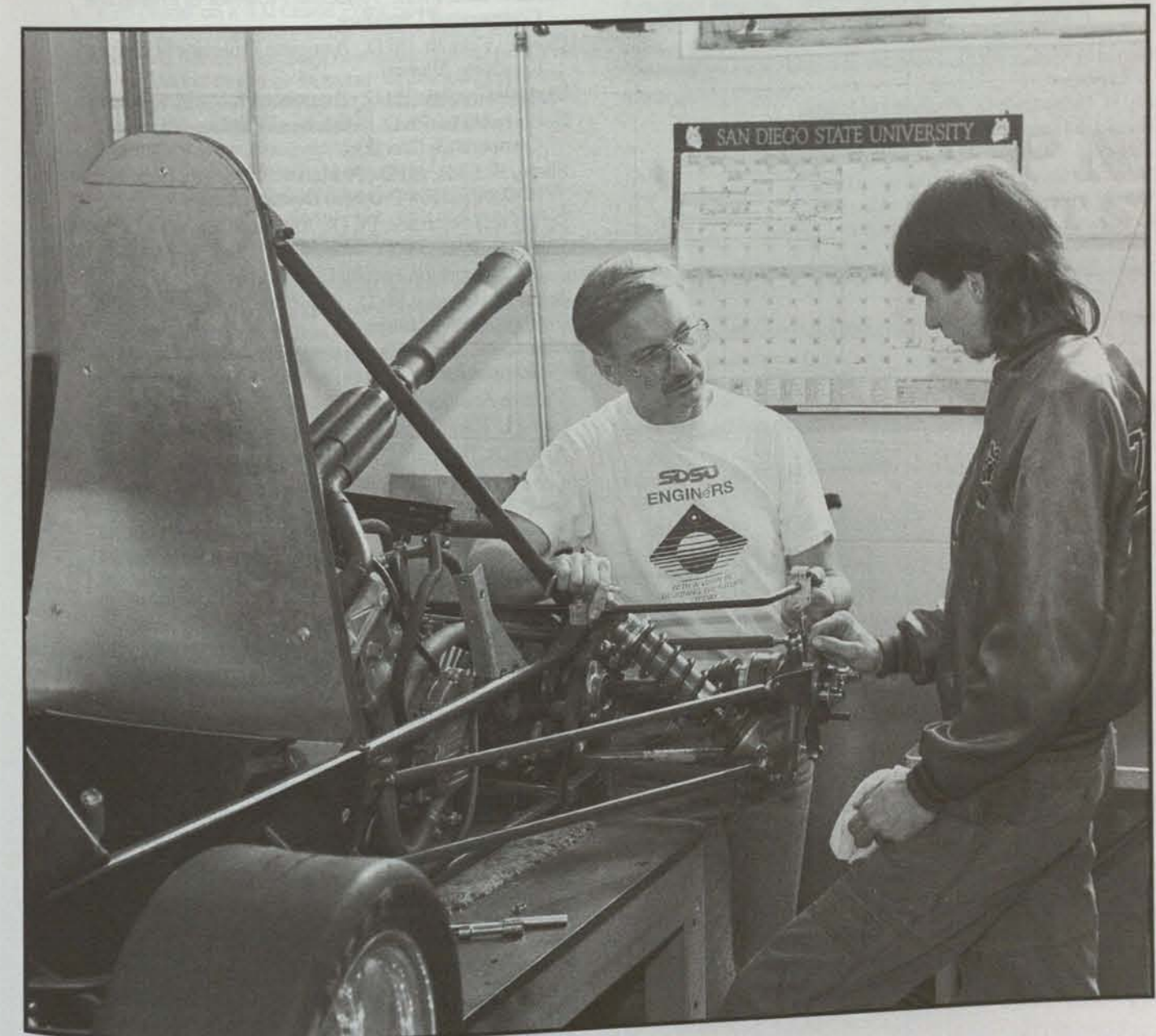
Prerequisites: An officially appointed thesis committee and advancement to candidacy.

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

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

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

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



English and Comparative Literature

In the College of Arts and Letters

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Faculty

Carey G. Wall, Ph.D., Professor of English, Chair of Department
Elsie B. Adams, Ph.D., Professor of English and Comparative Literature
Sandra B. Alcosser, M.F.A., Professor of English
Jackson J. Benson, Ph.D., Professor of English
Roberta F. Borkat, Ph.D., Professor of English
Jerry D. Bumpus, M.F.A., Professor of English
Gerald J. Butler, Ph.D., Professor of English
Glover T. Davis II, M.F.A., Professor of English, Director of Creative Writing Program
Gerald H. Farber, Ph.D., Professor of English and Comparative Literature
Jay H. Gellens, Ph.D., Professor of English
Ronald J. Gervais, Ph.D., Professor of English
Jerome J. Griswold, Ph.D., Professor of English
Suzanne Henig, Ph.D., Professor of English
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Donald A. Shojai, Ph.D., Professor of English and Comparative Literature, Director of Graduate Studies
Alfred F. Boe, Ph.D., Associate Professor of English and Comparative Literature
Clare E. Colquitt, Ph.D., Associate Professor of English (Graduate Adviser)
Sinda J. Gregory, Ph.D., Associate Professor of English
D. Emily Hicks, Ph.D., Associate Professor of English and Comparative Literature
Sherry B. Little, Ph.D., Associate Professor of English, Director of Composition Program Development
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Shirley K. Rose, Ph.D., Associate Professor of English, Director of Composition Faculty Development
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Thomas Aninger, Ph.D., Assistant Professor of English
Lynda L. Koolish, Ph.D., Assistant Professor of English
William A. Neruccio, Ph.D., Assistant Professor of English and Comparative Literature
Cezar M. Ornatowski, Ph.D., Assistant Professor of English

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 director.

General Information

The Department of English and Comparative Literature offers graduate study leading to a Master of Arts in English and the Master of Fine Arts in creative writing. The M.A. student can choose one of four areas of specialization: American literature, British literature, comparative literature, or rhetoric and writing. The M.A. is a 30-unit degree program particularly well suited for students who anticipate further graduate work in a literature or rhetoric Ph.D. program or who intend to teach English in a community college or a secondary school (after obtaining a credential). The M.F.A. in creative writing is a 54-unit program which offers study in poetry or fiction with a balance between studio and academic,

traditional and experimental, commercial and aesthetic approaches. The program has two stages – graduate seminars followed by intensive study with one or more professors in tutorials and thesis preparation. The M.F.A. is a professional program intended for full-time students who wish to receive a terminal degree in creative writing. Each year, in addition to the resident faculty, the department invites approximately twenty writers and editors to the campus for readings and residencies.

The department offers a wide range of courses and approaches to the study of literature and writing, many of which are outlined in English 600, Introduction to Graduate Study, required of all entering M.A. students. Faculty publications in literature and rhetoric are similarly diverse. They include major literary biographies, historical studies, critical analysis from various current perspectives, reviews of and interviews with contemporary writers, as well as a broad spectrum of original poetry and fiction. The department also sponsors the literary periodicals *Fiction International* and *The Pacific Review*.

Admission to Graduate Study

Students will be admitted in both the fall and spring semesters. Submit applications by October 1 for the spring and by April 15 for the fall.

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. Students may be admitted to the graduate program in literature in one of two categories:

1. Classified Graduate Standing

To be considered for admission, students must meet the following minimal requirements:

- 24 units of upper division work in English. (Students choosing the comparative literature specialization may substitute foreign language literature or comparative literature courses.)
- 2.75 overall on a 4.0 Grade Point Scale.
- 3.0 grade point average in the English major. (Students choosing the comparative literature specialization in either foreign language literature or comparative literature courses must possess a 3.0 grade point average.)
- 1000 on the GRE General Test (combined verbal and quantitative score, minimum 500 verbal).

2. Conditional Classified Graduate Standing

- Conditional acceptance will be considered for a candidate who is below requirements in one of the above. A student may be granted conditional acceptance if there is a deficiency in any of the above requirements. A student accepted conditionally must achieve an average of 3.25 in nine units of English or comparative literature courses with no grade less than B- 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.
- English major unit deficiencies. Students who lack 24 units of credit in upper division courses in English or in foreign language literature or comparative literature courses will be considered for conditional standing if they meet the requirements of 2.75 overall and 1000 on the GRE General Test (combined verbal and quantitative). After the completion of 24 units for the undergraduate major, students will be considered for classified graduate standing if they meet the other requirements. Students choosing a comparative literature specialization may substitute 24 units of upper division coursework in foreign language literature or comparative literature courses for part of this requirement.

Applicants are asked to submit a 750-1000 word statement of purpose with their application.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, including the foreign language requirement, as stated in Part Two of this bulletin. Each candidate, with the approval of the graduate coordinator, may fulfill the foreign language requirement in one of several ways: (1) by passing the Graduate School Foreign Language Test or the Modern Language Association Reading Examination, (2) by passing a local examination administered by one of the University's foreign language departments, (3) by completing one three-unit upper division foreign language literature course with readings in the original language with a grade of C (2.0) or better, or

(4) by passing an examination to be determined by the graduate adviser if the chosen language is not one taught in a department at San Diego State University.

Specific Requirements for the Master of Arts Degree

(Major Code: 15011)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program, approved by the department's director of graduate studies, which includes a major consisting of 30 units, with at least 21 units of 600- and 700-numbered courses. The major includes a specialization in one of four program areas: American literature, British literature, comparative literature, or rhetoric and writing. Students specializing in literature may choose Plan A (thesis) or Plan B (oral and written examination). Students specializing in rhetoric and writing may only select the thesis option (Plan A).

Specialization in American Literature

Core Courses (9 units):

- English 600 Introduction to Graduate Study (3)
- English 601 Literary Study in a Multicultural World (3)
- English 602 Literary Theory and Critical Practice (3)

American Literature Research Focus. With prior approval by the graduate adviser, a student will select nine units from the following:

- English 604A American Literary Period or Movement (3)
- English 606A American Literary Type (3)
- English 625 American Literature (3) or
- English 700 Seminar: A Major Author or Authors (3)
- English 725 Seminar: Issues in American Literature (3)

(With the consent of the graduate adviser, English 798, with appropriate content, may be substituted for **one** of the above courses.)

Electives: Diversification in Literary and Writing Research. With the approval of the graduate adviser, nine units selected from other English and comparative literature departmental graduate offerings. A maximum of six units of courses acceptable for graduate credit in other departments (when appropriate) may be used toward satisfying this requirement.

Culminating Experience:

- Plan A: (Thesis or Project) – 799A (3 units)
- Plan B: (Comprehensive Examination) – Additional 3 units of 700-level coursework in English.

Specialization in British Literature

Core Courses (9 units):

- English 600 Introduction to Graduate Study (3)
- English 601 Literary Study in a Multicultural World (3)
- English 602 Literary Theory and Critical Practice (3)

British Literature Research Focus. With prior approval by the graduate adviser, a student will select nine units from the following:

- English 604B British Literary Period or Movement (3)
- English 606B British Literary Type (3)
- English 624 British Literature (3)

English 700 Seminar: A Major Author or Authors (3)
 English 724 Seminar: Issues in British Literature (3)
 (With the consent of the graduate adviser, English 798, with appropriate content, may be substituted for **one** of the above courses.)

Electives: Diversification in Literary and Writing Research. With the approval of the graduate adviser, nine units selected from other English and Comparative Literature departmental graduate offerings. A maximum of six units of courses acceptable for graduate credit in other departments (when appropriate) may be used toward satisfying this requirement.

Plan A: (Thesis or Project) – 799A (3 units)

Plan B: (Comprehensive Examination) – Additional 3 units of 700-level coursework in English.

Specialization in Comparative Literature

Core Courses (9 units):

English 600 Introduction to Graduate Study (3)
 English 601 Literary Study in a Multicultural World (3)
 English 602 Literary Theory and Critical Practice (3)

Comparative Literature Research Focus. With prior approval by the graduate adviser, a student will select nine units from the following:

Three units acceptable for graduate credit, in a foreign language literature read in the original language.

Six units from the following:

English 604C Comparative Literature Literary Period or Movement (3)
 English 606C Comparative Literature Literary Type (3)
 English 626 Comparative Literature (3)
 English 700 Seminar: A Major Author or Authors (3)
 English 726 Seminar: Issues in Comparative Literature (3)
 (With the consent of the graduate adviser, English 798, with appropriate content, may be substituted for **one** of the above courses.)

Electives: Diversification in Literary and Writing Research. With the approval of the graduate adviser, nine units selected from other English and comparative literature departmental graduate offerings. A maximum of six units of courses acceptable for graduate credit in other departments (when appropriate) may be used toward satisfying this requirement.

Culminating Experience:

Plan A: (Thesis or Project) – 799A (3 units)

Plan B: (Comprehensive Examination) – Additional 3 units of 700-level coursework in English.

Specialization in Rhetoric and Writing

Core Courses (9 units):

English 600 Introduction to Graduate Study (3)
 English 601 Literary Study in a Multicultural World (3)
 English 602 Literary Theory and Critical Practice (3)

Rhetoric and Writing Research Focus (9 units):

English 741 Seminar in Classical Rhetoric and Composition (3)

English 742 Seminar in Modern Rhetoric and Composition (3)

Three units selected from:

English 744 Seminar: Issues in Rhetorical Theory and Practice (3)

English 745 Advanced Seminar: Research Methods in Rhetoric and Writing (3)

Electives: Diversification in Literary and Writing Research. With the approval of the graduate adviser, nine units selected from other English and comparative literature departmental graduate offerings. A maximum of six units of courses acceptable for graduate credit in other departments (when appropriate) may be used toward satisfying this requirement.

Culminating Experience:

Plan A: (Thesis or Project) – 799A (3 units)

Master of Fine Arts Degree in Creative Writing

Admission to Graduate Study

STUDENTS WILL BE ADMITTED TO THE M.F.A. IN CREATIVE WRITING ONLY IN THE FALL SEMESTER AND COMPLETE APPLICATIONS MUST BE RECEIVED NOT LATER THAN MARCH 1.

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

1. The applicant must submit a sample of creative work (15 poems or 30 pages of prose) and three letters of recommendation, to enable the creative writing faculty to assess the candidate's suitability to pursue an M.F.A. in creative writing. The sample of creative writing and the letters of recommendation are to be sent directly to the director of the creative writing program, Department of English and Comparative Literature, San Diego State University.
2. The applicant must possess a baccalaureate degree in creative writing, or in English with a focus in creative writing, or an approved affiliated field, with a grade point average of not less than 3.0 overall in the last 60 units of study attempted, with a 3.25 undergraduate grade point average in the major, and a 3.5 average in those courses considered prerequisite for the M.F.A. focus the student elects. The applicant should send all transcript information directly to the Office of Admissions and Records, San Diego State University.
3. If deficient, the applicant must complete undergraduate requirements commensurate with the proposed focus in the M.F.A. program.
4. The applicant normally must achieve a minimum score of 950 on the Graduate Record Examination, with a minimum of 500 on the verbal section. The results of the GRE should be sent directly to the Office of Admissions and Records, San Diego State University.

Students who submit especially compelling samples of creative work, but who have not met certain criteria or who demonstrate deficiencies in undergraduate preparation or basic skill development may be granted conditional admission to the program. The graduate coordinator shall specify the conditions for such admission with the proviso that any remedial

coursework assigned must be completed with a minimum grade point average of 3.0 and no grade less than a B-.

A student holding an M.A. degree in English with a specialization in creative writing from San Diego State University, or any other acceptable accredited institution of higher learning, must formally apply for admission to the M.F.A. program. Applicants holding an M.A. or pursuing an M.F.A. at an acceptable accredited institution may transfer up to 18 units upon review and recommendation by the creative writing faculty in the area of focus, the graduate coordinator of the English Department, and the approval of the Dean of the Graduate Division and Research. Students unable to satisfy the requirements for the M.F.A. degree will not automatically be considered for an M.A. degree.

Students already accepted into the M.F.A. program at San Diego State University who request a change of focus (poetry or fiction) at a later date will be required to reapply to the creative writing committee.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Two of this bulletin. Candidates for the M.F.A. degree must have completed 30 units within their official program of study, including transfer credit, with a minimum grade point average of 3.25 and have no grade less than B-. Students will be permitted to repeat only one course to achieve these levels.

In addition, the department graduate committee must have recommended appointment of a thesis adviser from the student's area of focus (poetry, fiction) and the creative writing committee must have approved a thesis topic. Applicants for advancement should submit a portfolio of their creative work to the creative writing committee for a recommendation for advancement. Aspects to be reviewed include artistic achievement, ability to function in situations that writers and teachers usually encounter, and demonstration of skills in the focus area.

After advancement to candidacy, a student must enroll in and complete a minimum of 24 units from the official program to include English 789, 797, and 799A.

Specific Requirements for the Master of Fine Arts Degree in Creative Writing

(Major Code: 15071)

In addition to meeting the requirements for classified graduate standing, candidates for the M.F.A. in creative writing must complete a 54-unit graduate program, 39 of which must be in courses numbered 600 and above as follows:

1. **Core Requirements.**
 English 689 Advanced Tutorial in Creative Writing (3)
 This course must be taken prior to advancement to candidacy.
 English 789 Directed Writing for M.F.A. Students (3)
 This core course must be taken after advancement to candidacy.
2. **Creative Writing Research Focus.** Student to select one 18-unit research focus as follows:
 A. Poetry
 English 680 Poetry Writing (6)
 English 780 M.F.A. Seminar: Poetry (6)
 Six units of electives in another creative writing research focus with the approval of the M.F.A. adviser.

B. Fiction

English 681 Fiction Writing (6) and six units to be selected from

English 781 M.F.A. Seminar: Fiction (3-6)

English 783 M.F.A. Seminar: Novel (3-6)

Six units of electives in another creative writing research focus with the approval of the M.F.A. adviser.

3. **Literature Research.** An 18-unit literature research component divided as follows:

A. Three units selected from the following:

English 630 Form and Theory of Poetry (3)

English 631 Form and Theory of Fiction (3)

B. Nine units in American, British, or comparative literature, or an appropriate modern language literature selected with the approval of the M.F.A. adviser.

C. Six units selected from the following:

English 700 Seminar: A Major Author or Authors (3)

English 709 Seminar in Teaching of Creative Writing (3)

English 724 Seminar: Issues in British Literature (3)

English 725 Seminar: Issues in American Literature (3)

English 726 Seminar: Issues in Comparative Literature (3)

English 730 Seminar: Perspectives in Critical Analysis (3)

English 741 Seminar in Classical Rhetoric and Composition (3)

English 742 Seminar in Modern Rhetoric and Composition (3)

English 744 Seminar: Issues in Rhetorical Theory and Practice (3)

English 745 Advanced Seminar: Research Methods in Rhetoric and Writing (3)

4. **Correlative Study in Another Discipline.** Six units in a correlative study related to the student's interest and selected with the approval of the M.F.A. adviser.

5. **Thesis.** Six units in preparation of the thesis; a book-length creative work.

English 797 Thesis Research (3)

English 799A Thesis (3)

Courses Acceptable on the Master's Degree Programs in Creative Writing and English

UPPER DIVISION COURSES IN ENGLISH

Prerequisite for all 500-level courses: Six lower division units in courses in literature and/or creative writing.

500W. Advanced Composition (3) I, II

Prerequisites: Satisfies University Upper Division Writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication. **Proof of completion of prerequisites required:** Test scores or verification of exemption; grade report or copy of transcript.

The theory and practice of expository writing, including the contributions of semantics, rhetoric, and logic.

501. Literature for Children (3) I, II

Critical analysis of literature intended for children. Study of texts and illustrations.

502. Adolescence in Literature (3)

Prerequisite: Six units in literature.

Works centrally concerned with an adolescent protagonist. Includes both traditional novels of development (Bildungsroman) and contemporary young adult novels.

503W. Technical Writing (3) I, II

Prerequisites: English 200. Satisfies University Upper Division Writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication. **Proof of completion of prerequisites required:** Test scores or verification of exemption; grade report or copy of transcript.

Principles and practices of writing required in technical and scientific fields of professions, including technical writing style and rhetorical strategies of designing technical documents. (Formerly numbered English 304W.)

504. Problems in Technical Communication (3) I, II

Prerequisite: English 503W. Recommended: Graphics or drawing course.

Problems in technical writing, including graphics, printing, and reproduction of technical documents; types of technical communication, including reports, manuals, and proposals; manuscript editing and proofreading; audience analysis and readability; writing and recognition of clear technical prose.

506. Writing Internship (3) I, II, S Cr/NC

Prerequisites: Consent of instructor and successful completion of a 500-level writing course with a grade of B or better.

Intensive experience in writing and editing documents while student is under the joint supervision of an academic instructor and a professional coordinator.

507. The History of Literary Criticism (3)

Principles and practices of literary criticism from Greek times to the twentieth century.

508W. The Writing of Criticism (3) I, II

Prerequisites: Satisfies University Upper Division Writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication. **Proof of completion of prerequisites required:** Test scores or verification of exemption; grade report or copy of transcript.

Theory and practice of literary criticism. Emphasis on the work of important critics and on development of student's own critical writing.

509. Introduction to the Teaching of Composition (3) I, II

Prerequisite: Consent of instructor based on writing sample and/or test.

Techniques for teaching and evaluation of written composition. Provides a theoretical base for these techniques.

519. American Ethnic Literatures (3) I, II

Prerequisite: Six units in literature.

Works from American ethnic literatures, with emphasis on formerly excluded traditions as African-American, Hispanic and Chicano, Asian-American, and American Indian.

520. African-American Literary Tradition (3)

Prerequisite: Six units in literature.

African-American literature from its eighteenth century beginnings to the present. Early political and social concerns and concomitant utilitarian forms; aesthetic concerns and forms in nineteenth and twentieth centuries.

522. American Literature, 1800 until 1860 (3) I, II

Representative works by American writers from 1800 until 1860; likely to include works by Emerson, Hawthorne, Melville, Poe, H.B. Stowe, Thoreau, Whitman, others.

523. American Literature, 1860 until 1920 (3) I, II

Representative works by American writers from 1860 until 1920; likely to include works by Kate Chopin, Stephen Crane, Emily Dickinson, Henry James, Carl Sandburg, Mark Twain, Edith Wharton, others.

524. American Literature, 1920 until 1950 (3) I, II

Representative works by American writers from 1920 until 1950; likely to include works by Willa Cather, T.S. Eliot, William Faulkner, F. Scott Fitzgerald, Ernest Hemingway, Eugene O'Neill, K.A. Porter, Ezra Pound, John Steinbeck, others.

525. American Literature, 1950 until Present (3) I, II

American writers from 1950 until the present; likely to include works by Edward Albee, Saul Bellow, Allen Ginsberg, Joseph Heller, Norman Mailer, Toni Morrison, Sylvia Plath, Adrienne Rich, Kurt Vonnegut, Eudora Welty, others.

526. Topics in American Literature (3)

Topics in American literature to include the literature of the South; Black writers in America; the frontier and American literature; the history of American literature; the outcast in American literature. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

527. Genre Studies in American Literature (3) I, II

Study of a specific literary genre: overview of the genre's development in American literature (the American novel, the American short story, American poetry) or focus on a narrower period (the modern American novel, the contemporary American novel, American autobiographies, others). May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

528. Individual American Authors (3)

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

530. Chaucer (3)

Chaucer's works, with emphasis on *The Canterbury Tales* and *Troilus and Criseyde*.

531. Renaissance Literature (3)

English poetry and prose from 1485 to 1603.

533. Shakespeare (3) I, II

An introduction to the writings of Shakespeare. This course cannot be used in place of English 302 to satisfy General Education requirements.

534. Study of Shakespeare (3)

Prerequisite: English 533.

Advanced study of Shakespeare's achievement as a poet and playwright.

536. Seventeenth Century Literature (3)

English poetry and prose from 1603 to 1660.

537. Milton (3)

Milton's writings, with emphasis on *Paradise Lost*.

538A-538B. Restoration and Eighteenth Century Literature (3-3) I, II

English literature in the neoclassical era. Semester I: Dryden, Swift, Pope, and their contemporaries. Semester II: Writers of the middle and late eighteenth century.

540A-540B. English Fiction (3-3) I, II

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

541A-541B. English Drama (3-3)

English dramatic literature from its beginnings to the nineteenth century. Semester I: The period from the beginning to 1642. Semester II: The period following reopening of the theatres in 1660.

542. Romantic Literature (3) I, II

Representative British works from the 1790's to the 1830's by such writers as Wollstonecraft, Blake, Wordsworth, Coleridge, Byron, Shelley, Keats, Austen, and Scott. (Formerly numbered English 542A.)

543. Victorian Literature (3) I, II

Representative British works from 1837 until 1890 by such writers as Carlyle, Tennyson, Ruskin, Browning, Dickens, Arnold, Eliot, and Pater. (Formerly numbered English 542B.)

544. British Literature, 1890-1918 (3) I, II

Representative British works from 1890 until 1918 by such writers as Hardy, Gissing, Shaw, Conrad, Yeats, Wells, Forster, and the World War I poets.

547. British Literature, 1918-1950 (3) I, II

Representative British works from 1918 until 1950 by such writers as Joyce, Woolf, T.S. Eliot, Lawrence, Mansfield, Huxley, Bowen, Greene, Auden, Orwell, and Thomas.

548. British Literature, 1950 until Present (3) I, II

Representative British works from 1950 until the present by such writers as Golding, Amis, Murdoch, Lessing, Pinter, Hughes, Fowles, Stoppard, and Drabble.

549. Topics in English Literature (3)

The works of Spenser, the metaphysical school of poetry, the English satirists, major movements in contemporary English fiction, and the like. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

560A. British Literature, Beginnings through the Eighteenth Century (3) I, II

Survey of major British writers, with emphasis on reading of complete works. From the beginnings to the neoclassical period. Especially appropriate for those who will teach British literature, and for those proceeding on to graduate study. Not open to students with credit in English 260A.

560B. British Literature, Romanticism to the Present (3) I, II

Survey of major British writers, with emphasis on reading of complete works. Begins with the Romantic writers. Especially appropriate for those who will teach British literature, and for those proceeding on to graduate study. Not open to students with credit in English 260B.

570. Techniques of Poetry (3) I, II

Prerequisite: English 280.

Techniques of poetry from the creative writer's point of view, introduction to critical and theoretical literature on poetry. Includes a creative writing workshop.

571. Techniques of the Short Story (3) I, II

Prerequisite: English 280.

Techniques of the short story, from the writer's point of view. Introduction to critical and theoretical literature on the short story. Includes a creative writing workshop.

573. Techniques of the Novel (3)

Prerequisite: English 280.

Techniques of the novel from the writer's point of view. Introduction to the critical and theoretical literature on the novel. Includes a creative writing workshop.

576. Literary Editing and Publishing (3)

Prerequisite: English 280.

Principles and practices of editing and literary publishing. Workshop on small press publishing. Includes editing and publishing workshop.

577. Techniques of Screenwriting (3) I, II

Prerequisite: English 280 or Telecommunications and Film 110 or 410 for telecommunications and film majors.

Techniques of screenwriting. Introduction to the critical and theoretical literature on screenwriting. Includes a creative writing workshop.

578. Techniques of Drama (3)

Prerequisite: English 280.

Techniques of drama written for the stage, from writer's point of view. Introduction to the critical and theoretical literature on drama. Includes a creative writing workshop.

579. Topics in Creative Writing (3)

Prerequisite: English 280.

Techniques of creative writing focusing on a specialized genre such as comedy, science fiction, and biography. Study of the critical and theoretical literature on the genre. Includes a creative writing workshop. See Class Schedule for specific content. Maximum credit six units.

580. Writing of Poetry (3) I, II

Prerequisite: English 570.

A creative writing workshop in poetry. Continuation of English 570. Maximum credit six units.

581W. Creative Writing of Fiction (3) I, II

Prerequisites: English 280. Satisfies University Upper Division Writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication. **Proof of completion of prerequisites required:** Test scores or verification of exemption; grade report or copy of transcript.

A creative writing workshop in fiction. Continuation of English 571. Maximum credit six units.

583. Writing Long Narrative (3) I, II

Prerequisite: English 573.

A creative writing workshop in long narrative, especially the novella and/or novel. Continuation of English 573. Maximum six units.

584W. Writing Informal Essays (3) I, II

Prerequisites: English 280. Satisfies University Upper Division Writing requirement for students who have completed 60 units, fulfilled the Writing Competency requirement, and completed the General Education requirement in Written Communication. **Proof of completion of prerequisites required:** Test scores or verification of exemption; grade report or copy of transcript.

A creative writing workshop in nonfiction, especially the essay as an art form. Maximum credit six units.

587. Writing the Screenplay (3) I, II

Prerequisite: English 577 or Telecommunications and Film 110 or 410 for telecommunications and film majors.

A creative writing workshop in screenwriting with emphasis on the feature film. Continuation of English 577. Includes playwriting and revising a television script or short film. Maximum credit six units.

588. Playwriting: The One-Act Play (3)

Prerequisite: English 578 or Drama 325.

A creative writing workshop in planning, writing, and revising a one-act play. Selected plays will be submitted to the Drama Department for production in the One-Act Program. May be repeated with new content. Maximum credit six units.

589. Senior Workshop in Creative Writing (3)

Prerequisites: Three units from English 570, 571, 573, 578, or 579; six units from English 580, 581W, 583, 584W, 587, or 588.

Advanced workshop for students who have an extensive background in creative writing, and who wish to prepare a senior project in poetry writing, fiction writing, or other special topics. See Class Schedule for specific content. Maximum credit six units. Not applicable to a master's degree.

596. Selected Topics in English (1-3)

Selected topics in English. May be repeated with new content and approval of instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's or master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

UPPER DIVISION COURSES IN COMPARATIVE LITERATURE

Prerequisite for all 500-level courses: Six units in literature or three units in literature and three units in a related area appropriate to the course in question.

510. Medieval Literature (3)

Representative selections from authors of the Middle Ages.

511. Continental Renaissance (3)

Representative selections from authors of the Renaissance period in continental Europe.

512. Seventeenth and Eighteenth Century European Literature (3)

Selected works by European writers prior to 1800.

513. Nineteenth Century European Literature (3)

Selected works by European writers between 1800 and 1900.

514. Modern European Literature (3)

Selected works by European writers of the twentieth century.

526. Modern Jewish Literature (3)

Prerequisite: Upper division standing.

Selected works by Jewish authors from the last half of the nineteenth century to the present, with emphasis on the Jewish literary tradition in Europe.

530. Topics in Asian Literature (3) I

Specialized study of a selected topic in Asian literature. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

561. Fiction (3)

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

562. Drama (3)

Forms and themes in drama. Focus of course to be set by instructor. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

563. Poetry (3)

A comparative approach to themes and forms in poetry. Focus of course to be set by instructor. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

571. Literary Use of Legend (3)

Literary treatment of such legendary figures as Don Juan, Faust, and Ulysses, in a wide range of literature and genres. See Class Schedule for specific content.

577. Major Individual Authors (3)

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

580. Concepts in Comparative Studies (3)

Basic concepts in comparative studies in literature (e.g., influence, movement, figure, genre, etc.); their validity, usefulness and limitations. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

582. Contemporary Literary Theory (3)

Prerequisite: Six upper division units in literature.

Comparative study of literary theory since Russian formalism and Anglo-American "New Criticism." Emphasis on current developments in Europe and North America.

594. Topics in Literature and the Arts (3) I, II

Prerequisite: Six upper division units in literature or any of the other arts.

Comparative study of literature and other arts such as painting, sculpture, architecture, music, dance and film. See Class Schedule for specific content. Maximum credit six units applicable to the M.F.A. in creative writing.

595. Literature and Aesthetics (3) I, II

Prerequisite: Six upper division units in literature or any of the other arts.

Theoretical and experiential investigation of relationships between literature and the other arts; literary works in context of an inquiry into aesthetics.

596. Topics in Comparative Literature (3)

An intensive study of a topic to be selected by the instructor. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

GRADUATE COURSES IN ENGLISH

600. Introduction to Graduate Study (3)

Prerequisite: Twelve upper division units in English.

Introduction to research methods and critical approaches common in the graduate study of literature and expository writing, with attention to basic reference works, bibliographical techniques, analytical strategies, scholarly frames of reference, and pedagogy. Recommended for first semester graduate students.

601. Literary Study in a Multicultural World (3)

Prerequisite: Credit or concurrent registration in English 600.

Relationship of literature to gender, race, class, and nationality. Changing conceptions of literary canons. Exploration, through literary texts, of values in literature and the constituents of literary value.

602. Literary Theory and Critical Practice (3)

Prerequisite: Credit or concurrent registration in English 600.

Major issues in the history of literary criticism as well as contemporary approaches. Study of criticism and theory accompanied by writing practicum. Students will write in several critical modes and build graduate level proficiency in analyzing literary issues. Prerequisite to 700-level seminars.

604. A Literary Period or Movement (3)

Prerequisites: An appropriate upper division or graduate level background course; credit or concurrent registration in English 600.

Advanced study, through its literature, of a literary period such as the Renaissance, or a movement such as American modernism. May be repeated with new content. Maximum credit six units. (Formerly numbered English 710.)

A. American Literary Period or Movement

B. British Literary Period or Movement

C. Comparative Literature Literary Period or Movement

606. A Literary Type (3)

Prerequisite: Credit or concurrent registration in English 600.

Advanced study of a specific literary genre, such as the novel, tragic drama, lyric poetry, the personal essay, autobiography. May be repeated with new content. Maximum credit six units. (Formerly numbered English 730.)

A. American Literary Type

B. British Literary Type

C. Comparative Literature Literary Type

624. British Literature (3)

Prerequisite: Twelve upper division units in English.

Selected works of an author, period, or subject in English literature. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

625. American Literature (3)

Prerequisite: Twelve upper division units in English, with courses in American literature strongly recommended.

Selected works of an author, period, or subject in American literature. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

626. Comparative Literature (3)

Prerequisite: Twelve upper division units in English, comparative literature, or a foreign language literature.

Comparative approaches to literature: study of a theme, geographical region, external relationship, or of selected authors. May be repeated with new content. Maximum credit six units.

630. Form and Theory of Poetry (3)

Prerequisite: Twelve upper division units in English.

Poetry as a literary form. May be repeated with new content. Maximum credit six units applicable to an M.F.A. degree in creative writing.

631. Form and Theory of Fiction (3)

Prerequisite: Twelve upper division units in English.

Fiction as a literary form. May be repeated with new content. Maximum credit six units applicable to an M.F.A. degree in creative writing.

680. Poetry Writing (3)

Prerequisites: English 580 and at least 12 units in upper division and graduate English courses. Strongly recommended: English 570 and/or 630.

Writing original poetry; guided practice in various forms and techniques. May be repeated with new content. Maximum credit six units applicable to a master's degree.

681. Fiction Writing (3)

Prerequisites: English 581W and at least 12 units in upper division and graduate English courses. Strongly recommended: English 571, 578, and/or 631.

Writing original fiction. Students may emphasize short story, novel, or a combination. Guided practice in narrative techniques. May be repeated with new content. Maximum credit six units applicable to a master's degree.

689. Advanced Tutorial in Creative Writing (3)

Prerequisite: English 680 or 681.

Class sessions and individual consultations in creative writing. May be repeated with new content. Maximum credit six units applicable to a master's degree.

696. Special Topics (3)

Prerequisite: Twelve upper division units in English.

Intensive study in specific areas of English. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 526, 549, or 696 applicable to a 30-unit master's degree.

700. Seminar: A Major Author or Authors (3)

Prerequisites: English 600 and 602.

Critical study of a major author or authors such as Shakespeare, Emily Dickinson, Charles Dickens, Virginia Woolf, Edith Wharton, Marcel Proust, and others. May be repeated with new content. Maximum credit six units.

709. Seminar in Teaching of Creative Writing (3)

Prerequisite: English 509.

Techniques for teaching and evaluation of written work in major genres, focusing on fiction and poetry. Theories of creativity and major genres.

724. Seminar: Issues in British Literature (3)

Prerequisites: English 600 and 602.

Advanced study of issues within the development of the novel in Great Britain colonial literatures in English, the British lyrical tradition and others. May be repeated with new content. Maximum credit six units.

725. Seminar: Issues in American Literature (3)

Prerequisites: English 600 and 602.

Advanced study of such issues in regionalism, ethnicity, the urban experience, gender, the political novel in American literature. May be repeated with new content. Maximum credit six units.

726. Seminar: Issues in Comparative Literature (3)

Prerequisites: At least two courses selected from English 600, 601, and 602.

Advanced study of an issue such as translation, negritude, poetic language, or literature and censorship. May be repeated with new content. Maximum credit six units.

730. Seminar: Perspectives in Critical Analysis (3)

Prerequisites: English 600 and 602.

Advanced study of analytical perspectives such as contemporary literary theory, feminist poetics, canon and exclusion, literature and other arts, literature and other disciplines.

741. Seminar in Classical Rhetoric and Composition (3)

Selected major works on rhetoric, from antiquity to the nineteenth century. Relationship between the rhetorical tradition and modern approaches to the teaching of writing and literature.

742. Seminar in Modern Rhetoric and Composition (3)

Twentieth century rhetoric: composition theory, reading theory, psycholinguistics, sociolinguistics, language philosophy, and literary theory. Relationship between rhetorical theory and modern approaches to teaching of writing and literature.

744. Seminar: Issues in Rhetorical Theory and Practice (3)

Prerequisites: English 600 and 602.

Problems in the teaching of rhetoric and writing, both practical and theoretical. Advanced study of topics such as teaching practices, genres, stylistics, or a major figure. May be repeated with new content. Maximum credit six units. (Formerly numbered English 740.)

745. Advanced Seminar: Research Methods in Rhetoric and Writing (3)

Prerequisites: English 741 or 742 and 744.

Research methods and critical approaches common to advanced graduate study of rhetoric and writing, with attention to basic reference works, scholarly journals, bibliographical techniques. Recommended for students planning a thesis within the rhetoric and writing emphasis. (Formerly numbered English 743.)

780. M.F.A. Seminar: Poetry (3)

Prerequisite: English 680; open only to students admitted to M.F.A. in creative writing.

Advanced poetry writing for M.F.A. candidates. Students will be expected to do considerable work on a collection of poems in progress, as well as to participate in critiques of others' work. May be repeated with new content. Maximum credit six units applicable to the M.F.A. degree in creative writing.

781. M.F.A. Seminar: Fiction (3)

Prerequisite: English 681; open only to students admitted to M.F.A. in creative writing.

Fiction writing for M.F.A. candidates. Emphasis on forms of short fiction. May be repeated with new content. Maximum credit six units applicable to the M.F.A. degree in creative writing.

783. M.F.A. Seminar: Novel (3)

Prerequisites: English 583 and 681; open only to students admitted to the M.F.A. in creative writing.

Novel writing for M.F.A. candidates. Students will be expected to do considerable work on a novel in progress, as well as participate in critiques of others' work. May be repeated with new content. Maximum credit six units applicable to the M.F.A. in creative writing.

789. Directed Writing for M.F.A. Students (3)

Prerequisite: English 780, or 781, or 783 and advancement to candidacy for the M.F.A. in creative writing.

Directed, individual practice in a particular genre or problem in writing with emphasis on critical evaluations and revision within problem areas of the students' work.

796. Internship (3) Cr/NC

Prerequisites: Advancement to candidacy for the Masters of Arts degree in English and comparative literature or admission to the Master of Fine Arts program and consent of the graduate adviser and supervising professor.

Work experience with a practicing professional or company in the community, such as working as editorial assistant or teacher intern.

797. Thesis Research (3)

Prerequisite: Advancement to candidacy in the M.F.A. degree in creative writing.

Independent work in general field of candidate's thesis project.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

Family Studies and Consumer Sciences

OFFICE: Professional Studies and Fine Arts 431
TELEPHONE: (619) 594-5380

In the College of Professional Studies and Fine Arts

Preprofessional Practice Program in Dietetics (AP4) is approved by the American Dietetics Association.

Faculty

Carolyn K. Balkwell, Ph.D., Professor of Family Studies and Consumer Sciences
Francine Deutsch, Ph.D., Professor of Family Studies and Consumer Sciences
Ronald V. Josephson, Ph.D., Professor of Family Studies and Consumer Sciences
Helen Warren Ross, Ph.D., Professor of Family Studies and Consumer Sciences (Graduate Adviser, Child Development)
Audrey A. Spindler, Ph.D., R.D., Professor of Family Studies and Consumer Sciences (Graduate Adviser, Nutritional Sciences)
Jane L. Hoover-Plow, Ph.D., R.D., Associate Professor of Family Studies and Consumer Sciences
Kathleen F. Mikitka, Ph.D., Associate Professor of Family Studies and Consumer Sciences
Jill R. Ellis, Ph.D., R.D., Assistant Professor of Family Studies and Consumer Sciences
Michael J. Kelley, Ph.D., R.D., Assistant Professor of Family Studies and Consumer Sciences
Rebecca J. Matheny, Ph.D., R.D., Assistant Professor of Family Studies and Consumer Sciences
Nancy K. Murray, Ph.D., Assistant Professor of Family Studies and Consumer Sciences

Assistantships

Graduate teaching assistantships and graduate assistantships in child development and nutritional sciences are available to a limited number of qualified students. Application forms and additional information may be obtained from the School of Family Studies and Consumer Sciences.

General Information

Family Studies and Consumer Sciences, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Science degree in child development and the Master of Science degree in nutritional sciences. A limited number of graduate assistantships, primarily to aid instruction of the upper division, undergraduate laboratory courses, and to facilitate faculty research efforts are available.

Master of Science Degree in Child Development

General Information

For information regarding graduate coursework and research experience leading to a Master of Science degree in child development, contact the adviser, Dr. Helen W. Ross. The general

program of study may include coursework in life-span development, early intervention, administration and program evaluation for human development services, and family violence with research directed toward one of those areas. The school provides opportunities to conduct research under the supervision of the graduate faculty who work with programs that affect multicultural populations such as African-American, American Indian, Asian, and Hispanic families, children in foster care, special needs and gifted children, victims of child abuse, abusive parents, and the homeless. In addition, the Interdisciplinary Training Program on Early Intervention offers students field practice with transdisciplinary teams in hospitals, schools, and agency settings. Other field experience programs offer students supervised work in community agencies, children's programs, and the Associated Students' Campus Children's Center. The School's Child Study Center, Mark Whitney, Director, focuses on undergraduate and graduate training and research by providing programs to children between eighteen months to five years of age from culturally diverse families. Special programs, such as **Art and Music Experiences for Children**, often extend service through the summer and allow for creative collaboration across disciplines. All children's programs are mainstreamed and a wide range of special needs and at-risk populations are served by collaborative efforts with San Diego City and La Mesa Spring Valley School Districts.

Graduates with the M.S. degree in child development can continue their education for the doctoral degree in human development or a related field or are employed as administrators, coordinators, or service providers of diverse community programs that include child care, employer sponsored day care, battered women's shelters, foster care, drug rehabilitation, hospice centers, administrative program evaluators, children's social workers, case managers, child life specialists, family life specialists, and community college instructors.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing as described in Part Two of this bulletin. In addition, students must have bachelor's degrees in child development or related fields, and satisfy the prerequisites of the courses selected. If students' undergraduate preparation is deemed insufficient, students will be required to complete specified courses in addition to the minimum of 30 units required for the master's degree in child development. Student must have a grade point average of 3.0 in the last 60 semester units attempted, and a minimum score of 950 on the GRE General Test (combined verbal and quantitative), on the GRE General Test to the graduate adviser stating reasons for choosing graduate work at San Diego State University, professional goals, special interests in the discipline, and background preparation. Students must be recommended for admission by graduate faculty of Family Studies and Consumer Sciences and approved by the Dean of the Graduate Division and Research.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin, have identified a thesis research adviser, taken FSCS 790 with a grade of B or better, and have had their research proposals approved by their committees.

Specific Requirements for the Master of Science Degree in Child Development

(Major Code: 08231)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, students must complete a graduate program of at least 30 units including at least 21 units from courses listed as acceptable to master's degree programs in child development. At least 18 units must be in 600- and 700-numbered courses.

Students must complete a core sequence of four courses: Family Studies and Consumer Sciences 670, 671, 790 and Psychology 570 or Public Health 602. Recommended electives to be approved by the program adviser include Family Studies and Consumer Sciences 536, 537, 570, 577, 578, 579, 590, 596, 631, 637, 697. All students will be expected to include Family Studies and Consumer Sciences 799A, Thesis.

Master of Science Degree in Nutritional Sciences

General Information

For information regarding graduate coursework and research experience leading to a Master of Science degree in nutritional sciences, contact the adviser, Dr. Ronald V. Josephson, or the Department of Physical Education. The general program of study may include coursework in nutrition or food science. Thesis research in nutrition may be conducted using human subjects or experimental animals. Research activity of the faculty currently includes: nutritional status of children, elders, and ethnic groups; metabolic studies on cholesterol, Vitamin B-6, and energy balance; and factors affecting human lactation, body composition and obesity, athletic performance and fitness, composition of human milk and composition and stability of foods. Laboratories, including animal facilities and equipment, at SDSU support research conducted under the direct supervision of the nutritional sciences graduate faculty. In addition, students may conduct research at other facilities in the community in conjunction with collaborative studies pursued by nutritional sciences faculty and researchers at other institutions in San Diego.

Graduates with the M.S. degree in nutritional sciences are employed as clinical and administrative dietitians, administrators or service providers of community nutrition programs, food service supervisors, and community college educators, as well as, in administrative, research, or quality control positions within industry and government.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the university with classified graduate standing as described in Part Two of this bulletin. In addition, students must have bachelor's degrees in foods and nutrition or related fields and satisfy the prerequisites of the courses selected. A course in

computer and data processing (e.g., FSCS 207 or equivalent) taken as a part of the student's undergraduate work or demonstrated proof of competency in computers and data processing, as approved by the nutrition graduate adviser, is required as a prerequisite to taking program coursework. If students' undergraduate preparation is deemed insufficient, students will be required to complete specified courses in addition to the minimum of 30 units required for the master's degree in nutritional sciences. Students must have a grade point average of 3.0 in the last 60 semester units attempted, and a minimum score of 950 and not less than 450 on either verbal or quantitative on the GRE General Test. Applicants must submit letters stating reasons for choosing graduate work at San Diego State University, professional goals, special interests in the discipline, and background preparation. Students must be recommended for admission by faculty of Family Studies and Consumer Sciences and approved by the Dean of the Graduate Division and Research.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin, have identified a thesis research adviser, taken FSCS 790 with a grade of B or better, and have had their research proposals approved by their committees.

Specific Requirements for the Master of Science Degree in Nutritional Sciences

(Major Code: 13061)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units including at least 21 units from courses listed as acceptable to the master's degree program in nutritional sciences. At least 18 units must be in 600- and 700-numbered courses.

Required courses include six units selected from Family Studies and Consumer Sciences 606, 607, 608, 609, 610; three units selected from Family Studies and Consumer Sciences 600 and 700; Family Studies and Consumer Sciences 790; one unit of Family Studies and Consumer Sciences 791 and a graduate course in statistics with the approval of the graduate adviser. All course selections for the graduate program must be approved by the nutritional sciences graduate adviser.

In Plan A, all students will include Family Studies and Consumer Sciences 799A, Thesis.

In Plan B, students will (a) pass a comprehensive examination; and (b) complete Family Studies and Consumer Sciences 797, Research. Reservations must be made six weeks in advance of the examination, which is given mid-semester.

The AP4, a post-baccalaureate certificate program, administered by SDSU's College of Extended Studies in collaboration with the School of Family Studies and Consumer Sciences, is approved by the American Dietetic Association (ADA) and provides the supervised practice hours required to meet the performance criteria of entry-level dietitians. Those who successfully complete this program will be eligible to sit for the ADA Registration Examination – the third and final step towards becoming a Registered Dietitian, and an active member of ADA.

Students may be concurrently enrolled in the Graduate Program in Nutritional Sciences at SDSU, but must apply separately for admission to the Graduate School.

Courses Acceptable on Master's Degree Programs in Child Development and Nutritional Sciences

UPPER DIVISION COURSES

510. Nutrition and Community Health (3)

Two lectures and three hours of activity.

Prerequisites: Family Studies and Consumer Sciences 302 and 302L.

Nutritional problems in the community with consideration of their resolution. Field placement experience required.

536. Family Study (3)

Prerequisites: Family Studies and Consumer Sciences 335 and Sociology 101.

Dynamics of family living; attitudes, practices, social and psychological interaction and family life patterns in different cultures, social classes and ethnic groups.

537. Child Abuse (3)

Prerequisite: Family Studies and Consumer Sciences 437 for majors; completion of the General Education requirement in Explorations for non-majors; consent of instructor for graduate students.

A multidisciplinary approach to child abuse including study of child maltreatment and mistreatment, child neglect, and sexual abuse.

570. Infant/Toddler Development (3) I

Prerequisites: Family Studies and Consumer Sciences 270 or Psychology 330. Recommended: Biology 350 and Psychology 260. **Proof of completion of prerequisite required:** Grade report or copy of transcript.

Physiological, psychological, social and cultural development of the human organism from birth through three years of age.

577. Advanced Administration of Child Development Programs (3) II

Prerequisite: Family Studies and Consumer Sciences 477. **Proof of completion of prerequisite required:** Grade report or copy of transcript.

Problems of organization in conducting programs for young children; interrelationships of staff; personnel practices; communication with teaching staff, parents, and community; records and reports.

578. Parent-Child Relationships Across the Life Span (3) II

Prerequisites: Family Studies and Consumer Sciences 335 and 370.

Multidisciplinary approach to the parent-child relationship as it continues and changes throughout the life of the dyad, including study of normative and nonnormative life events.

579. Advanced Child Study (3)

Prerequisite: Nine units in child development courses.

Physical, social, and psychological factors that determine the direction of child behavior. Readings and interpretations of scientific literature that contribute to an understanding of theories of human development.

580. Program Evaluation for Human Development Services (3)

Prerequisite: Twelve units in the child development major.

Principles of human development services program evaluation to enhance management and the quality of services to children and their families.

590. Developmental Dysfunctions (3)

Prerequisites: Family Studies and Consumer Sciences 270 or Psychology 330, and twelve upper division units in family studies and consumer sciences for majors; completion of General Education requirement in Explorations for non-majors; consent of instructor for graduate students. **Proof of completion of prerequisite required:** Grade report or copy of transcript.

Adaptive and maladaptive processes throughout the life span with emphasis on emotional, psychological, and physical childhood disorders. Etiology, development, and adjustment to these disorders.

596. Advanced Studies in Family Studies and Consumer Sciences (1-6)

Prerequisite: Nine upper division units in family studies and consumer sciences.

Advanced study of selected topics. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of nine units of 596. No more than six units of 596 may be applied to either the bachelor's or master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

597. Child Development and Family Studies Field Experiences (1) I, II

Prerequisites: Twelve units in the child development major and concurrent registration in Family Studies and Consumer Sciences 597L.

Developmental theories and techniques in child development. (Formerly numbered Family Studies and Consumer Sciences 439.)

597L. Child Development and Family Studies Field Experiences Laboratory (2) I, II

Prerequisites: Twelve units in the child development major and concurrent registration in Family Studies and Consumer Sciences 597.

Directed experiences in the practical application of developmental theories and techniques in various community agencies. (Formerly numbered Family Studies and Consumer Sciences 439.)

GRADUATE COURSES

697. Advanced Field Experiences (3) Cr/NC

Prerequisite: Family Studies and Consumer Sciences 670 or 671.

Advanced application of human developmental theories and techniques in various community settings. (Formerly numbered Family Studies and Consumer Sciences 576.)

790. Research Methods (3)

Prerequisite: Approval of graduate program adviser.

Analysis of research in the area of family studies and consumer sciences; criteria and procedures for conducting research.

791. Research Colloquium (1)

Prerequisite: Consent of graduate faculty.
Discussion of current research by students, faculty and visiting scientists. Each student will participate and presentations will be based on current literature and research projects. Maximum credit three units applicable to a master's degree.

797. Research (3) Cr/NC/SP

Prerequisites: Family Studies and Consumer Sciences 790 and approval of graduate program adviser.

Research in one of the areas of family studies and consumer sciences. Completion of Plan B project.

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

Prerequisite: Consent of staff; to be arranged with the director and instructor and approval of graduate program adviser.

Individual study. Maximum credit six units applicable to a master's degree.

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

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

Preparation of a thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC

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

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

CHILD DEVELOPMENT

631. Family Life and Sex Education (3)

Prerequisite: Six upper division units in child development and family relations.

Content, resources and alternative methods of presentation of family life and sex education for schools, colleges, churches and social agencies.

637. Child Sexual Abuse (3)

Prerequisite: Family Studies and Consumer Sciences 537.

Theory and method of child sexual abuse from ecological, societal, familial, developmental, and intrapersonal perspectives. Study of social policy and prevention.

670. Seminar: Child Development and Guidance (3)

Prerequisite: Six upper division units in family studies and consumer sciences.

Emphasis on personality theories and on research and clinical findings relevant to systematic study of human development and the guidance of children.

671. Seminar in Advanced Readings in Human Development (3)

Prerequisite: Six upper division units in family studies and consumer sciences.

Analysis of selected research in human development.

NUTRITIONAL SCIENCES

600. Seminar: Foods and Nutrition (3)

Prerequisites: Family Studies and Consumer Sciences 301 and 302.

Introductory seminar of research and research publications in foods and nutrition.

606. Physiological Bases of Diet Therapy (3)

Prerequisite: Family Studies and Consumer Sciences 406. Recommended: Chemistry 361B or 560B.

Dietary modifications, adjunct to medical treatment, used to prevent and alleviate the biochemical and physiological symptoms of disease.

607. Child Nutrition (3)

Prerequisite: Family Studies and Consumer Sciences 302.

Nutrition, health, and biochemical growth in children. Conditions leading to malnutrition, prevention, and correction.

608. Geriatric Nutrition (3)

Prerequisite: Family Studies and Consumer Sciences 302.

Biomedical and psychosocial aspects of aging that affect food habits, nutritional status, and nutrient needs of elders.

609. Advanced Studies: Food Proteins (3)

Prerequisites: Family Studies and Consumer Sciences 302 and 405.

Availability, composition, structure, and physical chemical properties of conventional and new food proteins and protein-based products; methods of analysis; nutrition evaluation; processing-induced changes; and food project functionality.

610. Nutrition and Energy (3)

Prerequisites: Family Studies and Consumer Sciences 302 and 309.

Methods for measurement of energy intake and expenditure assessment, factors which control food intake and energy expenditure, and examination of normal and specialized needs of energy requirements.

700. Seminar in Nutrition (3)

Prerequisite: Family Studies and Consumer Sciences 302.

Reading and analyses of basic and applied research in nutrition.

French

In the College of Arts and Letters

OFFICE: Business Administration 304

TELEPHONE: (619) 594-6491

Faculty

Edith J. Benkov, Ph.D., Associate Professor of French, Chair of Department

Alvord G. Branan, Ph.D., Professor of French

Thomas J. Cox, Ph.D., Professor of French

Laurie D. Edson, Ph.D., Professor of French

Janis M. Glasgow, Ph.D., Professor of French (Graduate Adviser)

James L. Schorr, Ph.D., Professor of French

JoAnne Cornwell, Ph.D., Associate Professor of French

Assistantships

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

General Information

The Department of French and Italian Languages and Literatures, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in French.

Research areas of the graduate faculty cover all periods of French literature as well as French linguistics. In particular, the department includes specialists on Louise Labé, Racine, Justus van Effen, Flora Tristan, George Sand, and in fields such as Romanticism, modern French poetry, theatre, Francophone literature, novel, and applied French linguistics. The library collection provides up-to-date research resources - books, periodicals, microfilms and video materials in all of these areas. A foreign language laboratory with modern equipment is available to both undergraduate and graduate students.

Admission to Graduate Study

The student must satisfy the general requirements for admission to the University with classified standing, as described in Part Two of this bulletin. In addition, the student must satisfy the following requirements: (1) an undergraduate major in French, or its equivalent, including 24 upper division units, at least six 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; (4) a score of 500 on the verbal section and 450 on the quantitative section of the Graduate Record Examination (GRE) General Test.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as stated in Part Two of this bulletin, and students will be required to pass a qualifying examination in French given by the Department of French and Italian.

Specific Requirements for the Master of Arts Degree

(Major Code: 11021)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units which includes a major consisting of at least 24 units in French, of which at least 18 units must be in 600- and 700-numbered courses in French, including French 799A, Thesis, for those following Plan A.

Students, with the consent of the graduate adviser, may elect Plan A, which includes French 799A, Thesis (minimum GPA 3.6), or Plan B, which includes written and oral examinations in lieu of the thesis.

Courses Acceptable on Master's Degree Programs in French

Related courses (500 and graduate level) in other departments may be taken for a total of six units credit with prior approval of the graduate adviser.

UPPER DIVISION COURSES

501. Translation (3)

Prerequisite: French 302.

Stylistic comparison of French and English through translation of a variety of prose styles from English to French and from French to English.

521. Seventeenth Century French Literature (3)

Prerequisites: French 302 and either 305A or 305B.

Major authors of the seventeenth century.

531. Eighteenth Century French Literature (3)

Prerequisites: French 302 and either 305A or 305B.

Major eighteenth century writers of fiction, with emphasis on Voltaire, Diderot and Rousseau.

541. Nineteenth Century French Novel (3)

Prerequisites: French 302 and either 305A or 305B.

Major novelists of the nineteenth century.

543. Modern French Theatre (3)

Prerequisites: French 302 and either 305A or 305B.

Major dramatists of modern France.

545. Modern French Poetry (3)

Prerequisites: French 302 and either 305A or 305B.

Representative French poets of the modern era.

551. Twentieth Century French Novel (3)

Prerequisites: French 302 and either 305A or 305B.

Major French novelists of the twentieth century.

560. Applied French Linguistics (3)

Prerequisites: French 302 and 304.

Phonemics, morphemics, syntax and semantics of present day French. Taught in English.

561. Methods in Teaching French as a Second Language (3)

Prerequisite: French 560.
Teaching of French as a second language; contemporary theory and methods. Not open to students with credit or concurrent enrollment in Spanish 561. Taught in English.

596. Topics in French Studies (1-4)

Prerequisite: French 302.
Topics in French language, literature, and linguistics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of nine units of 596. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

621. Critical Methods (3)

Prerequisite: Eighteen upper division units in French.
Methods and theories of critical analysis and their application to the works of a major French author or literary genre.

696. Topics in French Studies (3)

Prerequisite: Eighteen upper division units in French.
Intensive study in specific areas of French. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

701. Seminar in Medieval French (3)

Prerequisite: Eighteen upper division units in French.
Directed research in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

711. Seminar in Literature of the French Renaissance (3)

Prerequisite: Eighteen upper division units in French.
Directed research in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

721. Seminar in Seventeenth Century French Literature (3)

Prerequisite: Eighteen upper division units in French.
Directed research in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

731. Seminar in Eighteenth Century French Literature (3)

Prerequisite: Eighteen upper division units in French.
Directed research in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

741. Seminar in Nineteenth Century French Literature (3)

Prerequisite: Eighteen upper division units in French.
Directed research in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

751. Seminar in Twentieth Century French Literature (3)

Prerequisite: Eighteen units of upper division French.
Directed research in the works of a representative author, genre or movement. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

761. Seminar in Francophone Literatures (3)

Prerequisite: Eighteen units of upper division French.
Works by noncontinental French authors. Connections among literature, politics, and cultural identity. Critical responses examined in terms of their cultural relativity and relationship to French literary tradition. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

Prerequisites: Advancement to candidacy and approval of graduate adviser.
Individual study. Maximum credit three units applicable to a master's degree.

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC

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

OFFICE: Storm Hall 323
TELEPHONE: (619) 594-5437

Faculty

Douglas A. Stow, Ph.D., Professor of Geography, Chair of Department
Lawrence R. Ford, Ph.D., Professor of Geography
Barbara E. Fredrich, Ph.D., Professor of Geography
Arthur Getis, Ph.D., Professor of Geography, The Stephen and Mary Birch Foundation Chair in Geographical Studies
Ned H. Greenwood, Ph.D., Professor of Geography
Ernst C. Griffin, Ph.D., Professor of Geography, Doctoral Program Coordinator
Warren A. Johnson, Ph.D., Professor of Geography
David S. McArthur, Ph.D., Professor of Geography
Bob R. O'Brien, Ph.D., Professor of Geography
Philip R. Pryde, Ph.D., Professor of Geography
Imre E. Quastler, Ph.D., Professor of Geography
Frederick P. Stutz, Ph.D., Professor of Geography
John R. Weeks, Ph.D., Professor of Geography
Richard D. Wright, Ph.D., Professor of Geography
Edward Aguado, Ph.D., Associate Professor of Geography (M.A. Program Coordinator)
Stuart C. Aitken, Ph.D., Associate Professor of Geography
Janet Franklin, Ph.D., Associate Professor of Geography
Allen S. Hope, Ph.D., Associate Professor of Geography
John F. O'Leary, Ph.D., Associate Professor of Geography
Cynthia A. Brewer, Ph.D., Assistant Professor of Geography

The Stephen and Mary Birch Foundation Chair in Geographical Studies

The Stephen and Mary Birch Foundation Chair in Geographical Studies was created through the Birch Foundation's grant to the Geography Department to endow a chair and create a Center for Earth Systems Analysis Research. Dr. Arthur Getis, internationally recognized for his expertise in spatial pattern analysis, spatial statistics, urban structure, and spatial modelling, is the occupant of the Chair.

Assistantships

Approximately 30 graduate teaching assistantships and graduate research assistantships in geography are available to highly qualified students. Applications and additional information may be secured from the department. The deadline for submitting applications for teaching assistantships or research assistantships is March 15 for the Master of Arts degree and February 1 for the Doctor of Philosophy degree. Applications for assistantships must include transcripts, three letters of recommendation, and Graduate Record Examination (GRE) scores.

General Information

The Department of Geography, in the College of Arts and Letters, offers graduate study leading to the Master of Arts and Doctor of Philosophy degrees in geography. In addition to the general M.A. program, it is possible to pursue a concentration in either resources and environmental quality or transportation.

Geography

In the College of Arts and Letters

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.

The Doctor of Philosophy degree, offered jointly with the University of California, Santa Barbara, provides advanced training for research and teaching at the highest academic level.

Research and instructional facilities provided by the Department of Geography include an excellent map library, the Stephen and Mary Birch Center for Earth Systems Analysis Research (CESAR), a state-of-the-art image processing/GIS center, laboratories for physical geography, soils, cartography, meteorology, and remote sensing and aerial interpretation and equipment for field studies. The Social Science Research Laboratory provides specialized data collections in the social sciences and a well equipped data processing center.

Section I. Master's Degree Program

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified standing as described in Part Two of this bulletin. Normally to be considered for admission to graduate study, the department requires a minimum grade point average of 3.0 in the last sixty units taken as an undergraduate and a minimum combined score of 1000 on the verbal and quantitative sections of the Graduate Record Examination (GRE). Candidates whose preparation is deemed insufficient by the master's program 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 candidacy, as stated in Part Two of this bulletin. In addition, the student must submit a written thesis proposal to the department and make an oral defense of the approved proposal to the department.

Specific Requirements for the Master of Arts Degree

(Major Code: 22061)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units of upper division and graduate courses selected with the approval of the Graduate Advising Committee. The student may choose from the General Program, the Concentration in Resources and Environmental Quality, or the Concentration in Transportation.

General Program

The requirements for students electing the general program are as follows:

1. A minimum of 30 units of courses numbered 500 or above as approved by the geography department graduate advising committee. At least 24 of these units must be from the geography department.
2. A minimum of 18 of the 30 units of coursework must be 600- or 700-level courses.
3. Geography 700 and 701, normally taken during the first two semesters.
4. Completion of Geography 799A (Thesis) under Plan A.

Concentration in Resources and Environmental Quality

The requirements for students electing a concentration in resources and environmental quality are as follows:

1. A minimum of 30 units of which not more than six may be in disciplines other than geography.
2. A minimum of 18 units of 600- and 700-numbered courses, to include Geography 670, 700, 701, 770, 799A, and three units from courses numbered Geography 581-589 or 682-689.

Concentration in Transportation

The requirements for students electing a concentration in transportation are as follows:

1. A minimum of 30 units including 15 units of 600- and 700-numbered courses.
2. Geography 658, 700, 701, and at least nine additional units to be taken from 500- and 600-level geography courses, as approved by the graduate advising committee.
3. At least six units selected from:
 - Civil Engineering 620 Traffic Engineering (3)
 - Civil Engineering 622 Mass Transit Engineering (3)
 - Civil Engineering 781 Seminar in Transportation Engineering (2 or 3)
 - City Planning 730 Seminar in Urban Transportation Planning (3)
 - Geography 798 Special Study (3) Cr/NC/SP

Graduate or 500-level courses in other departments that are not listed above may be taken if approved by the graduate advising committee.

4. Geography 595 Geographic Internship (3) (Must be in approved transportation activity.)
5. Geography 799A Thesis (3) Cr/NC/SP.
6. A student should have completed a quantitative methods course prior to initiating the program, or take Geography 585, Quantitative Methods in Geographic Research(3), concurrently.

Section II. Doctoral Program

The cooperating faculties of the Department of Geography at the University of California, Santa Barbara, and at San Diego State University offer a joint doctoral program in geography. The research interests of the participating faculty members cover a range of geographic problems. The joint doctoral program offers work leading to the Ph.D. in the following systematic areas

(Group A) with supporting development of skills in spatial techniques (Group B) as follows:

Systematic Areas - Group A**Human Geography**

Spatial behavior
Urban and regional modeling
Comparative urbanization
Urban structure and transportation

Environmental Geography

Natural resources management and policy

Physical Geography

Biogeography
Physical climatology and hydroclimatology
Coastal processes

Spatial Techniques - Group B

Remote Sensing and Image Processing
Geographic Information Systems and Computer Cartography
Spatial Analysis

Each student's program is designed around one of the areas selected from Group A and at least one of the technique emphases selected from Group B. The main regional foci are problems of Latin America, Western Europe, Australia-New Zealand, USSR, the Pacific Rim, Mexico-U.S. borderlands, and arid lands. Students must attain the requisite skills in programming, statistics, mathematics, and foreign language necessary to successfully pursue their research goals.

Admission to Doctoral Study.

Applicants for admission to the doctoral program in geography offered jointly by SDSU and UCSB must meet the general requirements for admission to both universities with classified graduate standing as outlined in the respective current catalogs. There are no inflexible requirements for entrance to graduate study in this program, but a strong background in geography or a closely related field is essential. Admission to the program requires acceptance by the graduate deans and by the participating departments at UCSB and SDSU. Applications from outstanding students in other majors are encouraged, but such students should expect to take additional courses during their first year to improve their background. All students entering the program should have completed a lower and upper division statistics course and the appropriate mathematics and computer science courses for the specialty chosen.

APPLICATIONS MUST BE RECEIVED BY THE DEPARTMENT OF GEOGRAPHY NOT LATER THAN FEBRUARY 1 FOR THE PH.D. PROGRAM.

Application. Students seeking admission to the joint doctoral program in geography should write directly to the Doctoral Program Coordinator, Department of Geography, requesting application materials. A complete application requires that the following information be provided:

- The appropriate application form.
- Transcripts of academic work already completed.
- Graduate Record Examination scores.
- Three letters of recommendation.
- An essay describing the applicant's purpose in seeking the Ph.D.

A high undergraduate grade point average, normally 3.25 or higher for the last 60 units taken (90 quarter units), and/or a graduate grade point average of 3.50 or higher are required for admission. A minimum combined score of 1100 on the GRE is expected. Scores on both the verbal and quantitative sections of the GRE should exceed the 50th percentile.

Specific Requirements

Residency Requirements. After formal admission to the joint doctoral program, the student must spend at least one academic year in full-time residence on each of the two campuses. The definition of residence must be in accord with the regulations of UCSB and SDSU. Usually, the first year is spent at SDSU, the second at UCSB, and subsequent years at SDSU.

Advising Committee. Upon admission to the program, the joint doctoral graduate advisers of the two institutions will establish an advising committee for each student. The committee will consist of four faculty members, normally two from each campus, but at least one from UCSB. In consultation with the student, the committee will develop a course of study, including identifying academic deficiencies and recommending remedies for them. The advising committee will be the official advising group for the student until a joint doctoral committee has been chosen and recommended to the Graduate Divisions by the advising committee.

Language Requirement. There is no specific foreign language requirement for this program, but knowledge of a foreign language may be deemed necessary by the advising committee to successfully pursue the student's research goal.

Course Requirements. All students admitted into the joint doctoral program will take common core courses which include: Geography 700 (Seminar in Geographic Research Design) and Geography 701 (Seminar in Development of Geographic Thought). No specified number of courses beyond core courses is required for the doctoral degree. However, students are expected to have a broad understanding of modern geographic principles in addition to a specialist's competence in their own sub-field. In addition, all doctoral students must have computation skills and knowledge of spatial analysis.

Qualifying Examinations

Joint Doctoral Committee. When a doctoral student makes a definitive selection of the systematic area and technique emphasis as well as the general topic of their dissertation research, she/he will select a dissertation supervisor (major professor), who can be from either department but who normally will be a member of the SDSU faculty, and the members of his/her joint doctoral committee. The joint doctoral committee shall be composed of at least four members (with the rank of Assistant Professor or above), two from the SDSU department and two from the UCSB department. The committee may be augmented as needed by an additional member from outside geography at UCSB or a member of the faculty at SDSU from outside of geography or, when authorized, another university. Chaired by the student's major professor, the joint doctoral committee shall be responsible for evaluating the dissertation proposal, administering and evaluating the qualifying examination, judging the dissertation, and administering and evaluating the dissertation defense.

Qualifying Examinations. The process of qualifying to write Ph.D. dissertation has three steps. First, the student must take a written qualifying examination that normally consists of three portions devoted to: 1) the student's substantive area,

2) her or his technical field(s) of interest, and 3) general geographic thought and inquiry. Second, the student prepares a dissertation proposal that describes the dissertation topic, summarizes the relevant background literature, and presents a comprehensive research plan for the dissertation. Third, the student's doctoral committee will conduct an oral qualifying examination to ensure that the student possesses the full knowledge and competence required to carry out her or his dissertation research. The doctoral committee will assign a pass or fail grade for each examination. Passing the written examination allows the student to proceed to the preparation of the dissertation proposal. The doctoral committee must conditionally approve the dissertation proposal before the student takes the oral qualifying examination. Passing the oral examination signifies that the doctoral dissertation proposal is approved. A student may repeat each examination once.

Upon satisfactory completion of the oral examination and prescribed coursework, the student must make application to the Graduate Dean at UCSB for advancement to candidacy. Upon payment of the candidacy fee to UCSB, and after approval by the graduate deans of both campuses, students will be notified of their advancement to candidacy by the UCSB Graduate Dean.

Dissertation. Following the successful completion of all prescribed coursework and qualifying examinations, the major remaining requirement for the Ph.D. degree will be the satisfactory completion of a dissertation consisting of original research of publishable quality carried out under the guidance of the major professor. Approval of the completed dissertation by the joint doctoral committee implies that an organized investigation yielding substantial conclusions of interest which expand the frontiers of knowledge and understanding in the discipline has been carried out. Results must be reported in a manner demonstrating the ability of the candidate to effectively prosecute and report independent investigation.

The requirement for completing and filing the dissertation, including the number of copies required, will be decided jointly by the graduate deans and in accordance with regulations of the Graduate Divisions.

Final Examination. The final examination, organized and administered by the joint doctoral committee, shall consist of a dissertation defense, before the joint doctoral committee. Normally, a public lecture will precede this defense.

Award of the Degree. The Doctor of Philosophy degree in geography will be awarded jointly by the Regents of the University of California and the Trustees of The California State University in the names of both cooperating institutions.

Financial Support. The Department of Geography at SDSU has a number of research and teaching assistantships available to support students admitted to the joint doctoral program. All students applying to admission to the joint doctoral program will be considered for financial support.

Courses Acceptable on Master's and Doctoral Degree Programs in Geography**UPPER DIVISION COURSES****504. Coastal and Submarine Physiography (3)**

Prerequisite: Geography 378 or 401.

Analysis of marine waves, of their modification in shallow waters, of coastal currents and tides. Interpretation of coastal and submarine relief in relation to environmental processes and their modification by man. Field trips may be arranged.

505. Geography of Soils (3) II

Prerequisite: Geography 101.

The nature, properties and distribution of soils and their relationships to the influence of climates, landforms, and human activity. Field trips may be arranged.

507. Geography of Natural Vegetation (3) I, II

Prerequisite: Geography 101.

The natural vegetation associations of the world, their distribution, classification and development, including relationship to human activities. Field trips may be arranged.

508. Physical Climatology (3) I

Prerequisites: Geography 103; Mathematics 121 or 150, or 155 or 156.

Physical processes of energy transfer to and from the atmosphere. Solar and thermal radiation, turbulent heat transfer, soil heat transfer, global distributions of energy balance components, and bioclimatology.

509. Regional Climatology (3) II

Prerequisite: Geography 103.

The causes of climatic types as they occur throughout the world. Principles of several climatic classifications.

510. Advanced Meteorology (3) II

Prerequisites: Geography 103; Mathematics 121 or 150, or 155 or 156.

Physical characteristics of the atmosphere including thermodynamics, moisture and condensation, atmospheric aerosol, and cloud processes.

511. Hydroclimatology (3)

Prerequisites: Geography 101 or 103; Mathematics 121 or 150, or 155 or 156; Physics 180A or 195.

Hydrologic cycle, energy and mass fluxes from the earth to the atmosphere and land-atmosphere interactions. Agricultural and hydrologic significance of spatial variability of energy and mass fluxes.

545. Arid Lands (3)

Prerequisites: Geography 101 and 370; Biology 100 or 201.

Physical geography and human use of arid lands. Traditional and modern land use systems in context of technological and economic development. Environmental and social impacts of development including desertification.

554. World Cities: Comparative Approaches to Urbanization (3) II

Prerequisite: Geography 354.

Worldwide trends in urbanization. Case studies of selected cities from various culture areas with focus on international variations in city structure and urban problems.

555. Historic Preservation and Urban Design (3)

Prerequisite: Geography 102.

Processes of growth and change in cities. Techniques of preserving, renovating, rehabilitating, and recycling valued buildings and neighborhoods. International comparisons of preservation policies and practices and analyses of urban patterns resulting from them.

556. Location and Spatial Structure of Cities (3)

Prerequisite: Geography 354 or three units of upper division coursework in a related field.

Principles and characteristics of urban growth and settlement; the internal structure and functioning of urban centers; spatial models of urban land use; growth management, transportation

problems, and sociopolitical urban problems. Field trips may be arranged.

558. Intermediate 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. Field trips may be arranged.

559. Urban Transportation Geography (3)

Prerequisite: Three units of upper division urban or transportation coursework in geography or related field.

Urban transportation networks and their effects, past, present and future, on the economy and physical structure of the urban region. Field trips may be arranged.

560. Environmental Perception and Behavioral Geography (3)

Prerequisite: Geography 102.

Contemporary perceptual and behavioral theories and methods in geography. Problems of empirical research and application in the built and natural environments.

569. Environmental Resource Conservation (3)

Prerequisite: Geography 370.

Management of environmental and natural resources. Effective programs and the institutional frameworks in which they occur.

571. Energy Resources and the Environment (3)

Prerequisite: Geography 370. Recommended: Physics 107 or 301.

Location and distribution of conventional and renewable energy resources, their environmental effects, and policy questions regarding future development and use of energy resources.

572. Land Use Analysis (3)

Prerequisite: Geography 370.

Problems of maintaining environmental quality in the process of land conversion from rural to urban uses with emphasis on land capability and suitability studies. Field trips may be arranged.

573. Geography as Human Ecology (3)

Prerequisite: Geography 370.

Human ecology related to resource geography. Field trips may be arranged.

574. Water Resources (3) I

Prerequisite: Geography 370.

Occurrence and utilization of water resources and the problems of water resource development. Field trips may be arranged.

575. Geography of Recreational Land Use (3) I, II

Prerequisite: Geography 101 or 102.

Importance of location and environment in the use, management, and quality of recreation areas. Field trips may be arranged.

576. Geography of Marine Resources (3)

Prerequisite: Geography 101 or 102.

Spatial distribution, use, and management of marine resources. Field trips may be arranged.

577. Geography of the National Parks (3)

Prerequisite: Geography 370.

Human and land relationships in the national parks of the United States. Emphasis on problems arising from the preservation and use mandate under which parks are managed.

581. Intermediate Cartography (3)

Two lectures and three hours of laboratory.

Prerequisite: A three-unit course on mapping.

Advanced laboratory instruction and practice in cartographic techniques including computer-mapping applications.

582. Automated Cartography (3)

Two lectures and three hours of laboratory.

Prerequisite: Three units from Geography 380, 381, 382, 385, 488, or 585, or in computer programming.

Computerized methods of graphically presenting and analyzing spatial data; examination of existing automated mapping systems.

584. Geographic Information Systems Applications (3) II

Two lectures and three hours of laboratory.

Prerequisite: Geography 484, 582, or 588.

Conceptualization, completion, and implementation of geographic information systems (GIS) at local, regional, national, and global levels. Spatial analysis and modeling with GIS. GIS in planning, management, and research.

585. Quantitative Methods in Geographic Research (3)

Prerequisite: Geography 385.

Application of statistical techniques to geographic research including simple regression and correlation, multiple regression, classification, factor analysis, and computer applications.

588. Intermediate Remote Sensing of Environment (4) II

Three lectures and three hours of laboratory.

Prerequisites: Geography 385 and 488.

Multispectral remote sensor systems and interpretation of imagery from nonphotographic systems. Computer-assisted image processing. Geographic analysis of selected terrestrial, oceanographic, and atmospheric processes.

589. Field Geography (3) II

Two lectures and three hours of laboratory.

Prerequisites: Senior or graduate standing and the completion of at least 12 units in geography, including Geography 101 and 102, and consent of instructor.

Field techniques for data acquisition: interviewing, landscape interpretation, environmental analysis, use of topographic maps, land use mapping, surveying, climatological instrumentation, landform analysis, soil and vegetation sampling.

595. Geographic Internship (3) I, II

Prerequisites: Six upper division units in geography and consent of instructor.

Students will be assigned to various government agencies and industries and will work under the joint supervision of agency heads and the course instructor. Maximum credit three units. (Formerly numbered Geography 795.)

596. Advanced Topics in Geography (1-3)

Prerequisite: Six units in upper division geography.

Advanced special topics in geography. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

604. Coastal Morphodynamics (3)

Prerequisite: Geography 504.

Analysis of ocean waves including shallow water transformations, tides, coastal currents and sediment transport. Geomorphic response to ocean, wind, biotic and human influences.

607. Advanced Geography of Natural Vegetation (3) II

Prerequisites: Geography 385 and 507.

Biotic and abiotic factors influencing plant distributions at various scales. Major global vegetation associations, their distributions, classification and development.

608. Advanced Physical Climatology and Meteorology (3)

Prerequisite: Geography 508 or 510.

Radiation exchange and turbulent heat transfer between the earth's surface and atmosphere. Spatial variations in the energy balance components. Thermodynamics and cloud processes.

611. Advanced Hydroclimatology (3)

Prerequisite: Geography 511.

Processes controlling flows of water through soil-plant-atmosphere system. Spatial variability of evapotranspiration and its calculation including recent developments in biophysical remote sensing and numerical modeling. Relevance to basin hydrology and agriculture.

612L. Physical Geography Laboratory (1 or 2) I, II

Three to six hours of laboratory.

Prerequisites: Concurrent registration in Geography 604, 607, 608, or 611.

Collection, preparation and manipulation of physical geographic data. May be repeated. Maximum credit three units applicable to a master's degree.

654. Topics in Comparative Urbanization (3)

Prerequisite: Geography 554.

Dynamics of urban growth and change in a variety of cultural, economic and political contexts. Case studies illustrating processes impacting selected world cities. Research component relates urbanization theories to cultural content. May be repeated. See Class Schedule for specific content. Maximum credit six units.

655. Urban Design and Preservation (3)

Prerequisite: Geography 555.

Major theories of urban form and aesthetics with emphasis on preservation and rehabilitation.

656. Internal Structure of Cities and Location Theory (3)

Prerequisites: Geography 385 and 556.

Models of city structures and their theoretical bases. Location theory and decision making in the urban context.

658. Advanced Transportation Geography (3)

Prerequisites: Geography 385, 558 or 559.

Aggregate and disaggregate models of spatial interaction with emphasis on mobility in the urban context. Analytical behavioral models of movement systems.

660. Advanced Behavioral Geography (3)

Prerequisite: Geography 560.

Recent advances in analytical behavioral geography. Spatial behavior in urban settings with emphasis on scientific and analytical approaches.

670. Environmental and Resource Conservation Theory (3)

Prerequisite: Graduate standing.
Theories and principles involved in natural and environmental resources management.

672. Advanced Land Use Analysis (3)

Prerequisite: Geography 572.
Processes of land conversion from rural to urban uses. Methods of assessing capability and suitability of land for urban purposes.

674. Advanced Water Resources (3)

Prerequisite: Geography 574.
Water resource development, organization and utilization.

676. Marine Resources (3)

Prerequisite: Geography 576.
Theories and models of marine biotic and mineral resource availability and utilization.

682. Advanced Automated Cartography (3)

Prerequisite: Geography 582.
Automated cartography in geographic problem solving. Contouring algorithms, trend surface fitting, digital elevation modeling, residual mapping.

682L. Advanced Automated Cartography Laboratory (1 or 2)

Three to six hours of laboratory.
Prerequisite: Concurrent registration in Geography 682.
Data processing and analysis in automated cartography. Applications of digitizing systems, line graphers, contouring algorithms and network analysis in cartographic modeling.

683. Advanced Geographic Information Systems (3) II

Prerequisite: Geography 484.
Geographic information systems in geographic problem solving including data structures, project designs, and vector graphics.

683L. Geographic Information Systems Laboratory (1 or 2) II

Three to six hours of laboratory.
Prerequisite: Concurrent registration in Geography 683.
Data processing and analysis in geographic information systems. Applications of overlay functions in spatial analysis.

685. Advanced Quantitative Methods in Geography (3) I

Prerequisite: Geography 585.
Statistical techniques and quantitative models applied to spatial problems. Multiple regression, discriminant analysis, factor analysis and spatial modeling.

688. Advanced Remote Sensing (3) II

Prerequisite: Geography 588.
Sensor systems, image interpretation and geographic applications in thermal infrared and microwave remote sensing. Principles of digital image processing.

688L. Advanced Remote Sensing Laboratory (1 or 2) II

Two or four hours of laboratory.
Prerequisite: Concurrent registration in Geography 688.
Processing and analysis of remotely sensed data. Laboratory training in sensor systems and digital image-processing methods including thermal infrared and microwave data analysis.

689. Advanced Field Research (1-3) Cr/NC I, II

Prerequisites: Graduate standing and consent of instructor.
Advanced techniques in field research and reporting. May be repeated with new content. Maximum credit three units applicable to a master's degree.

690. Teaching of Geography (1) I, II

Two hours of activity.
Prerequisite: Graduate standing. Required of all graduate teaching assistants.
Teaching methods in geography. Use of specialized equipment and facilities.

696. Advanced Special Topics in Geography (3)

Prerequisite: Consent of instructor.
Advanced special topics in geography. See Class Schedule for specific content. May be repeated with new content. Maximum combined credit of six units of 596 and 696 applicable to a graduate degree.

700. Seminar in Geographic Research Design (3)

Prerequisite: Graduate standing.
Definition of spatial problems, hypothesis formulation and testing, selection of appropriate methodology. Development of research proposals, conduct of research, written and oral presentations. (Formerly numbered Geography 600.)

701. Seminar in Development of Geographic Thought (3)

Prerequisite: Graduate standing.
Evolution of concepts concerning the nature, scope, theories, and methodologies of geography. (Formerly numbered Geography 610.)

710. Seminar in Physical Geography (3) I, II

Prerequisite: Six units of upper division or graduate level courses in physical geography.
Intensive study of an aspect of physical geography. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

720. Seminar in Regional Geography (3)

Prerequisite: Six units of upper division or graduate level courses in the topical area under consideration.
Intensive study of a spatial system using the regional content or regionalization methods. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. (Formerly numbered Geography 620.)

740. Seminar in Human Geography (3) I

Prerequisite: Six units of upper division or graduate level courses in human geography.
Intensive study of a spatial aspect of human geography. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

750. Seminar in Urban Geography (3)

Prerequisite: Six units of upper division or graduate level courses in urban geography.
Intensive study of a spatial aspect of urban geography. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. (Formerly numbered Geography 654.)

760. Seminar in Behavioral and Social Geography (3) II

Prerequisite: Six units of upper division or graduate level courses in behavioral or social geography.
Intensive study of a spatial aspect of behavioral or social geography. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

770. Seminar in Environmental and Resource Conservation (3)

Prerequisites: Geography 670 and six units of upper division or graduate level courses in environmental or resource conservation. Natural and environmental resource conservation. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. (Formerly numbered Geography 671.)

780. Seminar in Techniques of Spatial Analysis (3) II

Prerequisite: Six units of upper division or graduate level courses in spatial analytic techniques.
A specific spatial analytical technique, such as image processing, remote sensing, geographic information systems, or quantitative methods. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

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

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

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

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC

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

890. Independent Study for Doctoral Examination (1-9) I, II, S

Prerequisite: Consent of instructor or graduate adviser.
Tutorial with student's major professor in preparation for qualifying examinations. No unit credit allowed toward advanced degree. Maximum credit nine units.

897. Doctoral Research (1-6) I, II, S

Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation. A written proposal must be approved by the joint doctoral advising committee. Maximum credit six units applicable to a doctoral degree.

899. Doctoral Dissertation (1-6) I, II, S

Prerequisites: Advancement to candidacy and an officially constituted dissertation committee.
Preparation of the dissertation for the doctoral degree. Enrollment is required during the term in which the dissertation is approved. No unit credit allowed toward advanced degree.

Geological Sciences

In the College of Sciences

OFFICE: Chemistry/Geology 205
TELEPHONE: (619) 594-5586

Faculty

Michael J. Walawender, Ph.D., Professor of Geological Sciences,
Chair of Department
Patrick L. Abbott, Ph.D., Professor of Geological Sciences
Richard W. Berry, Ph.D., Professor of Geological Sciences
Kathe K. Bertine, Ph.D., Professor of Geological Sciences
Steven M. Day, Ph.D., Professor of Geological Sciences,
The Rollin and Caroline Eckis Chair in Seismology
Clive E. Dorman, Ph.D., Professor of Geological Sciences
R. Gordon Gastil, Ph.D., Professor of Geological Sciences
Gary H. Girty, Ph.D., Professor of Geological Sciences
(Graduate Adviser)
David Huntley, Ph.D., Professor of Geological Sciences
George R. Jiracek, Ph.D., Professor of Geological Sciences
J. Philip Kern, Ph.D., Professor of Geological Sciences
C. Monte Marshall, Ph.D., Professor of Geological Sciences
Richard H. Miller, Ph.D., Professor of Geological Sciences
Gary L. Peterson, Ph.D., Professor of Geological Sciences
Thomas K. Rockwell, Ph.D., Professor of Geological Sciences
Eric G. Frost, Ph.D., Associate Professor of Geological Sciences
David L. Kimbrough, Ph.D., Associate Professor of Geological
Sciences
Kathryn W. Thorbjarnarson, Ph.D., Assistant Professor of
Geological Sciences
Barry B. Hanan, Ph.D., Staff Scientist (equivalent rank of full
professor)

Adjunct Faculty

Ronald Blom, Ph.D., Geological Sciences
Victor E. Camp, Ph.D., Geological Sciences
Ricardo Fernandez, Ph.D., Geological Sciences
Ian M. Johnston, Ph.D., Geological Sciences
Donn L. Marrin, Ph.D., Geological Sciences
Mario Martinez, Ph.D., Geological Sciences
Arthur P. Raiche, Ph.D., Geological Sciences
Glenn R. Roquemore, Ph.D., Geological Sciences
Frederick R. Schram, Ph.D., Geological Sciences

The Rollin and Caroline Eckis Chair in Seismology

A gift from Rollin and Caroline Eckis, combined with matching funds from the Atlantic Richfield Company and contributions from SDSU faculty and staff, established The Rollin and Caroline Eckis Chair in Seismology at SDSU. Rollin Eckis is former president of Richfield Oil Company and vice chairman of the board of Atlantic Richfield Company.

The first appointee to the Chair, Dr. Steven M. Day, conducts research on the mechanics of earthquakes and earthquake hazards.

Assistantships

Graduate teaching assistantships in geology are available to a limited number of qualified students. Application blanks and

additional information may be secured from the graduate adviser of the department.

General Information

The Department of Geological Sciences, in the College of Sciences, offers graduate study leading to the Master of Science degree in geological sciences. The program emphasizes research and an advanced set of courses. Faculty research activities comprise a broad spectrum of expertise, including both theoretical and applied interests. Opportunities exist for integrated field and laboratory research. The department is equipped to support research in geophysics, groundwater hydrology, oceanography and geochemistry as well as the classic areas of mineralogy, petrology, structural geology, stratigraphy and paleontology. Laboratories devoted to geochronology, isotopes, clay mineral analysis, soils, paleomagnetism, and whole rock analysis, as well as the Allison Center (paleontology), support the graduate research program. Cooperation with Mexican scientists and institutions facilitates research at an international level.

The San Diego area enjoys a mild climate which permits year round field activity. An interesting and diverse geological environment provides many opportunities for research in the local area. Many graduate students are supported in their work by grants and contracts from government and industry.

Admission to Graduate Study

All students must satisfy the general requirements for admission to classified graduate standing as described in Part Two of this bulletin. In addition, all students should satisfy the following requirements in order to achieve classified standing and enroll in graduate courses.

1. Have preparation in geological sciences, mathematics, chemistry, and physics at least equivalent to the minimum required for the bachelor's degree in geological sciences at San Diego State University. Undergraduate grade point average should be at least 2.5, with a 2.75 in the last 60 units. Students with degrees in majors other than geological sciences may be admitted with postbaccalaureate standing while deficiencies are being remedied.
2. Have successfully completed all courses listed as deficiencies.
3. Have a minimum GRE General Test combined verbal and quantitative score of 1000, with no less than 450 in either verbal or quantitative sections.
4. Have a minimum grade point average of 3.0 in any courses taken as a postbaccalaureate student at San Diego State University.
5. Have two letters of reference submitted by individuals familiar with their professional background. Letters should be sent to the graduate adviser, Department of Geological Sciences.

All student applications are evaluated competitively and no fixed numerical standards automatically qualify or disqualify a student for graduate study in the Department of Geological

Sciences. Students will be admitted on the basis of merit in relation to space and faculty availability.

NOTE: Some students with bachelor's degrees in geological sciences may be admitted with postbaccalaureate standing for one semester only during which time they must take senior-level classes and earn at least a 3.0 grade point average and complete any missing qualifications for graduate study (e.g. GRE scores).

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree

(Major Code: 19141)

In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master's degree as described in Part Two of this bulletin. The student's graduate program must include 24 units of approved 600- and 700-numbered courses to include Geological Sciences 797 (3 units Cr/NC/SP), and 799A, Thesis (3 units Cr/NC/SP), and six units of upper division or graduate electives approved by the departmental adviser. With approval of the graduate adviser, students specializing in geophysics or hydrogeology may include 18 units of approved 600-700 numbered courses and 12 units of upper division graduate electives, with no more than 6 units of upper division graduate electives taken from courses in the Department of Geological Sciences. Geological Sciences 308 and 508 or their equivalent as approved by the graduate adviser, are required as prerequisite to the program if they were not a part of the student's undergraduate work. The student is required to pass a final oral examination on the thesis. All students are required to complete Geological Sciences 601.

Courses Acceptable on Master's Degree Program in Geological Sciences

UPPER DIVISION COURSES

502. Geology of North America (3) I

Prerequisite: Geological Sciences 105.

A regional analysis of North American geology, its structural, stratigraphic, and tectonic patterns and hypotheses concerning their origin and evolution.

505. Photogeology (3) II

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 305 and 314.

Geologic interpretation of aerial photographs, elementary stereoscopy and stereometry applied to structural and stratigraphic problems, and compilation of geologic maps from annotated aerial photographs.

506. Paleontology (3) I, II

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 105 and either Biology 100-100L or 101-101L.

Principles and methods, exemplified by a study of the morphology, classification, habit, and geologic significance of fossil invertebrates.

507. Stratigraphy (3) II

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 105 and 224.

Stratigraphic principles and practices. Consideration of the North American stratigraphic record.

508. Advanced Field Geology (4) II (4 or 6) S

One lecture and three hours of laboratory plus 24 days in the field. For the summer option with six units: two additional weeks of field or laboratory work. Either spring or summer session can be enrolled in during the spring semester.

Prerequisites: Geological Sciences 308 and 524.

Investigation of individually assigned areas, preparation of geologic maps, geologic sections, and gathering other types of data, e.g., petrologic, geophysical, or paleontologic, as appropriate. Students are responsible for cost of food and transportation.

516. Micropaleontology (3) II

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 506.

The morphology, classification and geologic significance of the various microfossils.

520. Ore Deposits (3) I

Prerequisites: Credit or concurrent registration in Geological Sciences 224 and 305.

Geologic relations, origin, distribution, and economics of metallic and nonmetallic mineral deposits.

521. Petroleum Geology (3) II

Prerequisites: Geological Sciences 224 and 305.

Geologic occurrence of petroleum and the application of geologic principles in exploration and production.

524. Optical Mineralogy (3) I

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 221.

Theory and use of the polarizing microscope for determining optical properties of minerals as an aid to their identification.

525. Petrography (3) II

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 524.

A study of rocks with the polarizing microscope; identification of mineral constituents; interpretation of textures; classification of rocks; problems of genesis.

526. Sedimentology (3) I

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 105 and 224.

Origin, description, and interpretation of sedimentary rocks and structures.

528. Seismic Stratigraphy (3) I

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 230, 305, and 507.

Principles involved in shooting, processing, and interpreting seismic reflection profiles. Laboratory exercises with stratigraphic interpretations from reflection data.

530. Geochemistry (2) I, II

Prerequisites: Geological Sciences 224; Chemistry 201; Mathematics 121 and 122, or 150, or 156.

The relationship of basic chemical principles to geologic phenomena and environments, including applications to geologic exploration problems.

530L. Geochemistry Laboratory (1) I, II

Prerequisite: Credit or concurrent registration in Geological Sciences 530.

Laboratory methods of analysis for determination of elemental concentrations in waters, sediments and rocks, as well as x-ray diffraction methods for mineralogy.

533. Geophysical Analysis (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 330, Mathematics 252, Physics 197. Recommended: Physics 195L, 196L, 197L.

Analog and digital data collection, processing, modeling and error estimation. Computer-aided examples and field tests from seismics, gravity, magnetics, and electromagnetics including magnetotellurics.

540. Marine Geology (3) I

Prerequisites: Geological Sciences 105, and either Geological Sciences 224, 314, 502, or 506.

Plate tectonic origin and history of the ocean basins. Formation and distribution of sediments in response to biological, chemical, and geological processes.

545. Descriptive Physical Oceanography (3) I

Prerequisites: Mathematics 121 and 122, or 150, or 156; Physics 180A or 195.

Physical environment of oceans including heat, water, and salt budgets, physical properties of sea water, sea ice, air-sea relationships, effects of light and sound, distribution of temperature, salinity, density, surface current, deep circulation, water mass formation, instruments and methods of study.

548. Coastal and Estuarine Physical Oceanography (3) II

Prerequisites: Mathematics 121 and 122, or 150, or 156; Physics 180A or 195.

Physical processes of marine coastal areas and estuaries. Includes longshore currents, rip currents, real waves in shallow water, wave refraction and diffraction, mechanics of sediment transport, forces and dynamics of estuarine circulations and tides.

550. Engineering Geology (3) II

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 305.

Relationships between geologic processes and works of humans. Topics include rock and soil mechanics, ground water flow, slope stability, seismicity, land subsidence, and evaluation of geologic materials with respect to dam sites, tunnel alignments, and building foundations.

551. Hydrogeology (3) I

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 305 and Mathematics 150 or 156.

Theory of ground water flow. Exploration for and development of the ground water resource. Aquifer tests, water quality, and water resource management. Occurrence of water in alluvial, sedimentary, volcanic, plutonic, and metamorphic terrains.

560. Earthquake Seismology (3)

Two lectures and three hours of laboratory.

Prerequisites: Mathematics 252, Physics 197. Recommended: Mathematics 342A.

Theory of seismic wave excitation, propagation, and recording. Methods of seismogram interpretation and analysis. Applications to tectonics and earthquake hazard analysis.

596. Advanced Topics in Geology (1-4)

Prerequisite: Consent of instructor.

Advanced special topics in the geological sciences. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES**600. Seminar (1-3)**

Refer to Class Schedule for lecture/laboratory format.

Prerequisite: Consent of instructor.

An intensive study in advanced geology. May be repeated with new content. Topic to be announced in the Class Schedule. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

601. Investigations in Earth Science (3)

Prerequisites: Postbaccalaureate standing with B.S. or B.A. in geology or equivalent.

Review of major geologic concepts and processes. Relationships of research to advances in the understanding of modern earth processes and the geologic history of the earth.

609. Igneous Petrology (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 525.

Investigation of problems in igneous petrology, using petrography, geochemistry, and experimental methods.

611. Metamorphic Petrology (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 525.

Investigation of problems in metamorphic petrology using petrography, geochemistry, and experimental methods.

612. Carbonate Depositional Systems (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 507 and 524.

Nature of carbonate deposition in marine environments. Examination of thin sections, hand samples, and outcrops. Literature examples of regional aspects of modern and ancient carbonate deposition. Mandatory field trip.

615. Geology of Clays (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 526 or 530.

Systematic mineralogy of clays and routine methods of identification. Geologic interpretation of clay minerals with respect to environmental conditions or origin, deposition and diagenesis.

620. Biostratigraphy (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 507.

Development of concepts and practices in stratigraphic and geochronologic synthesis critically reviewed in context of current knowledge of the fossil record.

625. Paleocology (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 506 and Biology 354.

Problems and methods in the study of relationships between fossil organisms and their environment: interpretation of paleoenvironment, paleoclimate, and biologic relationships among fossil organisms.

629. Seminar: Advanced Studies in Stratigraphy (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 507.

Regional stratigraphic patterns in North America and their historical implications.

630. Selected Topics in Geophysics (3)

Prerequisite: Consent of instructor.

Research topics in seismic, gravity, magnetic, electrical, and electromagnetic methods. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

633. Quaternary Geology (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 314.

Quaternary climate, geochronometric dating and soil stratigraphy.

635. Petrology of Terrigenous Rocks (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 524.

Thin-section and hand-specimen description and classification of sandstones, conglomerates, and mudrocks. Emphasis on mineralogy, provenance, diagenesis, and paleogeographic reconstructions.

640. Geotectonics (3)

Prerequisite: Geological Sciences 305.

A consideration of topics on continental genesis and evolution, orogeny, plate tectonics theory, and a survey of classic geologic provinces.

642. Neotectonics (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 305 and 314.

Observation, interpretation and significance of late Quaternary crustal deformation.

645. Advanced Structural Geology (3)

Prerequisite: Geological Sciences 305.

Topics in advanced structural geology in the light of petrographic, geophysical, and experimental data, combined with classic field observations.

648. Plate-Tectonic Development of California (3)

Prerequisite: Geological Sciences 305.

Analysis of sequential genesis of major tectonic terranes of California and adjacent states. Problem-oriented literature study will integrate structural, stratigraphic, and geochronologic development.

651. Numerical Modeling of Ground-Water Flow (3)

Prerequisites: Geological Sciences 551 and experience in computer programming.

Finite difference approximations of ground water and mass transport equations. Direct and iterative solutions to simultaneous equations. Calibration, verification and application of numerical models to analyze ground water hydrologic problems.

652. Multiphase Flow (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 551.

Movement of water through the unsaturated zone and non-aqueous phase liquids (NAPL) through subsurface. Topics include vadose zone characterization, monitoring, and modeling; light and dense NAPL movement, monitoring, and remediation.

653. Ground Water Aquifer Testing (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 551.

Theory and practice of conducting and analyzing constant-rate aquifer tests, step-drawdown tests, and slug injection tests. Analysis of results for confined, unconfined, leaky-confined, and fractured aquifers.

655. Paleomagnetism and Plate Tectonics (3)

Prerequisites: Geological Sciences 100 and Physics 180B or 196.

Contribution of paleomagnetism to origin and current models of plate tectonics, estimating paleolatitude, magnetostratigraphy, and structural deformation. Review of rock magnetism, magnetic mineralogy, and the geomagnetic field.

660. Isotope Geology (3)

Two lectures and three hours of laboratory.

A survey of isotopic and geochronologic topics with individual projects in isotopic analysis.

669. Terrigenous Depositional Systems (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 506 and 507 or 526.

Analysis of sedimentary structures, facies relationships, and geometries of sedimentary rock bodies to achieve recognition and understanding of ancient depositional environments and geologic history.

675. Groundwater Geochemistry (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 530, 530L and 551.

Processes affecting organic solute acquisition and deposition in groundwater. Applications to radioactive and metal contaminant transport. (Formerly numbered Geological Sciences 675A.)

676. Solute Transport in Groundwater (3)

Prerequisite: Geological Sciences 551.

Theory of dissolved solute transport in groundwater. Applications to contaminant delineation, modeling and characterization of aquifer heterogeneities. Case studies of tracer tests and contaminant plumes. (Formerly numbered Geological Sciences 675B.)

677. Environmental Fate of Organic Contaminants (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 551 and 530, 530L, or chemistry background.

Physical and chemical properties and processes affecting distribution of organic contaminants in the environment. Focus on subsurface environments with applications to surface waters.

680. Sedimentary Geochemistry (3)

Two lectures and three hours of laboratory.

Prerequisite: Geological Sciences 530.

Topics in low temperature geochemistry, in particular diagenesis.

685. Genesis of Ore Deposits (3)

Two lectures and three hours of laboratory.

Prerequisites: Geological Sciences 525; and Geological Sciences 530 or four units of physical chemistry.

Application of mineralogy, petrography, and chemistry to an understanding of the origin of ore deposits.

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

Prerequisite: Consent of the department.

Supervised research in an area of geology. Maximum credit six units applicable to a master's degree.

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

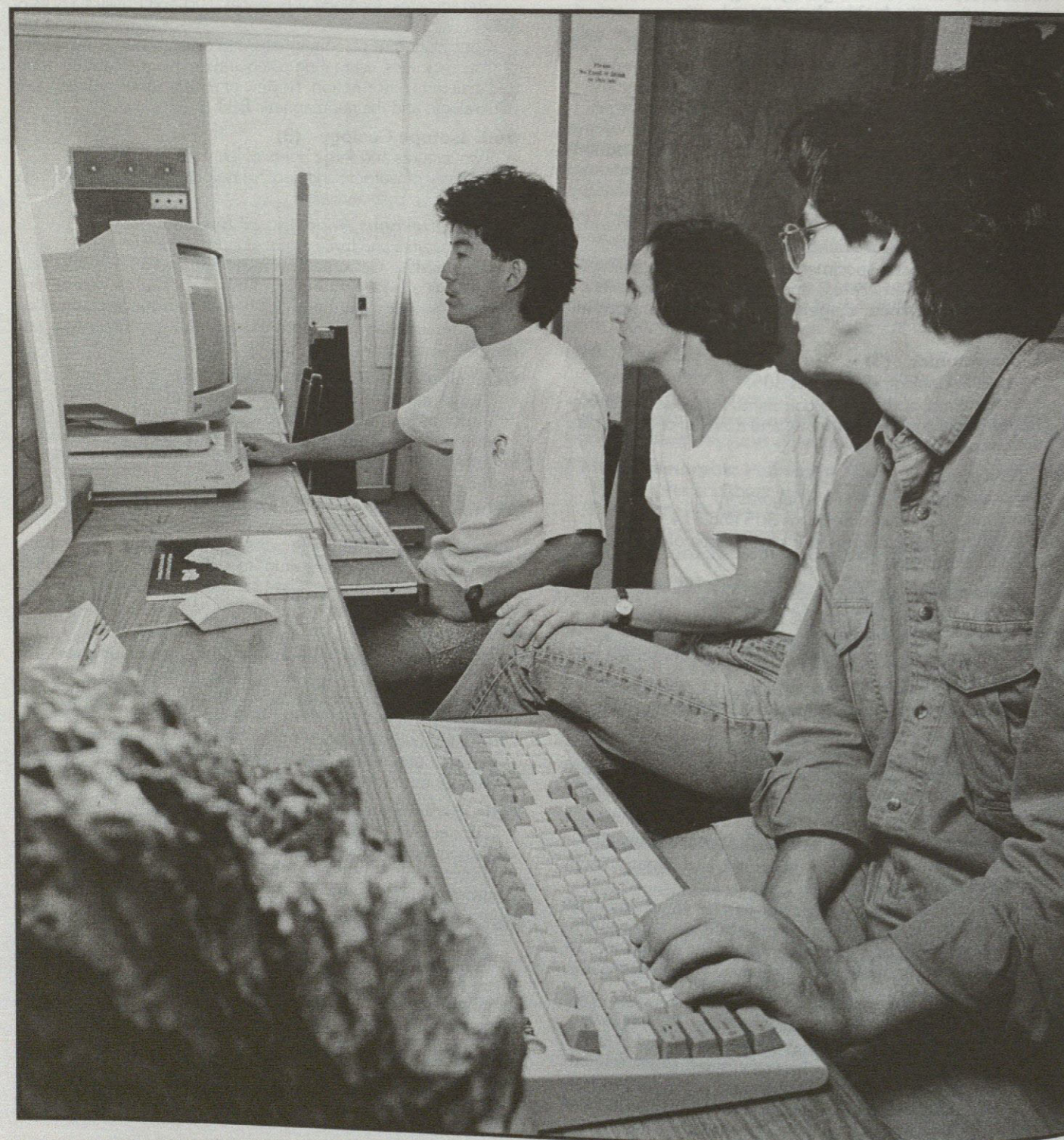
Prerequisites: An officially appointed thesis committee and advancement to candidacy.

Preparation of a thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC

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

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



German

In the College of Arts and Letters

OFFICE: Business Administration 431

TELEPHONE: (619) 594-6313

Faculty

Edith J. Benkov, Ph.D., Associate Professor of French, Acting Chair of Department

Erich W. Skwara, Ph.D., Professor of German

Julian H. Wulbern, Ph.D., Professor of German

Mary M. Wauchope, Ph.D., Assistant Professor of German

General Information

The Department of German and Russian Languages and Literatures, in the College of Arts and Letters, offers advanced coursework in German. Graduate courses in German may be used to fulfill requirements for advanced degrees in other departments with the approval of the student's graduate adviser.

UPPER DIVISION COURSES

501. Translation Workshop (3)

Prerequisites: German 301, 302, and 310.

Workshop in translation of literary texts from German to English and English to German.

505. Applied German Linguistics (3)

Prerequisites: German 301 and 302.

Linguistic study of modern German; integration of modern linguistic theory with the language classroom.

510. German Phonetics (3)

Prerequisites: German 200A; 200B or 200C; 211.

Sounds and intonation of German.

545. German Literature of the Eighteenth Century (3)

Prerequisite: German 310.

Reading and discussion of representative works of significant authors and movements of the eighteenth century.

555. German Literature of the Nineteenth Century (3)

Prerequisite: German 310.

Reading and discussion of representative works of significant authors and movements of the nineteenth century.

561. German Literature of the Twentieth Century (3)

Prerequisite: German 310.

Reading and discussion of representative works of significant authors and movements of the twentieth century.

596. Topics in German Studies (3)

Prerequisite: German 310 (for literary topics) or 505 (for linguistic topics). **Proof of completion of prerequisites required:** Grade report or copy of transcript.

Topics in German language, literature, or linguistics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

696. Topics in German Studies (1-3)

Prerequisite: Eighteen upper division units in German.

Intensive study in specific areas of German. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

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

Prerequisites: Eighteen upper division units in German and consent of staff; to be arranged with department chair and instructor.

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

Health Science

In the College of Health and Human Services

Faculty

Karen L. Senn, Ed.D., M.P.H., Professor of Health Science,
Chair of Department
Stephen J. Bender, H.S.D., M.P.H., Professor of Health Science
Catherine J. Atkins-Kaplan, Ph.D., Associate Professor of
Health Science
Warren D. Boskin, Ed.D., Associate Professor of Health Science
James V. Noto, H.S.D., Associate Professor of Health Science

Assistantships

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

General Information

The Department of Health Science, in the College of Health and Human Services, offers advanced coursework in health science. Graduate courses in health science may be used to fulfill requirements for advanced degrees in other departments with the approval of the student's graduate adviser.

UPPER DIVISION COURSES

560. Introduction to Public Health (3)

Prerequisite: Health Science 290.

Philosophy, development, organization, administration, and legal aspects of public health in the United States. Disease prevention and control, health education, and the other functions and activities of official health departments, voluntary agencies, private physicians and others engaged in professional health work.

561. Health and Medical Care (3) 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.

OFFICE: Hepner Hall 136
TELEPHONE: (619) 594-5528

573. Health in Later Maturity (3) I

An approach to the conservation of human resources, with emphasis on understandings, attitudes, and practices related to health in later maturity. Designed for those with a personal or professional interest in the field.

574. Habit-Forming Substances (3) I, II

Tobacco, alcohol, and other drugs; their use, misuse and abuse.

575. Sex Education (3) II

Prerequisite: Health Science 475.

Philosophy, current procedures, and materials needed for development of healthy attitudes and scientific knowledge appropriate for the understanding of human sexuality.

596. Workshop in Health Science (1-3)

Selected problems in health science are used as a basis for workshop experiences. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596; maximum credit of three units of 596 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSE

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

Prerequisite: Consent of staff; to be arranged with department special study adviser and instructor.

Individual study. Maximum credit six units applicable to a master's degree.

OFFICE: Adams Humanities 4210
TELEPHONE: (619) 594-5262

Faculty

David V. DuFault, Ph.D., Associate Professor of History, Chair of Department
Lawrence Baron, Ph.D., The Nasatir Professor of Modern Jewish History
William F. Cheek, Ph.D., Professor of History
Paochin Chu, Ph.D., Professor of History
Alvin D. Coox, Ph.D., Professor of History
Thomas R. Cox, Ph.D., Professor of History
Roger L. Cuniff, Ph.D., Professor of History
Thomas M. Davies Jr., Ph.D., Professor of History
Ross E. Dunn, Ph.D., Professor of History (Graduate Adviser)
Charles D. Hamilton, Ph.D., Professor of History and Classics
Waldo Heinrichs, Ph.D., The Dwight E. Stanford Chair in American Foreign Relations
Neil M. Heyman, Ph.D., Professor of History
Oddvar K. Hoidal, Ph.D., Professor of History
Howard I. Kushner, Ph.D., Professor of History
Harry C. McDean, Ph.D., Professor of History
Albert C. O'Brien, Ph.D., Professor of History
Richard H. Peterson, Ph.D., Professor of History
Ray T. Smith Jr., Ph.D., Professor of History
Raymond G. Starr, Ph.D., Professor of History
Richard W. Steele, Ph.D., Professor of History
Francis N. Stites, Ph.D., Professor of History
Jess L. Stoddard, Ph.D., Professor of History
Paul J. Vanderwood, Ph.D., Professor of History
Pershing Vartanian, Ph.D., Professor of History
Francis M. Bartholomew Jr., Ph.D., Associate Professor of History
Stephen A. Colston, Ph.D., Associate Professor of History
Joanne M. Ferraro, Ph.D., Associate Professor of History
Philip F. Flemion, Ph.D., Associate Professor of History
Eve Kornfeld, Ph.D., Associate Professor of History
Rizalino A. Oades, Ph.D., Associate Professor of History
Lissa Roberts, Ph.D., Associate Professor of History
Elizabeth A. Colwill, Ph.D., Assistant Professor of History
Ellen Kittell, Ph.D., Assistant Professor of History

The Nasatir Professor of Modern Jewish History

The Nasatir Professorship was established in honor of the late Professor Abraham Nasatir, a specialist in European colonial history in North America. Nasatir taught history at SDSU for 46 years and was active in the community as an advocate of Jewish education. The Professorship is now held by a distinguished scholar of European intellectual history and Holocaust studies, Lawrence Baron, director of SDSU's Lipinsky Institute for Judaic Studies.

The Dwight E. Stanford Chair in American Foreign Relations

A gift from alumnus Dwight E. Stanford, who earned a bachelor's degree in American history in 1936 from San Diego State

History

In the College of Arts and Letters

College (now SDSU), established The Dwight E. Stanford Chair in American Foreign Relations. The first holder of the Chair is Waldo Heinrichs, an internationally distinguished scholar-teacher who is an expert in twentieth century American foreign relations with Pacific Rim countries, especially with those in Asia.

Master of Arts Degree in History

Scholarships

The Kenneth and Dorothy Stott Scholarship, in the amount of \$100, is awarded each June to a student who has attended San Diego State University for at least two years and who is being graduated or who has been graduated by San Diego State University with a major in history. The recipient must continue work at San Diego State University, or at any other accredited college or university, toward a higher degree or credential. The selection is made by the Department of History with approval of the committee on scholarships.

General Information

The Department of History, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in history.

The Master of Arts degree is designed to provide advanced training for (1) students who plan to terminate their graduate studies at the master's level, and (2) those who anticipate further study leading to a doctoral degree in history or related fields.

Research facilities include a substantial library of well over one million titles and an impressive periodical collection. The library is the depository for the documents of the United States and the state of California, and receives all publications of the United Nations and the Organization of American States. The library also houses 1,500 linear feet of manuscript materials as well as audiotapes, films, oral histories, and photographs of the greater San Diego area. The College of Arts and Letters houses the Social Science Research Laboratory which includes a well-equipped data processing center. The San Diego Historical Society and the San Diego Public Library contain many manuscript collections pertinent to local history. Located north of San Diego is the National Archives and Records Administration at Laguna Niguel.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. As an additional requirement, the student must have completed a bachelor's degree with an undergraduate major in history or have taken enough units in history and related fields that would demonstrate sufficient preparation for the program. The grade point average required for admission to the M.A. program in history is 2.75 for the last 60 units of the student's undergraduate work and 3.0 in the major (not necessarily history), plus a satisfactory score on the GRE General Test (minimum 500 verbal score). Candidates must also submit with their applications a statement of purpose of approximately 400 words.

Conditional admission is possible pending the taking of the GRE General Test during the first semester of enrollment and the attainment of a satisfactory score.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as stated in Part Two of this bulletin, as well as the specific requirements of the department. All students should consult the graduate adviser. Students may not be advanced to candidacy until they have met the foreign language requirement or an approved substitute.

Specific Requirements for the Master of Arts Degree in History

(Major Code: 22051)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a graduate program of 30 units which includes a major consisting of at least 24 units in history from courses listed below as acceptable on the master's degree programs, at least 18 units of which must be in 600- and 700-numbered courses. Students may elect either Plan A, the normal option, requiring a thesis, or, in special circumstances and with the prior approval of the graduate adviser and the student's major professor, Plan B, requiring a comprehensive written and oral examination in both a major and minor field of history chosen in consultation with the graduate adviser. Required courses are History 601; six units selected from History 620, 630, 640, 650, or 680; three units selected from History 625, 635, 655; History 797; and History 799A for those students electing Plan A. Students approved for Plan B shall meet the same course requirements as those enrolling in Plan A, except that they must enroll in History 795 (three units) and one additional three-unit history course numbered from 620 to 680 in lieu of History 797 and 799A.

Candidates for this degree must demonstrate knowledge of either a relevant foreign language or an approved substitute in computer language or statistical methods. Other substitutes may be approved where the skills involved are directly related to the student's research interests. Course selection and programs must be approved by the graduate adviser prior to the student's registration.

Courses Acceptable on Master's Degree Programs in History

Field (a). Ancient, Medieval and Early Modern Europe

UPPER DIVISION COURSES

500A-500B. Ancient History (3-3)

Semester I: Greece to the Roman Conquest. Semester II: Rome to the fifth century A.D.

501. History of Ancient Near Eastern Civilizations (3)

Major civilizations of Near East from the origin of civilization to Roman Conquest, including Egyptians, Babylonians, Hebrews and Persians. Social, political, and religious problems.

503A-503B. Europe in the Middle Ages (3-3)

European social, cultural, and political developments from the fall of Rome to the Renaissance.

506. The Renaissance (3)

The intellectual, artistic, and social transformation of Europe from the fourteenth through the early sixteenth century.

507. The Reformation (3)

Continental Europe in the sixteenth century; split of Christendom, the religious wars, national rivalries, the expansion of Europe and the beginnings of the scientific revolution.

513A. Early Scandinavia (3)

The formation and development of the Scandinavian kingdoms from the Viking Age to the end of Napoleonic Wars.

Field (b). Modern Europe

UPPER DIVISION COURSES

509. Europe in the Seventeenth Century (3)

Continental Europe from 1600 to the death of Louis XIV. Shift of power from southern and central Europe to northern Atlantic countries; the growth of the state, and the expansion of commerce.

510. Europe's Age of Enlightenment (3)

Prerequisite: Upper division standing.
Selected problems in the social, cultural, and intellectual history of the eighteenth century Enlightenment. (Formerly numbered History 510A-510B.)

511A. The Age of European Revolution (3)

Major economic, social, intellectual, and political changes in Europe from 1789 to 1848. Effects of French Revolution, Industrial Revolution, and Romanticism on European history.

511B. The Age of Nationalism in Europe (3)

Economic, social, and intellectual developments in Europe from 1848 to 1890 that contributed to the age of nation building.

512A. The Great War: A Turning Point in European History (3)

Forces and events that shaped Europe in period prior to and during World War I, 1890-1919.

512B. The Age of Dictators and Contemporary Europe (3)

Europe in the age of dictatorship, world war, decline, and recovery.

513B. Modern Scandinavia (3)

Major political, social and economic developments in Scandinavia from 1814 to the present, with emphasis on contemporary society.

514A. The French Revolution and Napoleonic Era (3) I

Prerequisites: History 105 and 106.
France on the eve of the Revolution; the Great Revolution, 1789-1799, the Napoleonic Era.

514B. Modern France (3)

Prerequisites: History 105 and 106.
The development of France since 1815.

517A-517B. Modern Germany (3-3)

Political, social, and economic history of Germany. Semester I: From the Reformation to the outbreak of World War I. Semester II: 1914 to the present.

518A-518B. Russia and the Soviet Union (3-3)

Semester I: Political, social and economic development of Russia in Europe and Asia from the earliest times to the close of the nineteenth century. Semester II: Emphasis on the twentieth century.

519. Modern Italy (3)

The development of Italy from 1815 to the present.

522A-522B. Tudor and Stuart England (3-3)

Semester I: The Age of the Tudors. Semester II: England during the Stuart Dynasty, 1603-1714.

523A-523B. Modern Britain (3-3)

Semester I: The development of constitutional and social patterns from the Glorious Revolution to the French Revolution, emphasizing the immediate background to the American Revolution. Semester II: From the nineteenth century to the present, including the rise of Parliamentary democracy, imperialism and the Victorian age, and political thought from the Utilitarians to the Fabians.

524. History of Ireland (3) I, II

Social and cultural history of Ireland from earliest historical times to the present, including formation of a national character, literature from the Saga Cycles to the modern literary renaissance, and various movements to achieve independence from Cromwell through World War I.

526. Ideas and Attitudes of Modern Europe (3)

Selected problems in European intellectual history beginning with the seventeenth century, with attention to social and political thought. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

527. Diplomatic History of Modern Europe (3)

Diplomatic relations of the various European states with European and non-European powers. The diplomatic backgrounds and results of World Wars I and II. (Formerly numbered History 527B.)

528. Social History of Modern Europe (3)

Historical survey of European society emphasizing changes in the family, health, diet, the standard of living, urbanism, crime, migration, and literacy, from 1350 to the beginning of the Industrial Revolution.

Field (c). United States

UPPER DIVISION COURSES

530. Colonial America (3)

Settlement and development of the English colonies in North America through the mid-eighteenth century. Contact of cultures, social structure, labor systems, religion, popular values, problems of imperial control, and political culture.

531. The American Revolution (3)

Explores how "revolutionary" the American Revolution was. Causes, dynamics, and results of the American Revolution, from imperial reform and colonial resistance after 1760, through ratification of the Federal Constitution of 1787. This course satisfies the graduation requirement in United States Constitution.

533A. The Jacksonian Era (3)

Territorial expansion, democratic politics, revivalism, and the slavery controversy.

533B. Civil War and Reconstruction (3)

The Civil War and Reconstruction, emphasizing political affairs and the role of Lincoln.

534. The Rise of Modern America, 1868-1900 (3)

Economic, social, political, and intellectual developments from the end of the Civil War to the close of the nineteenth century.

535A. The Age of Reform (3)

The United States from the 1890s to the Crash of 1929.

535B. The Age of Roosevelt (3)

The United States in Depression, War, and Cold War.

536. The United States Since World War II (3) I, II, S

Major foreign and domestic issues confronting the United States, and the government policies and popular movements generated in response.

537A-537B. The Westward Movement (3-3)

The American frontier: Expansion, exploration, settlement and building of the new states, with emphasis on frontier problems of defense, communications, finance, development of cultural institutions. Causes, effects and results of frontier experiences of the American people. 537A: Frontier movement from Atlantic to Mississippi River. 537B: The trans-Mississippi west. This year course satisfies the graduation requirement in American History.

538. The American Southwest (3)

Development of the Southwest from the Spanish colonial period to the present. Emphasis on social, economic, and cultural forces which have shaped the character of the border states. (Formerly numbered History 538A-538B.)

540. Environmental History of the United States (3)

The relationship of Americans to their environment from colonial times to the present with emphasis on how attitudes and values have affected personal behavior and public policy toward the land.

541A-541B. California (3-3)

Political institutions; social, cultural, economic and intellectual development; international background. Semester I: To 1850; Spanish and Mexican heritage. Semester II: 1850 to the present. History 541B satisfies the graduation requirement in California State and Local Government.

543. American Involvement in Vietnam 1941-75 (3)

Prerequisites: Upper division standing and six units in history.

Causes and costs of America's longest war: the war's beginning, United States' involvement, role of media and antiwar movement, United States withdrawal, impact of war on Southeast Asia and the United States.

544A-544B. American Foreign Policy (3-3)

544A: Development of American foreign policy from Colonial Period to the First World War. 544B: Developments from First World War to present. This year course satisfies the graduation requirement in American History.

545A-545B. Constitutional History of the United States (3-3)

Development of American constitutional ideals and institutions. 545A: Seventeenth century to 1861. 545B: Since 1861. This year course satisfies the graduation requirement in American History or California State and Local Government.

546A-546B. Development of American Capitalism (3-3)

The changes in agriculture, industry, labor, banking, transportation and commerce in a capitalist society with emphasis on the prominent personalities who made the changes possible.

547A-547B. Intellectual History of the American People (3-3)

American thought since colonial times, focusing on ideas of individuals, groups and movements in religion, politics, society, the arts and reform. Emphasis on liberal and conservative impulses and their role in the making of the modern American mind. 547A: To 1865. 547B: Since 1865. This year course satisfies the graduation requirements in American Institutions.

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.

549. History of San Diego (3)

Prerequisites: Upper division standing and six units in history.
Development of San Diego from European contact to the present.

Field (d). Latin America
UPPER DIVISION COURSES

551A-551B. Mexico (3-3)

Prerequisite: History 115A-115B or 415A-415B.
Semester I: Colonial and modern Mexico. Semester II: Emphasis on the twentieth century.

552. Brazil (3)

Survey of history of Brazil from Portuguese backgrounds to present. Brazil as a tropical society. Recommended for students minoring in Portuguese.

553. Caribbean Island Nations (3)

History of island nations of Caribbean with emphasis on Cuba, Haiti, and Dominican Republic in the nineteenth and twentieth centuries.

554. The Andean Republics of South America (3)

The historical development of Chile, Bolivia, Peru and Ecuador with emphasis on race relations and social revolutions in the twentieth century.

555. Modernization and Urbanization in Latin America (3)

Historical treatment of the phenomena of urbanization and modernization in Latin America with attention to pre-Columbian and Iberian traditions and influence of education, church, military, and foreign investment.

556. Guerrilla Movements in Latin America (3)

History of sociopolitical conditions which culminated in guerrilla movements in twentieth century Latin America. Use of guerrilla writings and accounts as well as recent Latin American films and U.S. Defense Department counterinsurgency training films.

557. History of Latin American Popular Culture and Social Thought (3)

Examination of the ways Latin Americans have historically viewed their cultures and societies from the dual perspective of elites and the masses.

Popular culture – the Latin American self-image reflected in family relations, folklore, myth, legend, popular music and art and mass expression.

558. Latin America in World Affairs (3)

History of Latin America's political and economic relations with Europe, the Soviet Union, the United States, and the Third World.

559. Central America (3)

Prerequisites: Upper division standing and six units in history.
Historical development of the republics of Central America with emphasis on twentieth century. Contemporary revolutionary movements and role of United States in Central American affairs.

Field (e). South, Southeast and East Asia**UPPER DIVISION COURSES****561A-561B. Asia and the West (3-3)**

History of Asian-Western relations with emphasis on China and Japan. Semester I: Through the nineteenth century. Semester II: The twentieth century.

562. Civilization of India: The Great Traditions (3)

From earliest times to the eighteenth century including Hindu, Buddhist, and Muslim contribution to Indian society, changing political ideas and institutions, and historic trends in art and literature.

563. Modern India and Its Neighbors (3)

British conquest and colonial policy, Hindu and Muslim nationalism, Gandhi's significance, and the emergence of independent India, Pakistan, and Bangladesh.

564A-564B. Southeast Asia (3-3)

Semester I: Cultural traditions of Southeast Asian peoples. Indigenous institutions and the influence of China, India, and Islam. Semester II: Southeast Asia in the modern world. Patterns of foreign stimulus and local response among the peoples of the area.

565. Revolution and Social Change in Asia (3)

Comparative study of contemporary problems in Asia emphasizing how indigenous peoples responded to the challenges of nationalism, reform, revolution, modernization, and neo-colonialism. Topics include social structure, education, peasant movements, urbanization, search for cultural identity, and national integration.

566. Chinese Civilization: The Great Traditions (3)

China's institutional and cultural development from ancient to premodern times. Emphasis on traditional philosophy, religions, literature, and the arts.

567. China's Century of Modernization (3)

China's modernization process from the early nineteenth-century Opium War through the People's Republic of China.

568. Communist Party and the Chinese Revolution (3)

Mao and the evolution of Chinese Communist Party since 1920, including Red Army, rural soviets, socialist economic and cultural systems, and foreign policy.

569. Japanese Civilization (3)

Japanese internal history and institutions during the period of indigenous development and Chinese influence including religions, philosophy, literature, and the arts.

570. Modern Japan (3)

Japan's development as a modern state, particularly in the nineteenth and twentieth centuries.

Field (f). Africa and Middle East**UPPER DIVISION COURSE****574. The Arab-Israeli Question, Past and Present (3)**

Arab-Israeli conflict over Palestine in perspective of Zionism, Arab nationalism, and Great Power relations from nineteenth century to present.

Field (g). Topical Subjects**UPPER DIVISION COURSES****580. Great Historians and Historical Literature (3) I, II**

Prerequisite: History 100, 105, or 120.
History of historical writing and works of major historians. Recommended for history and social science majors.

596. Selected Studies in History (1-4)

Topics in the various fields of history, such as biography, war, science, technology, urbanization, minority groups, immigration, and capitalism. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES

All graduate courses in the Department of History have a prerequisite of 12 units of upper division courses in history, or consent of the instructor.

601. Seminar in Historical Method (3)

General historical bibliography. The use of libraries and archives. Methods of critical historical investigation. The interpretations of history.

620. 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. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

625. Seminar in European History (3)

Prerequisites: Six upper division units in European history and History 601.

Directed research on topics selected from a designated area of European history. Maximum credit six units applicable to a master's degree.

630. Directed Reading in United States History (3)

Prerequisite: Six upper division units in United States history.
Selected readings in source materials and historical literature in a designated area of United States history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

635. Seminar in United States History (3)

Prerequisites: Six upper division units in United States history and History 601.

Directed research on topics selected from a designated area of United States history. Maximum credit six units applicable to a master's degree.

640. Directed Reading in Latin American History (3)

Prerequisite: Six upper division units in Latin American history.

Selected readings in source materials and historical literature in a designated area of Latin American history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

650. Directed Reading in Asian History (3)

Prerequisite: Six upper division units in Asian history.
Selected readings in source materials and historical literature in a designated area of Asian history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

655. Seminar in Asian History (3)

Prerequisites: Six upper division units in Asian history and History 601.

Directed research on topics selected from a designated area of Asian history. Maximum credit six units applicable to a master's degree.

680. Directed Reading in Selected Topics (3)

Prerequisite: Consent of the instructor.
Selected readings in source materials and historical literature of various fields of history such as war, science, technology, urbanization, minority groups, immigration, capitalism, conservation, and imperialism. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

Prerequisite: Advancement to candidacy.
Preparation for the comprehensive examinations in the major and minor fields of history for those students taking the M.A. under Plan B. Maximum credit three units applicable to a master's degree.

797. Research (3) Cr/NC/SP

Prerequisite: Advancement to candidacy and written approval of the History Department graduate adviser.
Independent research in a specialized subject in history.

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

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

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

799B. Thesis Extension (0) Cr/NC

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

Industrial Technology

In the College of Professional Studies and Fine Arts

OFFICE: Engineering 208
TELEPHONE: (619) 594-6813

Faculty

G. W. Bailey, Ed.D., Associate Professor of Industrial Technology, Coordinator of Department
William D. Guentzler, Ph.D., Professor of Industrial Technology

General Information

The Department offers advanced coursework in industrial technology which may be used toward fulfilling advanced degree requirements in other departments with the approval of the student's graduate adviser.

Master of Arts Degree in Industrial and Technical Studies

No new students are being admitted to this program. For a listing of degree requirements refer to the 1991-92 Graduate Bulletin.

UPPER DIVISION COURSES

505. Facilities Planning (3) II

Prerequisites: Industrial Technology 121, 200, and 320.
Space considerations, flow of materials, materials handling, specifying process equipment, and overall planning of industrial facilities with regard to theoretical principles of CIM, FMA, and JIT.

517. Thermosetting Polymers and Composites (3) II

Six hours of laboratory.
Prerequisites: Industrial Technology 115 and Chemistry 100 or higher.
Composition and selection of materials; evaluation of physical and mechanical properties; and product development and manufacturing. (Formerly numbered Industrial Arts 517.)

523. Technical Presentations in Computer Assisted Drafting (3) II

Six hours of laboratory.
Prerequisite: Industrial Technology 320.
Advanced computer assisted drafting applications in projections theory and analysis of presentation drawings for engineering and illustrations. Axonometric and perspective projection, rendering, and shading techniques in product design. (Formerly numbered Industrial Arts 523.)

533. Applied Metal Forming Operations (3) I

Six hours of laboratory.
Prerequisite: Industrial Technology 131.
Theory of conventional and high energy industrial forming processes augmented with laboratory forming experiences. (Formerly numbered Industrial Arts 533.)

542. Commercial/Industrial Photography (3) I

Six hours of laboratory.
Prerequisites: Industrial Technology 140 and upper division standing.

Theory and laboratory techniques, composition and lighting with emphasis on large format photography. Industrial applications, architecture, illustrative, advertising, portraiture, and commercial photography. (Formerly numbered Industrial Arts 542.)

553. Residential Building Construction (3)

Six hours of laboratory.
Prerequisite: Industrial Technology 351.
Residential building construction principles encompassing the study of state and national building codes, foundation systems, framing techniques, and waterproofing applications. Estimating labor and material costs. (Formerly numbered Industrial Arts 553.)

563. Industrial Control Circuits (3) II

Six hours of laboratory.
Prerequisites: Industrial Technology 464 and Information and Decision Systems 180.

Analysis, theory, and application of electronic circuits used to interface digital computers to automated manufacturing equipment. Includes methods of feedback; ADAC; DAC; and sampling techniques. (Formerly numbered Industrial Arts 563.)

573. Power Systems Technology (3) II

Six hours of laboratory.
Prerequisite: Credit or concurrent registration in Industrial Technology 371.
Power systems and technological innovations in education and power related industries. Emphasis on product development, testing, and reporting. (Formerly numbered Industrial Arts 573.)

583. Graphics Management and Marketing (3)

Six hours of laboratory.
Prerequisite recommended: Industrial Technology 381.
Printing business practices, publication, and brokerage guidelines, graphic management and organizational theory, computer based bidding and estimating, and introduction to consumer packaging and development. (Formerly numbered Industrial Arts 583.)

596. Experimental Topics in Industrial Technology (1 or 2)

Prerequisite: Consent of instructor.
Individual laboratory work on complex projects on an experimental basis. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree. (Formerly numbered Industrial Arts 596.)

GRADUATE COURSES

601. Research (3)

Prerequisite: Consent of instructor.
Research in specific industrial and technical areas, such as manufacturing products, processes and quality assurance or industrial education curricula and programs. May be repeated with new content. Maximum credit six units applicable to a master's degree. (Formerly numbered Industrial Arts 601.)

696. Selected Topics in Industrial and Technical Studies (1-3)

Prerequisite: Consent of instructor.
In-depth study concerning specific industrial and technical subjects. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree. (Formerly numbered Industrial Arts 696.)

720. History and Philosophy of Industrial Education and Technology (3)

Historical and philosophical foundations and development of industrial education and technology and its continuing role in American culture. (Formerly numbered Industrial Arts 720.)

722. Techniques of Technical Communication and Presentation (3)

Development, organization, application, and evaluation of appropriate instructional materials for technical utilization in education and industry. (Formerly numbered Industrial Arts 722.)

723. Evaluation Methods for Industrial and Technical Studies (3)

Principles, methods, and criteria of evaluation for measuring growth, achievement, performance and quality systems in education and industry. Emphasis on accountability. (Formerly numbered Industrial Arts 723.)

724. Managing Industrial and Technical Studies Programs (3)

Principles, objectives, methods, and techniques employed in the administration and supervision of educational and industrial personnel. (Formerly numbered Industrial Arts 724.)

790. Research Methods in Industrial Technology (3)

Location, selection, and documentation of professional, scientific, and technical literature. Procedures of investigation. Treatment and analysis of data. Methods of reporting technical research. (Formerly numbered Industrial Arts 790.)

796. Field Work in Industrial Technology (3)

Prerequisite: Consent of instructor.
Study of the principles of facilities requirements with emphasis on facilities planning processes and alternative plans in industrial and technical settings. (Formerly numbered Industrial Arts 796.)

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

Prerequisite: Consent of instructor and graduate adviser.
Individual study. Maximum credit six units applicable to a master's degree. (Formerly numbered Industrial Arts 798.)

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis in industrial and technical studies for the master's degree. (Formerly numbered Industrial Arts 799A.)

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. (Formerly numbered Industrial Arts 799B.)

Interdisciplinary Studies

General Information

When special needs and interests cannot be met adequately by any of the existing advanced degree programs, a student may propose a Master of Arts or Master of Science degree in Interdisciplinary Studies. This degree provides the unusually well qualified student an opportunity for highly individualized graduate studies composed of coursework in two or more departments or colleges. The degree is administered by the Graduate Division and Research and follows procedures established by the Graduate Council.

The proposed program must be approved by the department chairs and deans concerned. It must not be substantially available in a current graduate program offered at this University, and it must have adequate focus and coherence in cognate disciplines. Prerequisite courses will be required to support the courses in the student's program of study.

A graduate supervisory committee and a field of study shall be chosen, subject to the approval of the Dean of the Graduate Division and Research, in consultation with the Student Affairs Committee of the Graduate Council. The supervisory committee shall consist of not less than three full-time faculty representative of the areas in which the student intends to pursue the degree. The graduate dean, or his designee, shall serve on the committee as an ex officio member.

Since the inception of this program in 1977, individual students have undertaken graduate programs in such subjects as paleobiology, folklore and mythology, molecular biology, museum studies, infant development, animal behavior, sports psychology, environmental resource management, environmental economics, primitive Christianity, gerontology, and learning interface design.

Admission to Graduate Study

In addition to satisfying the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must (1) possess an appropriate academic background for the proposed program and have achieved an undergraduate grade point average of 3.0; and (2) complete the GRE General Test with a satisfactory score on the verbal and quantitative sections. Normally, students applying to the University for the first time are not admitted directly into the Interdisciplinary Studies program. Contact the Graduate Division and Research for further information.

Advancement to Candidacy

In addition to satisfying the general requirements of the University for advancement to candidacy, as stated in Part Two of this bulletin, the student must satisfy the special requirements for advancement defined by the supervisory committee in the official program of study. These requirements will include demonstrated proficiency in at least one appropriate research tool, ordinarily the reading knowledge of a foreign language.

Specific Requirements for the Master's Degree

(Major Code: 49993)

1. In addition to satisfying the requirements for classified graduate standing and the basic requirements for the master's degree, as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units of courses acceptable for advanced degree credit.
2. The official program of study must reflect careful and deliberate planning. The selection and level of courses will be based on the best standards and practices of the disciplines involved. Normally no more than six units which have been taken prior to approval of the official program of study may apply on the degree.
3. In consultation with the supervisory committee, the student will determine the subject of the research for a thesis that will be completed as the culminating experience in partial fulfillment of the requirements for the degree. Satisfactory completion of the thesis will be determined by the supervisory committee.

General Procedures for the Program

1. A prospective applicant interested in being considered for the Interdisciplinary Studies program should complete and follow the instructions on the form, "Request for Permission to Pursue an Interdisciplinary Studies Master's Degree," which is available in the Graduate Division. The applicant must initially seek out a potential faculty adviser and two additional faculty members who have the expertise and interest in advising and supporting the applicant in the proposed program of study.
2. When the student's portion of the form has been completed, the major adviser selected, and other potential supervisory committee members contacted, an appointment with the assistant dean of the Graduate Division and Research should be arranged. Both the applicant and the proposed major adviser should be present at this meeting. Other proposed committee members are welcome to participate in these discussions.
3. Following this meeting and after making any modifications to the proposed program eventuating from it, the student must present for approval the "Request for Permission to Pursue an Interdisciplinary Studies Master's Degree" to the chairs of departments in which courses are being proposed and to the deans of colleges responsible for these academic units.
4. The student will then present the "Request," endorsed with appropriate departmental and college approvals, to the Graduate Division and Research, where it will be reviewed by the Student Affairs Committee of the Graduate Council. Upon the recommendation of that committee, the "Request" will be forwarded to the graduate dean, whose

final endorsement will certify that the "Request" has been approved as an official program of study, that the supervisory committee has been formally appointed, and that the student has been granted classified graduate standing for the purpose of pursuing the special major.

5. Virtually all other requirements for this major are the same as those for other master's degree programs, as specified in this bulletin. Special questions should be directed to the approved graduate major adviser or the Graduate Division and Research.

GRADUATE COURSES

General Studies Courses

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

Prerequisite: Advancement to candidacy.

Independent research in a specialized subject. Maximum six units applicable to a master's degree.

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

Prerequisite: Consent of instructor.

Independent study. Maximum credit six units applicable to a master's degree.

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

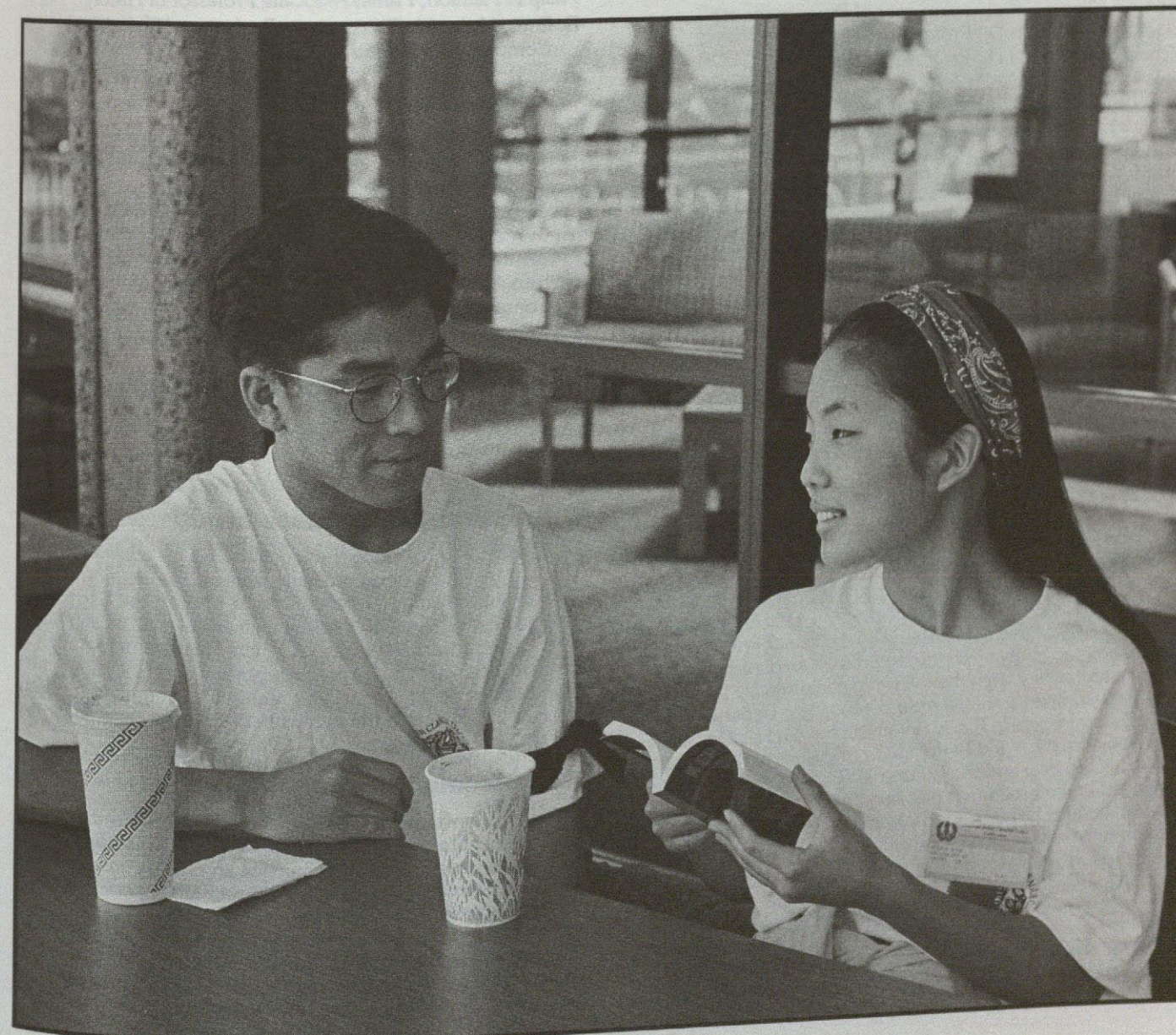
Prerequisites: An officially appointed thesis committee and advancement to candidacy.

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

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

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

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



Latin American Studies

In the College of Arts and Letters

Faculty Committee for Latin American Studies

Thomas M. Davies Jr., Ph.D., Professor of History, Chair of Committee, Graduate Coordinator
 Joseph W. Ball, Ph.D., Professor of Anthropology
 Ernesto M. Barrera, Ph.D., Professor of Spanish
 Thomas E. Case, Ph.D., Professor of Spanish
 Susana D. Castro (Castillo), Ph.D., Professor of Spanish
 C. Ben Christensen, Ph.D., Professor of Spanish
 Kathee M. Christensen, Ph.D., Professor of Communicative Disorders
 Norris C. Clement, Ph.D., Professor of Economics
 Roger L. Cuniff, Ph.D., Professor of History
 Michael S. Doyle, Ph.D., Professor of Spanish
 Oliva M. Espín, Ph.D., Professor of Women's Studies
 Janet B. Esser, Ph.D., Professor of Art
 Barbara E. Fredrich, Ph.D., Professor of Geography
 Ernst C. Griffin, Ph.D., Professor of Geography
 Ricardo Griswold del Castillo, Ph.D., Professor of Mexican American Studies
 Barbara W. Hartung, Ph.D., Professor of Journalism, Executive Assistant to the President
 Gerald L. Head, Ph.D., Professor of Spanish
 Lawrence A. Herzog, Ph.D., Professor of Mexican American Studies
 Theodore V. Higgs, Ph.D., Professor of Spanish
 Joseph B. Kelley, D.S.W., Professor of Social Work
 Brian E. Loveman, Ph.D., Professor of Political Science

Allan W. Miller, M.F.A., Professor of Art
 José D. Rodríguez, Ph.D., Professor of Mexican American Studies
 Rubén G. Rumbaut, Ph.D., Professor of Sociology
 Gustavo V. Segade, Ph.D., Professor of Spanish
 Malcolm N. Silverman, Ph.D., Professor of Spanish and Portuguese
 Paul J. Vanderwood, Ph.D., Professor of History
 Maria-Barbara Watson, Ph.D., Professor of Women's Studies
 John R. Weeks, Ph.D., Professor of Geography
 Philip F. Flemion, Ph.D., Associate Professor of History
 D. Emily Hicks, Ph.D., Associate Professor of English and Comparative Literature
 Josae R. Villarino, Ph.D., Associate Professor of Mexican American Studies
 Ronald R. Young, Ph.D., Associate Professor of Spanish
 Carmen Concepción, Ph.D., Assistant Professor of Public Administration and Urban Studies
 Adelaida R. Del Castillo, M.A., Assistant Professor of Mexican American Studies
 Margarita G. Hidalgo, Ph.D., Assistant Professor of Spanish
 William A. Nericcio, Ph.D., Assistant Professor of English and Comparative Literature
 Paul Ganster, Ph.D., Director, Institute for Regional Studies of the Californias
 Wayne Stromberg, Ph.D., Director, Foreign Language Laboratory

General Information

Since 1976 the Center for Latin American Studies has been designated a National Resource Center for Latin American Studies (one of only eleven in the nation) by the United States Department of Education and funded through a Title VI grant. The Master of Arts degree administered by the center is an interdisciplinary program drawing on the expertise of an outstanding Latin Americanist faculty from the following departments: Anthropology, Art, Comparative Literature, Economics, Geography, History, Political Science, Public Administration and Urban Studies, Sociology, Spanish and Portuguese Languages and Literatures, Women's Studies, and the College of Business Administration. Emphasis in the program is placed on the central issue of "Modernization and Urbanization" in Latin America and offered through nine courses from nine different departments.

Research interests and areas of expertise of the faculty include: demography, drama, economic development, folk art, Indians and peasants, land tenure systems, the Latin American press, mental health and aging in Mexico, militarism and guerrilla warfare, Spanish American prose, poetry and criticism, U.S.-Latin American relations, and the U.S.-Mexico border.

Admission to Graduate Study

In addition to meeting the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must present the Bachelor of Arts degree 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 described in Part Two of this bulletin. Moreover, students must demonstrate an oral and reading proficiency in Spanish through either the satisfactory completion of an oral and a written examination, or: (1) satisfactory completion of Spanish 201 and 202, and a reading examination administered by the Department of Spanish and Portuguese Languages and Literatures, or (2) satisfactory completion of three units of 500-level or graduate coursework in Spanish. In addition,

students must complete satisfactorily (with a grade of B or better) Portuguese 101. Coursework at or above the 500 level may be included as a part of the official program with the approval of the graduate coordinator.

Specific Requirements for the Master of Arts Degree

(Major Code: 03081)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Two of this bulletin, the student must complete at least 30 units of upper division and graduate coursework, including Latin American Studies 601, with not less than 24 units in courses of Latin American content selected from those listed below and distributed as follows:

	600- and 700-numbered Courses	500-, 600- and 700-numbered Courses
Department A	6 units	6 units
Department B	3 units	3 units
Department C	3 units	3 units
	12 units	12 units

The total program shall include a minimum of 18 units in 600- and 700-numbered courses. Students may select either Plan A or Plan B in consultation with the graduate adviser. In addition to meeting the distribution requirements given above, students electing Plan A must complete the 799A (Thesis) course offered by the department selected for the 12-unit concentration (Department A). Students electing Plan B must pass a comprehensive written and oral examination in lieu of the thesis.

All programs will be approved by the Latin American Studies committee.

Master of Business Administration and Master of Latin American Studies Degrees

General Information

The College of Business Administration and the Center for Latin American Studies offer a three-year concurrent graduate program leading to a Master of Business Administration and a Master of Latin American Studies. The primary objective of the concurrent program is to offer preparation in the fields of business administration and Latin American studies for the purpose of providing the knowledge and skills necessary to promote and engage in business relationships within a Latin American historical, cultural, and linguistic milieu, in Latin America or in the United States.

For information, contact the Chair of the Latin American Studies Committee or the Associate Dean in the College of Business Administration.

Admission to Graduate Study

Since this program combines disparate disciplines, applicants are required to submit GMAT scores and should have substantial academic backgrounds in the humanities and social sciences. Applicants should also have a background in Spanish or Portuguese language and literature. It is expected that all students in the concurrent degree program will be full time, so that all requirements will be satisfied in an acceptable time period.

Specific Requirements for the MBA/MA Degree

(Major Code: 49061)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete an officially approved course of study of not less than 60 units as outlined below.

- Complete each of the following core of eleven courses for which an equivalent has not been satisfactorily completed. Satisfactory completion means that the student's grade in each equivalent must be "B" (3.0) or better and that the course must have been completed within seven years prior to the first course completed on the master's degree program. Students who have completed the undergraduate equivalents of these core business courses will take a minimum of 18 units in business administration in addition to those required in section 2 selected in consultation with the graduate adviser.
 ACCTG 600 Financial Accounting (3)
 ACCTG 610 Managerial Accounting (3)
 ECON 603 Economic Analysis (3)
 FIN 604 Legal Environment for Executives (3)
 FIN 615 Financial Management I (3)
 IDS 602 Statistical Analysis for Business (3)
 IDS 609 Management Information Systems (3)
 IDS 612 Production and Operations Management (3)
 MGT 601 Management of Organizations (3)
 MGT 611 Organizational Behavior and Human Resources Management (3)
 MKT 605 Marketing (3)
- Complete 12 units in Business Administration to include:
 FIN 654 Seminar in International Business Finance (3)
 MGT 671 Seminar in Comparative Industrial Relations (3) or
 MGT 710 Seminar in World Business Environment (3)
 MGT 723 Seminar in International Strategic Management (3)
 MKT 769 Seminar in International Marketing (3)
- Complete 24 units in courses of Latin American content, including the following required courses:
 LAS 696 Experimental Topics (3)
 LAS 798 Special Study (3) Cr/NC/SP
 HIST 640 Directed Reading in Latin American History (3)*
 POL S 661 Seminar in the Political Systems of the Developing Nations (3)*
 POL S 667 Seminar in Latin American Political Systems (3)*

* Repeatable with new content and approval of advisory committee.

The remaining nine units will be selected from the following list of courses, with at least one from the California Western School of Law courses highly recommended:

Latin American Studies Courses

560. Latin America After World War II (3)
 798. Special Study (3) Cr/NC/SP

Economics Course

565. U.S.-Mexico Economic Relations (3)

Geography Courses

654. Topics in Comparative Urbanization (3)**
-
720. Seminar in Regional Geography (3)**

History Courses

- 551A-551B. Mexico (3-3)
-
552. Brazil (3)
-
553. Caribbean Island Nations (3)
-
554. The Andean Republics of South America (3)
-
555. Modernization and Urbanization in Latin America (3)
-
556. Guerrilla Movements in Latin America (3)
-
558. Latin America in World Affairs (3)
-
559. Central America (3)
-
640. Directed Reading in Latin American History (3)
-
795. Area Studies in History (3) Cr/NC**

Political Science Courses

566. Political Change in Latin America (3)
-
567. Political Systems of Latin America (3)
-
568. The Mexican Political System (3)
-
655. Seminar in General Comparative Political Systems (3)**
-
675. Seminar in International Relations (3)**
-
795. Problem Analysis (3)**

California Western School of Law Courses***

498. Mexican Law
-
610. Immigration Law
-
625. International Business Transactions
-
636. International Organizations
-
643. Private International Law
-
644. Public International Law
-
703. Latin American Law

In addition, the student must complete MGT 797 (Research) and BA 799A (Thesis). The thesis in Business Administration will treat a Latin American related topic and will be supervised by a thesis committee whose chair is a member of the College of Business faculty with international business expertise and at least one faculty member from the Latin American studies program.

Transfer units will not be accepted toward the concurrent MBA/MA degree program. Graduate study or degrees obtained previously will not be accepted toward meeting the unit requirements of the concurrent MBA/MA degree program.

If a student after entering the concurrent MBA/MA program returns to a single degree program, all the requirements for the single degree program must be met.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, 1) the student will be required to complete Spanish 302 (or its equivalent), or Portuguese 302 (or its equivalent), and pass an oral and written examination administered by the Department of Spanish and Portuguese Languages and Literatures; 2) all core courses in business and Latin American studies must be completed prior to advancement with a minimum grade point average of 3.0 and no grade less than a B- in any core course; 3) have been recommended for advancement by the combined advisory committee; 4) have a thesis proposal approved by the combined faculty advisory committee.

Upon advancement to candidacy, the student will enroll in Management 797 (Research) and BA 799A (Thesis). A thesis

(Plan A) incorporating theory, method, and analytic techniques from both disciplines is the culminating experience for the concurrent program leading to the MBA and MA degrees.

** Acceptable when of relevant contents.

*** These courses are not required. Students must apply to enroll under the provisions of the affiliation agreement with the California Western School of Law.

Courses Acceptable on Master's Degree Programs in Latin American Studies**UPPER DIVISION COURSES**
Latin American Studies Courses**560. Latin America After World War II (3) II**

Prerequisites: Latin American Studies 101, History 115A, 115B, and either Political Science 566 or consent of the instructor.

Major socioeconomic and political changes in Latin America since World War II and inter-American relations during the same period. Includes guest lecturers.

580. Special Topics (1-4)

Prerequisite: Six upper division units in Latin American content courses.

Interdisciplinary study of selected Latin American topics. Credit will vary depending on the scope and nature of the topic. Whenever appropriate, the course will be taught by a team of instructors representing two or more disciplines. May be repeated with different content. See Class Schedule for specific content. Maximum credit eight units.

Anthropology Courses

526. Cultural Change and Processes (3)*
-
529. Urban Anthropology (3)*
-
582. Regional Anthropology (3)*

Art Courses

561. Art of Pre-Hispanic America (3)
-
596. Advanced Studies in Art and Art History (1-4)*

Economics Courses

565. U.S.-Mexico Economic Relations (3)
-
592. International Monetary Theory and Policy (3)
-
596. Experimental Topics (3)*

English Course (Comparative Literature)

596. Topics in Comparative Literature (3)*

Geography Course

596. Advanced Topics in Geography (1-3)*

History Courses

- 541A. California (3)
-
- 551A-551B. Mexico (3-3)
-
552. Brazil (3)
-
553. Caribbean Island Nations (3)
-
554. The Andean Republics of South America (3)
-
555. Modernization and Urbanization in Latin America (3)
-
556. Guerrilla Movements in Latin America (3)
-
557. History of Latin American Popular Culture and Social Thought (3)
-
558. Latin America in World Affairs (3)
-
559. Central America (3)
-
596. Selected Studies in History (1-4)*

* Acceptable when of relevant content.

Law

With the permission of the graduate adviser and the approval of the Graduate Division and Research, classified graduate students may take a maximum of nine units of law at California Western School of Law through an affiliation agreement between the two institutions. San Diego State students must be enrolled for graduate courses at San Diego State University in the semester they are taking courses at California Western School of Law.

Please consult with the graduate adviser for a listing of the specific law courses offered.

Political Science Courses

566. Political Change in Latin America (3)
-
567. Political Systems of Latin America (3)
-
568. The Mexican Political System (3)
-
577. Principles of International Law (3)

Portuguese Course

535. Brazilian Literature (3)

Public Administration Course

580. Comparative Public Administration (3)

Sociology Courses

555. Immigrants and Refugees in Contemporary American Society (3)
-
556. Topics in Comparative Societies (3)
-
596. Current Topics in Sociology (1-3)*

Spanish Courses

- 515A-515B. Mexican Literature (3-3)
-
520. Caribbean Area Countries Literature (3)
-
522. Andean Countries Literature (3)
-
524. Contemporary Argentine Literature (3)
-
570. Spanish American Poetry (3)
-
571. Spanish American Short Story (3)
-
572. Spanish American Theater (3)
-
596. Selected Studies in Spanish (3)*

Telecommunications and Film Courses

562. Documentary and Propaganda Film/Television (3)
-
590. International Telecommunications (3)
-
596. Selected Topics in Telecommunications and Film (1-3)

Women's Studies

553. Women Writers (3)*
-
580. Women and International Development (3)

GRADUATE COURSES**Latin American Studies Courses****601. Seminar on Methodology of Latin American Studies (3)**

Prerequisite: Graduate standing.

Theories and methodologies of Latin American Studies.

696. Experimental Topics (3)

Prerequisite: Graduate standing.

Intensive study in specific areas of Latin American studies. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units of 696 applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

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

Prerequisite: Consent of staff, to be arranged with the director and instructor.

Individual study. Maximum credit six units applicable to a master's degree.

Anthropology Courses

600. Seminar (3)*
-
620. Seminar in Regional Anthropology (3)*
-
797. Research (3) Cr/NC/SP
-
798. Special Study (1-3) Cr/NC/SP
-
- 799A. Thesis (3) Cr/NC/SP
-
- 799B. Thesis Extension (0) Cr/NC

Art Courses

798. Special Study (1-3) Cr/NC/SP
-
- 799A. Thesis or Project (3) Cr/NC/SP
-
- 799B. Thesis or Project Extension (0) Cr/NC

Comparative Literature (English Course)

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

Economic Courses

720. Seminar in Development and Planning (3)
-
730. Seminar in Macroeconomic Policy (3)
-
797. Research (3) Cr/NC/SP
-
798. Special Study (1-3) Cr/NC/SP
-
- 799A. Thesis (3) Cr/NC/SP
-
- 799B. Thesis Extension (0) Cr/NC

Geography Courses

654. Topics in Comparative Urbanization (3)*
-
720. Seminar in Regional Geography (3)*
-
750. Seminar in Urban Geography (3)*
-
797. Research (1-3) Cr/NC/SP
-
798. Special Study (1-3) Cr/NC/SP
-
- 799A. Thesis (3) Cr/NC/SP
-
- 799B. Thesis Extension (0) Cr/NC

History Courses

640. Directed Reading in Latin American History (3)
-
795. Area Studies in History (1-3) Cr/NC*
-
797. Research (3) Cr/NC/SP
-
798. Special Study (1-3) Cr/NC/SP
-
- 799A. Thesis (3) Cr/NC/SP
-
- 799B. Thesis Extension (0) Cr/NC

Political Science Courses

655. Seminar in General Comparative Political Systems (3)*
-
661. Seminar in the Political Systems of the Developing Nations (3)*
-
667. Seminar in Latin American Political Systems (3)
-
675. Seminar in International Relations (3)*
-
795. Problem Analysis (3)*
-
797. Research in Political Science (3) Cr/NC/SP
-
798. Special Study (1-3) Cr/NC/SP
-
- 799A. Thesis (3) Cr/NC/SP
-
- 799B. Thesis Extension (0) Cr/NC

* Acceptable when of relevant content.

Public Administration and Urban Studies Course

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

Sociology Courses

696. Experimental Topics (3)*
770. Seminar in Population and Demography (3)
798. Special Study (1-3) Cr/NC/SP

Spanish Courses

601. Seminar in Hispanic Literary Theory (3)
650. The Gaucho Epic (3)
660. Modernism (3)
695. Contemporary Spanish American Prose Fiction (3)
696. Selected Topics (3)*
710. Images of Women in Spanish American Literature (3)
750. Seminar in Spanish American Literature (3)

755. Seminar in Spanish American Culture and Thought (3)

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

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

799B. Thesis Extension (0) Cr/NC

Telecommunications and Film Course

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

Women's Studies Courses

696. Selected Topics in Women's Studies (3-6)*

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

* Acceptable when of relevant content.



Liberal Arts

In the College of Arts and Letters

OFFICE: Adams Humanities 3172

TELEPHONE: (619) 594-4426

Faculty

Howard I. Kushner, Ph.D., Professor of History, Director, MALA Program

Sandra B. Alcosser, M.F.A., Professor of English

Michael J. Carella, Ph.D., Professor of Philosophy

Laurie D. Edson, Ph.D., Professor of French

Janet B. Esser, Ph.D., Professor of Art

Ricardo Griswold del Castillo, Ph.D., Professor of Mexican American Studies

Dipak K. Gupta, Ph.D., Professor of Public Administration and Urban Studies

Charles D. Hamilton, Ph.D., Professor of History and Classics

Anne-Charlotte Harvey, Ph.D., Professor of Drama

Kathleen B. Jones, Ph.D., Professor of Women's Studies

Eve Kornfeld, Ph.D., Associate Professor of History

Peter F. Larham, Ph.D., Professor of Drama

Fred S. Moramarco, Ph.D., Professor of English and Comparative Literature

José D. Rodriguez, Ph.D., Professor of Mexican American Studies

Stephen B.W. Roeder, Ph.D., Professor of Physics and Chemistry

Alan R. Sweedler, Ph.D., Professor of Physics

JoAnne Cornwell, Ph.D., Associate Professor of French and Africana Studies

Marcia K. Hermansen, Ph.D., Associate Professor of Religious Studies

Committee on Graduate Liberal Arts

The Master of Arts degree in Liberal Arts is administered through the Graduate Liberal Arts Committee. Faculty assigned to teach courses in the program are drawn from departments throughout the University.

General Information

The College of Arts and Letters offers a Graduate Liberal Arts program that is one of two in the western United States. The Master of Arts degree in Liberal Arts is an interdisciplinary program administered by the Graduate Liberal Arts Committee. Even though this approach to graduate education is over thirty years old in the United States, its interdisciplinary nature has kept it vital and flexible. Students are encouraged to customize their degree by selecting coursework relevant to their interests.

The Master of Liberal Arts degree is an interdisciplinary program intended to provide an alternative approach to continued adult learning by offering a program that crosses departmental boundaries and aims for breadth and scope. It provides the unique combination of a highly individualized program of study centered around personal interests combined with a strong grounding in interdisciplinary methods for problem solving.

The student body is drawn from diverse backgrounds, thus adding to the unique character of the program.

Admission to Graduate Study

Applicants seeking admission to the program leading to the Master of Arts degree in Liberal Arts should contact the director of Graduate Liberal Arts Committee requesting appropriate application materials. Detailed information concerning application procedures will be sent to the applicant along with the appropriate application forms.

In addition to satisfying the requirements for admission to the University with classified graduate standing as described in Part Two of this bulletin, the student seeking admission must: (1) have a grade point average of 3.0 or better on work completed during the last 60 units for the baccalaureate degree, (2) have a score of 950 or better on the GRE General Test (combined verbal and quantitative) or an equivalent score on the Miller Analogies Test, and (3) complete a statement of purpose essay. A personal interview with a member of the Graduate Liberal Arts Committee is recommended.

Students who do not meet all of the above requirements for admission with classified graduate standing may be admitted with conditional classified graduate standing upon the recommendation of the MALA director and committee. Students so admitted will be advised as to the nature of their deficiency and the time to be allowed to achieve full classified graduate standing.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, the students must (1) satisfactorily complete 12 units, with a minimum grade point average of 3.0, including 9 units of core seminars as stipulated (MALA 600A, 600B, 600C, 600D) and (2) if selecting Plan A, have a thesis or project proposal which has received the approval of the Graduate Liberal Arts Committee and its director.

Specific Requirements for the Master of Arts Degree in Liberal Arts

(Major Code: 49017)

In addition to meeting the basic requirements for the Master of Arts degree in Liberal Arts as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units in residence at San Diego State University in the MALA program, of which at least 15 must be in 600- and 700-numbered courses. The total program must include:

1. Three units each of MALA 600A, 600B, 600C, or 600D for a total of nine units.
2. Three units of MALA 601.
3. A theme of study composed of 15 units of graduate coursework, selected with the approval of the MALA director which normally must be in at least two of the following areas: social sciences, humanities, natural sciences, and fine arts, with no more than six units in any given department. Some 500 level courses may be used in partial fulfillment of this requirement, if approved by the MALA director. MALA 798, where applicable, may be included as satisfying 3 of the 15 units for the thematic component.

Under special circumstances, and with permission of the MALA director, a student may compose a theme that deviates in structure from the criteria stipulated above. This theme may include up to a maximum of 12 units of 600A, 600B, 600C, and 600D, in any combination.

Students may select either Plan A or Plan B in consultation with the MALA director. In addition to meeting the distribution requirements given above, students electing Plan A must complete MALA 799A (Thesis or Project). Students electing Plan B must complete MALA 795 (Studies in the Liberal Arts) and pass a written comprehensive examination in lieu of the thesis.

All programs will be approved by the MALA director in consultation with the Graduate Liberal Arts Committee.

GRADUATE COURSES

600A-600B-600C-600D. Interdisciplinary Study in the Liberal Arts (3-3-3-3)

Prerequisites: Admission to the Master of Arts degree in Liberal Arts program and consent of MALA director.

Interdisciplinary seminars to explore issues that require integration of the perspective of various areas of the liberal arts. Each course may be repeated with new content. See Class Schedule for specific content.

- A. Social Sciences and Humanities
- B. Social Sciences and Natural Sciences
- C. Humanities and Natural Sciences
- D. Fine Arts and Social Sciences, Humanities, or Natural Sciences

601. Liberal Arts Colloquium (1)

Prerequisite: Admission to the Master of Arts degree in Liberal Arts program or graduate standing.

Issues in interdisciplinary studies. May be repeated with new content. See Class Schedule for specific content. Maximum credit three units applicable to a master's degree.

696. Advanced Topics in Liberal Arts (1-3)

Prerequisite: Admission to the Master of Arts degree in Liberal Arts program or graduate standing.

Intensive study in specific areas of liberal arts. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

795. Studies in the Liberal Arts (1-3) Cr/NC

Prerequisite: An officially appointed examining committee and advancement to candidacy.

Individual preparation for comprehensive examination for students taking the Master of Liberal Arts under Plan B. Maximum credit three units.

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

Prerequisite: Advancement to candidacy and consent of MALA director

Individual study on a given topic through interdisciplinary perspectives. Maximum credit three units.

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

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

Preparation of a project or thesis for the Master of Arts degree in Liberal Arts.

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

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

Registration required in any semester or term following assignment of SP in MALA 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.

Linguistics and Oriental Languages

OFFICE: Business Administration 327
TELEPHONE: (619) 594-5268

In the College of Arts and Letters

Faculty

Charlotte Webb, Ph.D., Associate Professor of Linguistics, Chair of Department
Zev Bar-Lev, Ph.D., Professor of Linguistics
Thomas S. Donahue, Ph.D., Professor of Linguistics
Ann M. Johns, Ph.D., Professor of Linguistics
Robert Underhill, Ph.D., Professor of Linguistics
Soonja Choi, Ph.D., Associate Professor of Linguistics (Graduate Adviser)
Jeffrey P. Kaplan, Ph.D., Associate Professor of Linguistics
Orin D. Seright, Ph.D., Associate Professor of Linguistics

Assistantships

Graduate teaching assistantships in linguistics are offered each semester to a limited number of qualified students to teach the composition courses for International Students. Those interested should send a letter of application to the graduate adviser.

General Information

The Department of Linguistics and Oriental Languages, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in linguistics. The interdisciplinary program provides broad educational opportunities through two specializations: 1) General Linguistics, for those planning to pursue a doctorate in theoretical areas (e.g., syntax or phonology) or for those who plan to work in a language-related field in industry or education (e.g., computer programming); and 2) ESL/Applied, for students planning to pursue a doctorate in applied linguistics, or intending to teach or design curriculum for ESL/EFL classrooms. In addition to completing coursework for one of the specializations and demonstrating proficiency in a foreign language, students are required to submit a thesis (Plan A) or pass a comprehensive examination (Plan B).

All students who complete the required program will receive a Master of Arts degree in linguistics. If requested, the department will provide a letter designating a student's specialization for purposes of employment or application for further study. The specializations and language research interests of faculty members in this program are:

Zev Bar-Lev – ESL, discourse analysis, linguistics and computers; Hebrew, Arabic, and Russian.

Soonja Choi – Psycholinguistics, first and second language acquisition, cognition and language, ESL, materials development; Korean, French.

Thomas S. Donahue – American dialectology, sociolinguistics, historical linguistics; old English, middle English.

Ann M. Johns – ESL methodology, materials development, discourse analysis, psycholinguistics; Arabic and Chinese.

Jeffrey P. Kaplan – Syntax, semantics, ESL, bilingualism; Swahili.

Orin D. Seright – Comparative morphology, historical linguistics; Latin, Romance languages, Northern Germanic languages.

Robert Underhill – Descriptive linguistics, phonology, syntax; Turkish, Native American languages, Southeast Asian languages.

Charlotte Webb – Phonology, psycholinguistics, sociolinguistics; Spanish, Chinese, Lapp.

Admission to Graduate Study

In addition to meeting the requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, the student must have a Bachelor of Arts degree, 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/her graduate adviser will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

Advancement to Candidacy

All candidates must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition to the requirements listed, students must demonstrate reading or speaking knowledge of at least one foreign language prior to advancement to candidacy.

Specific Requirements for the Master of Arts Degree

(Major Code: 15051)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Two of this bulletin, the student must complete a graduate program of at least 30 units of 500-, 600-, and 700-level courses including Linguistics 622 and 795. A minimum of 15 of the units taken must be from 600- or 700-level courses.

Students selecting the Specialization in General Linguistics must complete Linguistics 621 and six units from the following: Linguistics 610, 611, 640, 651, 654, and 660.

Students selecting the ESL/Applied Specialization must complete either Linguistics 521 or 621, and at least six units from the following: Linguistics 623, 650, 652, 653. An internship, Linguistics 740, is required of all students selecting this specialization who have not taught ESL previously.

Students selecting one specialization may enroll in courses from the other specialization as electives.

Plan A or Plan B

With approval of the graduate adviser, a student may choose either Plan A, the normal option which requires a thesis, or in special circumstances and with the prior approval of the graduate adviser, Plan B, which requires a written comprehensive examination. Plan A students must select a committee of three faculty, two of whom are from the department, to supervise the thesis. In consultation with the graduate adviser, students select one of two options upon completion of an official program and advancement to candidacy.

Applied Linguistics and English as a Second Language (ESL) Certificate

The Department of Linguistics and Oriental Languages offers a Basic and an Advanced Certificate in Applied Linguistics and English as a Second Language (ESL). The Advanced Certificate requires 12 units to include Linguistics 525, 621, 622, and 650. The prerequisite to the Advanced Certificate is the Basic Certificate or its equivalent. Under certain circumstances comparable courses taken at other institutions may count towards the Certificate. Such courses must be evaluated and approved by the certificate adviser. For information on the Basic Certificate, please see the **General Catalog**.

Courses Acceptable on Master's Degree Programs in Linguistics

UPPER DIVISION COURSES

520. Fundamentals of Linguistics (3) I, II, S

Prerequisite: Upper division standing.

Principles of modern linguistics, with attention to English grammar (syntax, morphology, phonology). Language change, dialects, sociolinguistics, psycholinguistics, language acquisition.

521. Phonology (3) I, II

Prerequisite: Linguistics 420 or 520.

Introduction to the theoretical principles of transformational-generative phonology.

522. Syntax (3) I, II

Prerequisite: Linguistics 420 or 520.

Introduction to the theoretical principles of transformational-generative syntax.

523. Phonemics and Morphemics (3)

The study of procedures for arriving at the phonetic inventory of languages and the structuring of sound units (both linear and intonational) into phonemic systems; the study of morphemic hierarchies and their arrangements in forming words.

524. American Dialectology (3) I, II

Prerequisite: Upper division standing.

Development of American English. Regional, social, and ethnic differences in pronunciation, grammar, and vocabulary. Differences in men's and women's language. Black English.

525. Semantics and Pragmatics (3)

Prerequisite: Linguistics 420 or 520.

Advanced semantic theory; systematic analysis of the interaction of sequences of language with real world context in which they are used.

530. English Grammar (3)

Prerequisite: Six upper division units in linguistics.

English morphology, syntax, and discourse structure, including simple and complex sentence structure; lexical categories and subcategories; discourse functions of selected constructions. Problems and solutions in teaching English grammar.

550. Theory and Practice of English as a Second Language (3) I, II

Prerequisite: Linguistics 420 or 520.

The nature of language learning; evaluation of techniques and materials for the teaching of English as a second language.

551. Sociolinguistics (3) I, II

Prerequisite: A course in introductory linguistics.
Investigation of the correlation of social structure and linguistic behavior.

552. Psycholinguistics (3) I, II

Prerequisite: A course in introductory linguistics.
Psychological aspects of linguistic behavior.

553. Bilingualism (3)

Prerequisite: Linguistics 420 or 520 or Communicative Disorders 500.

Bilingual societies; language choice by bilinguals; bilingual language acquisition; effects of bilingualism on language structure and use.

560. Historical Linguistics (3)

Prerequisites: Linguistics 410 and 520 or 521.

Methods and principles used in historical study of language; processes of language change in phonology, morphology, syntax, and semantics; linguistic reconstruction; origin of language; language families; development of writing; examples from various language families.

596. Selected Topics in Linguistics (1-3)

Prerequisite: Upper division standing.

Advanced study of selected topics. See Class Schedule for specific content. May be repeated with new content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

German Courses

505. Applied German Linguistics (3)

510. German Phonetics (3)

Russian Courses

580. Russian Syntax and Stylistics (3)

581. Russian Phonetics and Morphology (3)

GRADUATE COURSES

610. Indo-European (3)

Prerequisite: Anthropology 304 or Linguistics 622.

Phonology, morphology, and syntax of the Indo-European language community, with special attention to "Centum" and "Satem" relationships.

611. Early English (3)

Phonology, morphology and syntax of Old and/or Middle English. Reading and analysis of selected texts. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

621. Advanced English Phonology (3)

Prerequisite: Linguistics 521.

English phonetics, phonemics, and phonological rules. Phonological differences among American English dialects. Survey of contemporary approaches to phonology.

622. Advanced Syntax (3)

Prerequisite: Linguistics 522.

Advanced study of linguistic theory and its application to the analysis of English.

623. Immigrant Languages (3)

Prerequisite: Linguistics 420 or 520.

Contrastive structure of selected languages representing significant immigrant populations in San Diego; emphasis on phonological, orthographic, morphological, lexical and syntactic features.

640. Field Methods in Linguistics (3)

Prerequisites: Linguistics 521 and credit or concurrent registration in Linguistics 622.

Principles and techniques of linguistic analysis working directly with native informants, including phonemic, grammatical, and syntactic analysis and text collection and interpretation.

650. Materials Development in Applied Linguistics (3)

Prerequisite: Linguistics 550.

Materials development and adaptation for teaching English as a second language and foreign language.

651. Sociology of Language (3)

Prerequisite: Linguistics 551.

Public and private reasons for planned language behavior. Creoles, personal speech interaction patterns, bilingualism, cultural diversity in language use, social-theoretical background, language planning, and social uses of sexism in language.

652. Second Language Acquisition (3)

Prerequisites: Linguistics 552 or 452; and 550.

Analyses of theories of second language acquisition; theoretical and empirical bases of current second language teaching methodologies.

653. ESL Reading and Writing (3)

Prerequisite: Linguistics 550.

Application of discourse and reading theory to the teaching and testing of ESL reading and writing. Issues of coherence, process-product, genre studies.

654. Language and Cognition (3)

Prerequisite: Linguistics 552.

Language production, comprehension, and acquisition, as these relate to human cognition.

660. History of Linguistics (3)

Prerequisite: Two courses in linguistics or equivalent background.

Background and development of modern linguistic theory.

740. Internship in English as a Second Language and Foreign Language Teaching (3) Cr/NC

Prerequisite: Linguistics 550.

Internship in teaching English as a second language and English as a foreign language, offering work experience with practicing professionals.

750. Directed Language Study (3)

Prerequisite: Consent of instructor.

Directed independent study of a foreign language not offered within the course structure at San Diego State University with the aim of applying the techniques of intensive linguistic analysis to the syntax, phonology and/or semantic structure of that language. No instruction in speaking or understanding the spoken language is included in this course. Maximum credit six units applicable to a master's degree.

795. Seminar in Linguistics (3)

Prerequisite: Completion of three units of 600- and 700-numbered courses in the master's program for linguistics.

Research in linguistics, course content varying according to instructor. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

Prerequisite: Consent of staff; to be arranged with department chair or instructor.

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

Anthropology Course

604. Seminar in Linguistics (3)

Russian Courses

610. History of the Russian Language (3)

650A-650B. Old Church Slavonic (3-3)

680. Seminar in Slavic Linguistics (3)

Spanish Courses

610. Seminar in Medieval Spanish (3)

770. Applied Spanish Linguistics for Teachers (3)

Mass Communication

In the Department of Journalism
In the College of Professional Studies and Fine Arts

OFFICE: Professional Studies and Fine Arts 325

TELEPHONE: (619) 594-6635

For faculty members in other departments participating in the degree program (journalism, psychology, sociology, speech communication, and telecommunications and film), see the appropriate sections of this bulletin.

Faculty Committee for Mass Communication

David M. Dozier, Ph.D., Professor of Journalism, Chair of Committee and Graduate Coordinator

Hayes L. Anderson, Ph.D., Professor of Telecommunications and Film

Susan A. Hellweg, Ph.D., Professor of Speech Communication

Michael R. Real, Ph.D., Professor of Telecommunications and Film

Brian H. Spitzberg, Ph.D., Professor of Speech Communication

Judy S. Reilly, Ph.D., Associate Professor of Psychology

Joel J. Davis, Ph.D., Assistant Professor of Journalism

General Information

The Master of Science degree in mass communication 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 Communication 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 communication or in disciplines emphasizing areas of mass communication; (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.

Research interests in mass communication include studies of media organizations and professionals, new technologies, message and program strategies, audience uses of media, and individual and social effects. Approximately one-quarter of the students completing the program do thesis research on a topic related to their professional interests.

Admission to Graduate Study

Students will be admitted to the graduate program in mass communication only after careful consideration of their qualifications by the Mass Communication Committee. Initial applications should be received prior to March 1 for the fall semester, and November 1 for the spring semester, in order to be considered.

All students must satisfy the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin. In addition, a student applying for admission to the graduate program in mass communication must meet the following requirements:

1. A bachelor's degree in journalism, radio-television, advertising, communications, sociology, or psychology or consent of the Mass Communication Committee.

2. A grade point average of not less than 2.75 overall, and 3.0 in the last 60 units of the undergraduate program.
3. A minimum score of 950 on the GRE General Test with no less than a score of 450 on the verbal section and no less than a score of 450 on the quantitative section.

To be considered for admission to the graduate program in mass communication, an applicant must submit the following in addition to the common admissions form:

1. Two copies of all undergraduate transcripts as required by Part Two of this bulletin.
2. Three letters of recommendation, one of which must be from an academic reference and another from an occupational reference.
3. A written personal statement by the applicant discussing background, interests, abilities, and career goals as they apply to the applicant's desire for an advanced degree, and in particular a graduate degree in mass communication.

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree

(Major Code: 06011)

In addition to meeting the requirements for the Master of Science degree as described in Part Two of this bulletin, the student must complete a minimum of 30 units in coursework acceptable on master's degree programs. At least 18 units of the total program must be in courses numbered 600-799. Twenty-four units must be distributed between two of the departments cooperating in the degree program, with 15 units in one department (Department A) and nine units in another (Department B). The remaining six units can be taken in any department (including Department A and Department B), provided the units are acceptable for graduate credit in the department in which they are taken and approved by the student's graduate adviser and the Mass Communication Committee.

Of the 15 units taken in Department A, at least 12 units must be at the 600 and 700 levels. At least six units in Department B must be numbered 600 to 799.

A student whose preparation is deemed insufficient by his adviser or by the Mass Communication Committee for graduate level study in his selected A and B departments will be given conditionally classified graduate standing. Students with conditionally classified graduate standing will be required to complete specified courses to remove any deficiencies in addition to the minimum of 30 units required for the degree. All such deficiencies must be completed within one year after admission to the graduate program and with a minimum grade average of "B" before the student will be given full classified graduate standing.

Candidates may elect to follow Plan A, requiring a thesis, or Plan B, which requires a written comprehensive examination agreed upon by the Mass Communication Committee in lieu of the thesis.

All programs must be approved by both the A and B departments, and the Mass Communication Committee.

Courses Acceptable on Master's Degree Programs in Mass Communication

UPPER DIVISION COURSES

Journalism Courses

500. Current Problems in Mass Communication (3)

Prerequisites: Journalism 200 or Economics 100 or Political Science 101, or Sociology 101, or Telecommunications and Film 100, and upper division standing.

Forces affecting American mass communication today: government restrictions, economics, pressure groups, censorship, mechanical developments, interrelationships of the media and society; professional ethics.

502. Law of Mass Communication (3)

Prerequisites: Journalism 200 or Political Science 102 or Telecommunications and Film 100, and upper division standing.

Libel, invasion of privacy, censorship, contempt of court, pornography. Constitutional guarantees affecting print and broadcast media. Government restrictions.

503. History of Mass Communication (3)

Prerequisites: Journalism 200 or History 110A or 110B or Telecommunications and Film 100, and upper division standing.

American journalism from colonial times to the present, with special attention to twentieth century trends and developments, including the emergent concept of social responsibility.

509. Research Methods in Mass Communication (3)

Prerequisites: Journalism 320 or 460 or 470 or 480 or graduate standing and concurrent registration in SPSS class.

Exploratory and evaluation methods for mass media research programs; depth interviews, experimental designs, questionnaire construction, telephone surveys, computerized statistical analysis.

529. Investigative Reporting (3)

One lecture and four hours of activity.

Prerequisites: Journalism 320; upper division standing; and satisfactory score on departmental grammar, spelling, and punctuation test.

Development of articles of substance and depth in specialized areas. Research, analysis and interpretation of complex issues in the news. Special problems of the sustained, reportorial effort. Field and laboratory practice.

530. Media Management (3)

Prerequisites: Senior standing and twelve upper division units in journalism.

Role of manager in journalism and journalism-related organizations. Interaction of news, entertainment, advertising, circulation, production and promotion functions as related to economic demands.

585. Problems and Practices in Public Relations (3)

Prerequisites: Journalism 481; upper division standing; and satisfactory score on departmental grammar, spelling, and punctuation test.

Current public relations practices and problems in a wide variety of commercial, industrial, financial, governmental, cultural and social organizations.

Sociology Courses

General Sociology Area

- 531. Working and Society (3)
- 537. Political Sociology (3)

Family and Intimate Relations Area

- 527. Aging and Society (3)

Social Change Area

- 556. Topics in Comparative Societies (3)
- 557. Urban Sociology (3)

Speech Communication Courses

- 530. Language Analysis (3)
- 535. Theories of Human Communication (3)
- 580. Communication and Politics (3)
- 584. Communication in Law and Medicine (3)
- 589. Ethical Issues in Communication (3)
- 590. Quantitative Methods in Communication (3)
- 592. Persuasion (3)
- 593. Qualitative Methods in Communication Research (3)

Telecommunications and Film Courses

- 500. Electronic Media Management (3)
- 505. Government and Telecommunications (3)
- 530. Radio Programming (3)
- 535. Television Programming (3)
- 540. Electronic Media Advertising (3)
- 562. Documentary and Propaganda Film/Television (3)
- 575. Technological Trends in Telecommunication (3)
- 590. International Telecommunications (3)

GRADUATE COURSES

Journalism Courses

600A-600B. Seminar in Theory and Method of Mass Communication (3-3)

Preparation in theory and research methods applicable to studies of the press, journalism and mass communication. Analysis of previous research, concepts, models and theory construction. Research design, observation, measurement and data analysis. (Formerly numbered Journalism 600.)

700. Seminar: Media Problems (3)

Prerequisites: Journalism 500, and 600A or 600B. Reading, investigation, and research concerning current topics in problems of mass media.

702. Seminar Mass Media and the Law (3)

Prerequisites: Journalism 502 or Telecommunications and Film 505; Journalism 600A or 600B.

Case studies of legal restrictions and guarantees affecting radio, television, motion pictures, advertising, and printed media.

705. Seminar in International Journalism (3)

Prerequisite: Journalism 600A or 600B. In-depth exploration of the foreign press and cross-cultural communication; the place of the press in national development and international stability; national images and world opinion; censorship, propaganda and other barriers to international understanding.

707. Seminar in Mass Communication and Public Opinion (3)

Prerequisites: Journalism 509, and 600A or 600B.

Analysis of media and their opinion-shaping role; methods and effects of pressure groups; propaganda analysis; creation and perpetuation of images and stereotypes.

708. Seminar: Mass Communication and Society (3)

Prerequisite: Journalism 600A or 600B.

Rights, responsibilities and characteristics of mass media and mass communication practitioners; characteristics and responsibilities of audiences and society.

740. Major Projects in Mass Communication (1-6)

Prerequisite: Journalism 600A or 600B.

Design and execution of an in-depth project in one of these areas; advertising campaign, series of detailed expository articles or news stories, or model public relations campaign. May be repeated with new content. Maximum credit six units applicable to a master's degree.

782. Seminar in Public Relations (3)

Prerequisites: Journalism 585, and 600A or 600B.

Analysis and critique of contemporary public relations programs and theory. Development of a comprehensive public relations project involving original research.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

799B. Thesis Extension (0) Cr/NC

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

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

Psychology Courses

- 621. Seminar in Personnel Psychology (3)
- 622. Seminar in Organizational Psychology (3)
- 700. Seminar (3)
- 745. Seminar in Social Psychology (3)
- 798. Special Study (1-3) Cr/NC/SP
- 799A. Thesis (3) Cr/NC/SP
- 799B. Thesis Extension (0) Cr/NC

Sociology Courses

- 602. Advanced Research Methods: Core Course (3)
- 603. Advanced Social Psychology (Sociological Approaches): Core Course (3)
- 700. Seminar in Social Theory (3)
- 740. Seminar in Social Psychology: Sociological Approaches (3)
- 760. Seminar in Research Methods (3)
- 797. Research (3) Cr/NC/SP
- 798. Special Study (1-3) Cr/NC/SP
- 799A. Thesis (3) Cr/NC/SP
- 799B. Thesis Extension (0) Cr/NC

Speech Communication Courses

- 696. Special Topics in Speech Communication (1-3)
- 700. Seminar in Research and Bibliography (3)
- 706. Seminar in Organizational Communication (3)
- 730. Seminar in the Analysis of Language (3)
- 735. Seminar in Communication Theory (3)
- 775. Seminar in Intercultural Communication (3)
- 790. Seminar in Experimental Procedures in Speech Communication (3)
- 791. Seminar in Group Communication (3)
- 792. Seminar in Persuasion (3)
- 798. Special Study (1-3) Cr/NC/SP
- 799A. Thesis or Project (3) Cr/NC/SP
- 799B. Thesis or Project Extension (0) Cr/NC

Telecommunications and Film Courses

- 600. Seminar in Research and Bibliography (3)
- 615. Seminar in Criticism of Electronic Media and Cinema (3)
- 620. Seminar in the Development of Telecommunications Systems (3)
- 640. Seminar in Electronic Media Advertising Problems (3)
- 670. Seminar in Public Telecommunications (3)
- 675. Seminar in Telecommunication Technology and Policy (3)
- 696. Advanced Research Topics (3)
- 700. Seminar in Telecommunications Management (3)
- 701. Seminar in the Research Process (3)
- 705. Seminar in Telecommunications Policy and Regulation (3)
- 750. Seminar in Contemporary Telecommunications Issues and Trends (3)
- 798. Special Study (1-3) Cr/NC/SP
- 799A. Thesis or Project (3) Cr/NC/SP
- 799B. Thesis or Project Extension (0) Cr/NC

Mathematical Sciences

OFFICE: Business Administration/Mathematics 203
TELEPHONE: (619) 594-6191

In the College of Sciences

Faculty

Mathematics and Applied Mathematics

- John D. Elwin, Ph.D., Professor of Mathematical Sciences, Chair of Department
- Henry G. Bray, Ph.D., Professor of Mathematical Sciences
- David H. Carlson, Ph.D., Professor of Mathematical Sciences
- Ronald W. Davis, Ph.D., Professor of Mathematical Sciences
- Saul I. Drobnies, Ph.D., Professor of Mathematical Sciences
- Betty B. Garrison, Ph.D., Professor of Mathematical Sciences
- Tunc Geveci, Ph.D., Professor of Mathematical Sciences
- Robert D. Grone, Ph.D., Professor of Mathematical Sciences
- Richard A. Hager, Ph.D., Professor of Mathematical Sciences
- Edgar J. Howard, Ph.D., Professor of Mathematical Sciences (M.A. Graduate Adviser)
- Frank D. Lesley, Ph.D., Professor of Mathematical Sciences
- Donald A. Lutz, Ph.D., Professor of Mathematical Sciences
- Joseph M. Mahaffy, Ph.D., Professor of Mathematical Sciences
- Stephen J. Pierce, Ph.D., Professor of Mathematical Sciences
- James E. Ross, Ph.D., Professor of Mathematical Sciences
- Peter Salamon, Ph.D., Professor of Mathematical Sciences
- Daniel Saltz, Ph.D., Professor of Mathematical Sciences
- Donald R. Short Jr., Ph.D., Professor of Mathematical Sciences, Dean of the College of Sciences
- Arnold L. Villone, Ph.D., Professor of Mathematical Sciences
- José Castillo, Ph.D., Associate Professor of Mathematical Sciences
- T. Marc Dunster, Ph.D., Associate Professor of Mathematical Sciences

- William R. Hintzman, Ph.D., Associate Professor of Mathematical Sciences
- Stefen Hui, Ph.D., Associate Professor of Mathematical Sciences (M.S. Applied Mathematical Sciences Graduate Adviser)
- Genovevo C. Lopez, Ph.D., Associate Professor of Mathematical Sciences
- Bernard Marcus, Ph.D., Associate Professor of Mathematical Sciences
- Arthur Springer, Ph.D., Associate Professor of Mathematical Sciences
- David G. Whitman, Ph.D., Associate Professor of Mathematical Sciences
- Stephen J. Kirschvink, Ph.D., Assistant Professor of Mathematical Sciences

Mathematics Education

- Nicholas A. Branca, Ed.D., Professor of Mathematical Sciences
- Douglas B. McLeod, Ph.D., Professor of Mathematical Sciences
- Judith T. Sowder, Ph.D., Professor of Mathematical Sciences (M.A.T.S. Graduate Adviser)
- Larry K. Sowder, Ph.D., Professor of Mathematical Sciences
- Patrick W. Thompson, Ed.D., Professor of Mathematical Sciences
- Alfinio Flores, Ph.D., Associate Professor of Mathematical Sciences
- Mary S. Koehler, Ph.D., Associate Professor of Mathematical Sciences
- Alba G. Thompson, Ed.D., Associate Professor of Mathematical Sciences

Assistantships

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

General Information

The Department of Mathematical Sciences, in the College of Sciences, offers graduate study leading to the Master of Arts degree in mathematics, the Master of Arts degree for teaching service with a concentration in mathematics, the Master of Science degree in applied mathematics, the Master of Science degree in statistics (see the Statistics section of this bulletin for a description of the statistics program and courses), and the Master of Science degree in computer science. (See the Computer Science section of this bulletin for a description of the computer science program.)

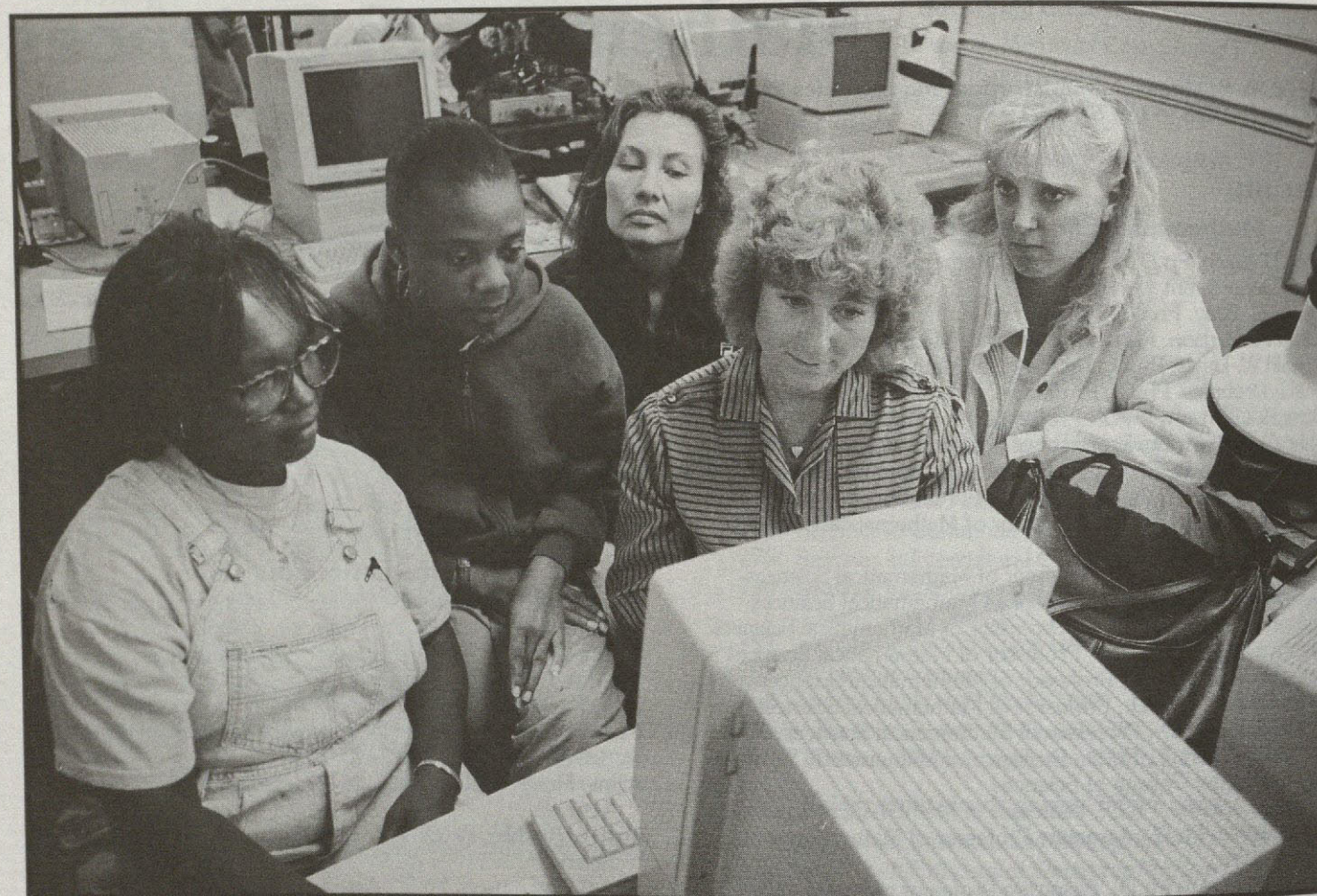
Faculty active in research direct theses and research projects in most general areas of the mathematical sciences: in approximation theory, complex analysis, differential equations, differential geometry, graph theory, group theory, matrix theory,

number theory, numerical analysis, operator theory and ring theory within mathematics; in cognitive science, computer education and problem solving within mathematics education; in control theory, mathematical physics, modeling and optimization within applied mathematics; in biostatistics, data analysis, inference, stochastic processes, survival analysis and time series within statistics; in algorithms, computability, formal language, numerical analysis, and system software (artificial intelligence, database management, distributed processing, graphics and operating systems) within computer science.

Research facilities of the System Ecology Research Group provide opportunities for research in applied mathematics. Opportunities for research in mathematics education are available through research facilities in the Center for Research in Mathematics and Science Education. Research facilities of the department include the Robotics and Intelligent Machines Laboratory which provides opportunities for research in computer science (see Computer Science section).

Admission to Graduate Study

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



Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Two of this bulletin. In addition, the student must have passed a qualifying examination in some programs.

Specific Requirements for the Master of Arts Degree in Mathematics

(Major Code: 17011)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must meet the following requirements:

1. Complete 30 units of approved 500, 600, and 700 level courses, of which at least 24 units must be in mathematics (including computer science). At least 21 units must be at the 600 level or above. Mathematics 600, 601, and 602 may not be part of this degree. No more than six units of Mathematics 797 and 798 will be accepted toward the degree.
2. Among the 30 units of coursework, students must include at least two courses in the area of algebra chosen from courses 621, 622, 623, 624, and at least two courses in analysis chosen from courses 630A, 630B, 631A, 631B.

3. Before entering the program, students should have completed the following courses or their equivalents: Mathematics 521B, 524, 532, 534B. If a student has not had these courses before entering the program, they must be taken during the first year. (A maximum of two of these courses may be applicable toward the degree course requirements.)
4. With departmental approval, students may select Plan A and complete Mathematics 799A or Plan B requiring a written comprehensive examination based on material to be selected by the department from among Mathematics 621, 622, 623, 624, 630A, 630B, 631A, 631B on the student's program.

Specific Requirements for the Master of Science Degree in Applied Mathematics

(Major Code: 17031)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree described in Part Two of this bulletin, the student must meet the following requirements:

1. Have completed before entering the program, the following courses or their equivalents: Mathematics 524, 534A, 534B, 541, 551A, and programming proficiency in a

computer language. Admission to the program as conditionally classified may be granted without some of the coursework above, contingent on the student removing any deficiencies by the end of the first year in the program. (These courses will not count toward the degree course requirements.)

2. Complete a minimum of 30 units of approved 500-, 600- and 700-numbered courses. All programs must include at least 21 units in mathematical sciences (with the possible exception of a student who shows an interest in mathematical modeling) and at least 18 units selected from 600- and 700-numbered courses. No more than six units in Mathematics 797 and 798 will be accepted for credit toward the degree. A program of study must be approved by the graduate adviser.
3. With departmental approval, the student may select Plan A, and complete Mathematics 799A, Thesis. The student must have an oral defense of their thesis or research, open to the public. If Plan B is elected, the student must complete three units of Mathematics 797, Research, and pass the written Comprehensive Examination in Applied Mathematics.

Courses Acceptable on Master's Degree Programs in Applied Mathematics, Computer Science, Mathematics, and Statistics

General

UPPER DIVISION COURSES

NOTE: Proof of completion of prerequisites required for all upper division courses: Grade report or copy of transcript.

509. Computers in Teaching Mathematics (3)

Two lectures and three hours of laboratory.

Prerequisite: Mathematics 252 or 312.

Solving mathematical tasks using an appropriate computer language. Using software for teaching mathematical concepts. Developing problem-based curricula. Intended for those interested in middle or high school mathematics teaching.

510. Introduction to the Foundations of Geometry (3) I, II

Prerequisite: Mathematics 122, 151 or 157.

The foundations of Euclidean and hyperbolic geometries. Highly recommended for all prospective teachers of high school geometry.

511. Projective Geometry (3)

Prerequisite: Mathematics 254.

Concurrence of lines, collinearity of points and other properties of figures not altered by projections; homogenous coordinates and analytic properties of projective transformations.

512. Non-Euclidean Geometry (3)

Prerequisite: Mathematics 122, 151 or 157.

History of attempts to prove the fifth postulate; emphasis on plane synthetic hyperbolic geometry; brief treatment of other types of non-Euclidean geometry.

521A. Abstract Algebra (3) I, II

Prerequisites: Mathematics 245 and 252.

Abstract algebra, including elementary number theory, groups, and rings.

521B. Abstract Algebra (3) II

Prerequisite: Mathematics 521A.

Continuation of Mathematics 521A. Rings, ideals, quotient rings, unique factorization, noncommutative rings, fields, quotient fields, and algebraic extensions.

522. Number Theory (3) I

Prerequisites: Mathematics 245 and 252.

Theory of numbers to include congruences, Diophantine equations, and a study of prime numbers.

523. Mathematical Logic (3)

Prerequisite: Mathematics 245.

Propositional logic and predicate calculus. Rules of proof and models. Completeness and the undecidability of arithmetic. Not open to students with credit in Philosophy 521.

524. Linear Algebra (3) I, II

Prerequisites: Mathematics 245 and 254; or 342A.

Vector spaces, linear transformations, orthogonality, eigenvalues and eigenvectors, normal forms for complex matrices, positive definite matrices and congruence. Not open to students with credit in Mathematics 520A-520B.

531. Partial Differential Equations (3) I

Prerequisites: Mathematics 252 and 337.

Boundary value problems for heat and wave equations: eigenfunction expansions, Sturm-Liouville theory and Fourier series. D'Alembert's solution to wave equation; characteristics. Laplace's equation, maximum principles, Bessel functions. Not open to students with credit in Mathematics 340B.

532. Functions of a Complex Variable (3)

Prerequisite: Mathematics 252.

Analytic functions, Cauchy-Riemann equations, theorem of Cauchy, Laurent series, calculus of residues.

533. Vector Calculus (3)

Prerequisite: Mathematics 254 or 342A.

Scalar and vector fields; gradient, divergence curl, line and surface integrals: Green's, Stokes' and divergence theorems. Green's identities. Applications to potential theory or fluid mechanics or electromagnetism.

534A. Advanced Calculus I (3) I, II, S

Prerequisites: Mathematics 245 and 254; or 342A.

Completeness of the real numbers and its consequences, sequences and series of real numbers, continuity, differentiability and integrability of functions of one real variable.

534B. Advanced Calculus II (3) I, II

Prerequisite: Mathematics 534A.

Series and sequences of functions and their applications, functions of several variables and their continuity, differentiability and integrability properties.

535. Introduction to Topology (3)

Prerequisite: Mathematics 534A.

Topological spaces. Functions, mappings, and homeomorphisms. Connectivity, compactness. Metric spaces.

537. Ordinary Differential Equations (3)

Prerequisite: Mathematics 337.

Theory of ordinary differential equations: elementary existence and uniqueness, dependence on initial conditions and parameters, linear systems, stability and asymptotic behavior, plane autonomous systems, series solutions at regular singular points. Not open to students with credit in Mathematics 530.

541. Introduction to Numerical Analysis and Computing (3) I, II, S

Prerequisites: Mathematics 254 or 342A; and Computer Science 107 or Engineering 120.

Solution of equations of one variable, direct methods in numerical linear algebra, least squares approximation, interpolation and uniform approximation, quadrature.

542. Introduction to Numerical Solutions of Differential Equations (3) II

Prerequisites: Mathematics 337 and 541.

Initial and boundary value problems for ordinary differential equations. Partial differential equations. Iterative methods, finite difference methods, and the method of lines.

556. Computer Mathematics and Symbolic Programming (3)

Prerequisites: Computer Science 107 and Mathematics 254.

Use of mathematical and symbolic computer packages such as MACSYMA, SMP, MAPLE, REDUCE, and MUMATH to analyze problems in various branches of mathematics and computer science.

561. Applied Graph Theory (3)

Prerequisite: Mathematics 245 or 254.

Undirected and directed graphs, trees, Hamiltonian circuits, classical problems of graph theory including applications to linear systems.

579. Combinatorics (3)

Prerequisite: Mathematics 245.

Permutations, combinations, generating functions, recurrence relations, inclusion-exclusion counting. Polya's theory of counting, other topics and applications.

596. Advanced Topics in Mathematics (1-4) I, II

Prerequisite: Consent of instructor.

Selected topics in classical and modern mathematical sciences. May be repeated with the approval of the instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

**General
GRADUATE COURSES**

621. Theory of Groups (3)

Prerequisite: Mathematics 521B.

Permutation groups, isomorphism theorems, Sylow theorems, solvable groups, fundamental theorem of finitely generated Abelian groups.

622. Theory of Fields (3)

Prerequisite: Mathematics 521B. Recommended: Mathematics 621.

Galois theory, finite fields, cyclotomic and cyclic extensions, solvability by radicals, transcendence degree, Hilbert's Nullstellensatz.

623. Linear Algebra and Matrix Theory (3)

Prerequisite: Mathematics 524.

Characteristic and minimal polynomials, Cayley-Hamilton theorem, canonical forms, hermitian matrices, Sylvester's law, norms, singular values, stability, non-negative matrices.

624. Rings and Ideals (3)

Prerequisite: Mathematics 521B. Recommended: Mathematics 621.

Rings and ideals; unique factorization; modules, chain conditions, Wedderburn's theorem, Jacobson radical.

630A-630B. Functions of a Real Variable (3-3)

Prerequisites: Mathematics 524 and 534B. Mathematics 630A is prerequisite to Mathematics 630B.

Lebesgue measure and integration, metric spaces, Banach spaces, Hilbert spaces, spectral theory.

631A-631B. Functions of a Complex Variable (3-3)

Prerequisites: Mathematics 532 and 534B. Mathematics 631A is prerequisite to 631B.

Theory of analytic functions. Elementary functions and power series, Cauchy's theorem and its consequences. Entire functions, conformal mappings, Riemann mapping theorem. Harmonic functions.

636. Mathematical Modeling (3)

Prerequisites: Mathematics 524, 537, and 551A.

Advanced models from the physical, natural, and social sciences. Emphasis on classes of models and corresponding mathematical structures.

637. Theory of Ordinary Differential Equations (3)

Prerequisites: Mathematics 524, 532, 534B, and either Mathematics 531 or 537.

Existence, uniqueness, and continuation of solutions from an advanced standpoint. Linear systems and their stability and asymptotic behavior, regular and irregular singularities, and regular boundary value problems.

642. Partial Differential Equations (3)

Prerequisites: Mathematics 531 and 663.

Elliptic boundary value problems; parabolic and hyperbolic initial boundary value problems. Nonlinear conservation laws.

660A-660B. Applied Analysis (3)

Prerequisites: Mathematics 534A and 534B. Mathematics 660A is prerequisite to 660B.

Advanced analysis with emphasis on applied mathematics. Topics include interchange of limit processes, approximation of functions and multidimensional calculus.

662. Advanced Optimization Theory (3)

Prerequisites: Mathematics 362 and 524.

Formulating the optimization problem and constructing proper models. Sequential optimization: linear programming, integer programming, dynamic programming, nonlinear programming. Duality theory and sensitivity analysis. Sample applications and numerical implementation.

663. Methods of Applied Analysis (3)

Prerequisite: Mathematics 630A.

Functional analysis with applications to applied mathematics. Metric and normed linear spaces, bounded and compact operators, inner product and Hilbert spaces, self-adjoint operators and orthogonal expansions.

664. Methods of Applied Algebra (3)

Prerequisites: Mathematics 524 and either Mathematics 521A or two courses with algebraic content such as Mathematics 245, 542.

Canonical forms, matrix groups, matrix inequalities, nonnegative matrices. Multilinear algebra, tensors. Group representations, characters, invariants. Coding theory.

667. Mathematical Aspects of Systems Theory (3)

Prerequisites: Mathematics 524 and 537.

Linear and nonlinear systems, nonlinear differential equations, equilibrium equations. Linearization, state transition matrix, stability theory, feedback control systems.

693A. Advanced Numerical Analysis (3)

Prerequisites: Mathematics 524 and 542.

Numerical optimization, Newton's methods for nonlinear equations and unconstrained minimization. Global methods, nonlinear least squares, integral equations.

693B. Advanced Numerical Analysis (3)

Prerequisites: Mathematics 531, 537, and 693A.

Methods for differential equations. Elliptic and parabolic partial differential equations. Stiff ordinary differential equations.

696. Selected Topics in Mathematical Sciences (3)

Prerequisite: Graduate standing.

Intensive study in specific areas of mathematical sciences. May be repeated with new content. See Class Schedule for specific content. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

720. Seminar (1-3)

Prerequisite: Consent of instructor.

An intensive study in advanced mathematics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

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

Prerequisite: Six units of graduate level mathematics.

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

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

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

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

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

**Mathematics Education
GRADUATE COURSES**

600. Geometrical Systems (3)

Prerequisites: Mathematics 521A and an upper division course in geometry.

Ordered and affine geometries, decompositions, dilations. Projectivities and projective space. Absolute geometry, isometries, groups generated by inversions.

601. Topics in Algebra (3)

Prerequisites: Mathematics 521A and 534A.

Unique factorization domains, rings and ideals, groups, algebraic field extensions. A course designed for secondary school teachers.

602. Topics in Analysis (3)

Prerequisites: Mathematics 521A and 534A.

Topics in analysis, including the real number system, convergence, continuity, differentiation, the Riemann-Stieltjes integral, complex analysis, designed to give the secondary teacher a broad understanding of the fundamental concepts.

**For additional courses useful to mathematicians
see the sections under:**

Computer Science
Mathematics Education
Statistics

Mathematics and Science Education

In the College of Sciences and
In the College of Education

Mathematics and Science Education Faculty

Judith T. Sowder, Ph.D., Professor of Mathematical Sciences
(Coordinator)
Nicholas A. Branca, Ed.D., Professor of Mathematical Sciences
Elsa Feher, Ph.D., Professor of Natural Sciences
Kathleen M. Fisher, Ph.D., Professor of Natural Sciences
Fred M. Goldberg, Ph.D., Professor of Physics
Sandra P. Marshall, Ph.D., Professor of Psychology, Director,
Center for Research in Mathematics and Science Education
Douglas B. McLeod, Ph.D., Professor of Mathematical Sciences
Stephen K. Reed, Ph.D., Professor of Psychology
Larry K. Sowder, Ph.D., Professor of Mathematical Sciences
Patrick W. Thompson, Ed.D., Professor of Mathematical
Sciences
Nadine Bezuk, Ph.D., Associate Professor of Teacher Education
Cheryl Mason, Ph.D., Associate Professor of Teacher Education
Alba G. Thompson, Ed.D., Associate Professor of Mathematical
Sciences

Faculty Committee for Mathematics Education

Judith T. Sowder, Ph.D., Professor of Mathematical Sciences,
Committee Co-Chair (M.A.T.S. Graduate Adviser)
Nadine S. Bezuk, Ph.D., Associate Professor of Teacher
Education, Committee Co-Chair
Nicholas A. Branca, Ed.D., Professor of Mathematical Sciences
Douglas B. McLeod, Ph.D., Professor of Mathematical Sciences
Larry K. Sowder, Ph.D., Professor of Mathematical Sciences
Patrick W. Thompson, Ed.D., Professor of Mathematical
Sciences
Alfinio Flores, Ph.D., Associate Professor of Mathematical
Sciences
Mary S. Koehler, Ph.D., Associate Professor of Mathematical
Sciences
Rafaela Santa Cruz, Ph.D., Associate Professor of Teacher
Education
Alba G. Thompson, Ed.D., Associate Professor of Mathematical
Sciences
Barbara Armstrong, Ph.D., Assistant Professor of Teacher
Education
Randolph A. Philipp, Ph.D., Assistant Professor of Teacher
Education

Section I. Master's Degree Program General Information

The Department of Mathematical Sciences in the College of
Sciences offers two specializations in its program of graduate
study leading to a Master of Arts degree for teaching service. The
specialization for community college teaching offers candidates a
program designed to provide them with the mathematical
breadth necessary to teach a wide variety of lower-division colle-

For further information regarding programs, consult the
following:

Ph.D. Program.....	CRMSE 6475 Alvarado Rd., #206 (619) 594-5090
MA Program.....	Mathematical Sciences (619) 594-6191 Teacher Education (619) 594-5777

gate mathematics courses, while also providing them with a bet-
ter understanding of the issues involved in teaching and learning
mathematics. The specialization for secondary teaching offers
coursework designed to strengthen the mathematical back-
ground of secondary teachers, to provide teachers with a deeper
understanding of learning and teaching mathematics in grades 7-
12, and to allow teachers the opportunity to analyze curriculum
and evaluation efforts in a manner that can lead them to make
reasoned judgments about curricular, testing, and instructional
issues in grades 7-12 mathematics.

Courses described in this section may also be of interest to stu-
dents seeking the Master of Arts degree in education with con-
centrations in elementary curriculum and instruction or
secondary curriculum and instruction, offered by the School of
Teacher Education.

Assistantships

Graduate assistantships in mathematical sciences are available
to qualified students. Support for qualified candidates may also be
available through the School of Teacher Education, through the
Center for Research in Mathematics and Science Education or
through employment on faculty research grants. Applications are
available from the appropriate campus offices.

Admission to Graduate Study

All students must satisfy the general requirements for admis-
sion to the University with classified graduate standing, as
described in Part Two of this bulletin.

Advancement to Candidacy

All students must satisfy the general requirements for
advancement to candidacy as described in Part Two of this bulle-
tin. In addition, students seeking the Master of Arts degree for
teaching service in the Department of Mathematical Sciences
must have passed a qualifying examination in either mathematics
education or in mathematics.

Specific Requirements for the Master of Arts Degree for Teaching Service in the Department of Mathematical Sciences

(Major Code: 17011)

In addition to meeting the requirements for classified graduate
standing and the basic requirements for the master's degree as
described in Part Two of this bulletin, the students must complete
a graduate program of at least 30 units, 24 of which must be

from the Department of Mathematical Sciences. At least 15 of
the 24 must be 600- and 700-numbered courses. The student
must complete Mathematics 799A, Thesis. A student's program
must be prepared in conference with and approved by the gradu-
ate adviser.

The two specializations leading to the Master of Arts for
teaching service require completion of a specific pattern of grad-
uate units described below.

**Specialization in Mathematics for Community College
Teaching.** This specialization is designed to satisfy the require-
ments for teaching mathematics at the community college level.
Students shall have completed a bachelor's degree in mathemat-
ics (or equivalent) before entering the program and must have
completed two courses selected from Mathematics 521A, 524,
and 534A. The third course can be taken prior to entrance to the
program or as part of the 30-unit degree requirements. The 30-
unit program includes Mathematics 600, 601, 602, 799A, The-
sis or Project, Mathematics Education 603, and at least one
course selected from Mathematics Education 604, 605, 606.

**Specialization in Mathematics for Secondary Teach-
ing.** This specialization is designed to strengthen the mathemat-
ical background of secondary teachers, while providing
coursework to better understand the learning and teaching of
mathematics in grades 7-12. Students should have the equivalent
of a bachelor's degree in mathematics before entering the pro-
gram. The 30-unit program includes Mathematics 521A, 524,
534A (or their equivalents), 799A, Thesis or Project, Mathemat-
ics Education 603, and at least two courses selected from Mathe-
matics Education 604, 605, 606.

Section II. Doctoral Program

The Ph.D. in Mathematics and Science Education has been
approved by both institutions and is waiting final approval
from the University of California and The California State
University. It is anticipated that approvals will be obtained in
time to admit students beginning with the fall 1993 semester.

General Information

San Diego State University and the University of California,
San Diego, offer jointly a doctoral program in mathematics and
science education. The program faculty at SDSU are members of
the College of Sciences or the College of Education and are affil-
iated with the Center for Research in Mathematics and Science
Education (CRMSE). They represent a number of different disci-
plines, including biology, mathematics, natural science, physics,
psychology, and teacher education. The program faculty at
UCSD, also an interdisciplinary group, are members of the Divi-
sion of Natural Sciences (biology, chemistry, mathematics, and
physics) or the Division of Social Sciences (cognitive science, phi-
losophy, and sociology). The program is administered under the
College of Sciences at SDSU and under the Division of Natural
Sciences at UCSD.

The research interests of the participating faculty members
cover a wide range of issues in the learning and teaching of math-
ematics and the sciences. Graduates of the program will be qual-
ified to take a variety of professional positions, including faculty
appointments in universities, colleges, and community colleges;

specialist positions in public school districts; and extra-school
employment in settings that require expertise in mathematics and
science education.

Admission to Doctoral Study

Applicants for admission to the doctoral program in mathe-
matics and science education must meet the general require-
ments for admission to both universities with classified graduate
standing as outlined in the respective current catalogs. Applicants
must also meet the special requirements of this program. These
include: (a) an acceptable baccalaureate degree from an accred-
ited institution; (b) a master's degree, or its equivalent, in biology,
chemistry, physics, or mathematics; a GPA of at least 3.25 in the
last 30 semester (or 45 quarter) units of upper division work and
at least a 3.75 in the graduate work attempted; (d) good standing
in the last institution attended; (e) suitable scores in both the
quantitative and verbal sections of the Graduate Record Exami-
nations. Applications from outstanding candidates who have not
earned a master's degree may be accepted, under the condition
that they spend the first year earning a master's degree in one of
the disciplines listed above.

Application. Students seeking admission to the doctoral pro-
gram should write directly to the Doctoral Program in Mathemat-
ics and Science Education, CRMSE, San Diego State University.
A complete application requires that the following information
be provided:

The appropriate application form, including a statement of
purpose.

Transcripts of academic work already completed.

Results of the Graduate Record Examinations.

Three letters of recommendation (sent directly to the Doc-
toral Program Coordinator, Center for Research in Math-
ematics and Science Education (CRMSE), San Diego
State University).

Specific Requirements for the Doctor of Philosophy Degree in Mathematics and Science Education

(Major Code: 08997)

Residency Requirements. After formal admission to the
Doctoral Program, the student must spend at least one academic
year in full-time residence on each of the two campuses. The def-
inition of residence must be in accord with the regulations of San
Diego State University and the University of California, San
Diego.

Language Requirements. There is no formal language
requirement for the program. If a student intends to pursue a
course of study in which knowledge of another language is neces-
sary, the Advisory Committees will impose the appropriate lan-
guage requirement.

Course Requirements. All students admitted into the doc-
toral program will fulfill the following requirements:

A. Four core courses at SDSU:

MSE 801
MSE 802
MSE 803
MSE 810

- B. Four core courses at UCSD:
UCSD 296A
UCSD 296B
UCSD 296C
UCSD 500-level course in student's discipline
- C. One of the following statistics courses at SDSU:
PSY 570
PSY 670
- D. Two courses in cognitive psychology, taken either at SDSU or UCSD:
SDSU: PSY 587 and 800
UCSD: PSYCH 218A and 218B
- E. One of the following seminars in mathematics or science education at SDSU:
MTHED 603
N SCI 600
- F. At least one of the following courses at UCSD:
PHIL 113
PHIL 180
PHIL 181
PHIL 182
HISC 160
HISC 163
HISC 164
SOC 168J
- G. One of the following practicum courses:
SDSU MSE 805
SDSU MSE 806
SDSU MSE 807
UCSD TEP 290

Beyond these requirements, no specified number of courses is required for the doctoral degree. It is expected that all the doctoral students will supplement the requirements with electives that contribute to individual career objectives.

Qualifying Examinations. Students in the doctoral program will be evaluated at the following levels:

(1) **First Year Evaluation.** The student's ability to master graduate level course material will be assessed after completion of no more than 24 semester units of coursework. This evaluation will take place no later than the third semester of the student's enrollment in the program. The evaluation will be based on the student's performance in coursework and on indicated research competence, and it will be undertaken by the student's Advisory Committee together with instructors from the student's first year courses.

(2) **Qualifying Examinations.** At the end of the second year, the student will take two written qualifying examinations: one in general cognition and the other on issues of learning pertinent to the student's area of specialization.

(3) **Oral Examination.** During the third year in the program, the student will make an oral presentation to the Dissertation Committee to accompany a written proposal for the doctoral thesis. The student will be questioned on both the topic of the investigation and on the proposed research methodology. Upon successful completion of this presentation, the student will be recommended for advancement to candidacy for the doctoral degree.

(4) **Dissertation Defense.** After completion of the dissertation, the candidate will present a public defense of the doctoral dissertation. A copy of the dissertation must be made available to the doctoral faculty at both institutions four weeks prior to the defense. Copies of the abstract of the dissertation, along with the announcement of the defense, must be publicly available at least

one week before the defense. The student's Dissertation Committee will make a recommendation to the Graduate Deans to pass or fail the student.

Faculty Adviser. Upon admission to the doctoral program, the program directors will assign each student a faculty adviser. The faculty adviser will serve as adviser until the student has completed the first year of coursework and has been favorably evaluated as described above in (1).

Advisory Committee. Following the first-year evaluation, a doctoral adviser will be selected who will serve as primary adviser for the student's program of study and for the dissertation study. The student and the doctoral adviser, in consultation with the program directors, will select one additional member from the cooperating faculty at each campus to serve on the Advisory Committee. In consultation with the student, the Advisory Committee will develop a course of study for the student. The Advisory Committee will be the official advising group for the student until a Dissertation Committee has been chosen and recommended to the Graduate Divisions of the two institutions by the Advisory Committee.

Dissertation Committee. The Dissertation Committee will be composed of five members with at least two faculty members from each campus. The student and the Advisory Committee will select members of the Dissertation Committee in consultation with program faculty and the program directors. Members of the student's Advisory Committee may serve on the Dissertation Committee or new members may be selected by the student or the program directors.

Dissertation. Following the successful completion of all prescribed coursework and qualifying examinations, the major remaining requirement for the Ph.D. degree will be the satisfactory completion of a dissertation consisting of original research carried out under the guidance of the major professor. Approval of the completed dissertation attests that an organized investigation that expands the frontiers of knowledge and understanding in mathematics and science education has been carried out.

Award of the Degree. The Doctor of Philosophy degree in Mathematics and Science Education will be awarded jointly by the Regents of the University of California and the Trustees of The California State University in the names of both cooperating institutions.

Financial Support

The Center for Research in Mathematics and Science Education at SDSU has a number of research and teaching assistantships available to support students admitted to the Joint Doctoral Program. All students applying to the program will be considered for financial support.

Courses Acceptable on the Master's and Doctoral Degree Programs in Mathematics and Science Education

GRADUATE COURSES IN MATHEMATICS EDUCATION

603. Seminar on Research in Mathematics Learning and Instruction (3)

Prerequisite: Consent of instructor or graduate adviser.
The learning and teaching of mathematics, with emphasis on applications of current psychological theories to mathematics learning, and research on mathematics teaching.

604. Seminar on Curriculum and Evaluation Issues in Mathematics (3)

Prerequisite: Consent of instructor or graduate adviser.
Curriculum projects in mathematics, and evaluation as it pertains to mathematics curricula, to programs, and to mathematics students and teachers.

605. Algebra in the 7-14 Curriculum (3)

Prerequisite: Consent of instructor or graduate adviser.
Curricular change in algebra, with attention to experimental curricula, to research on learning of algebra, and to influences of technology. Implications for instruction.

606. Geometry in 7-14 Curriculum (3)

Prerequisite: Consent of instructor or graduate adviser.
Curricular change in geometry, with attention to experimental curricula, to research on learning and teaching of geometry, and to influences of technology. Implications for instruction.

GRADUATE COURSES IN MATHEMATICS AND SCIENCE EDUCATION

801. Research in Learning (1) Cr/NC

Prerequisite: Admission to doctoral program in Mathematics and Science Education.
Issues of learning with reference to how they are addressed by ongoing projects at CRMSE. Faculty from both institutions will make presentations.

802. Orientation Practicum (2) Cr/NC

Prerequisite: Admission to doctoral program in Mathematics and Science Education.
Rotation through three different research projects at CRMSE will introduce students to a variety of research questions and approaches.

803. Colloquium (1) Cr/NC

Prerequisite: Admission to doctoral program in Mathematics and Science Education.
Advances in research on learning mathematics and science, presented by visiting scholars and faculty from SDSU and UCSD. Maximum credit two units.

805. Supervised Teaching of Teacher Preparation Courses (3) Cr/NC/SP

Prerequisite: Admission to doctoral program in Mathematics and Science Education.
Students will plan and teach, under supervision, a course that prepares prospective teachers to teach mathematics or science at either the elementary or secondary level.

806. Supervised School Practicum (3) Cr/NC/SP

Prerequisite: Admission to doctoral program in Mathematics and Science Education.
School-based project focusing on inservice of teachers or on curriculum development, or work with a school district administrator or mathematics or science.

807. Specially Designed Practicum (3) Cr/NC/SP

Prerequisite: Admission to doctoral program in Mathematics and Science Education.
Practical experience to assist students in gaining experience in career they have selected.

810. Seminar in Research Design (3)

Prerequisite: Admission to doctoral program in Mathematics and Science Education; Psychology 570 or 670, and consent of instructor.

Issues such as analysis of protocols, problems of measurement in evaluation of learning, development, and assessment of cognitive models in learning in mathematics and science.

820. Research Project (3-6) Cr/NC/SP

Prerequisite: Admission to doctoral program in Mathematics and Science Education.

Participation in an ongoing research project and development of a related study.

830. Research Seminar (3)

Prerequisite: Successful completion of qualifying examination.
Students and faculty present ongoing research for discussion and critique.

897. Doctoral Research (1-8) Cr/NC/SP

Prerequisite: An officially constituted doctoral committee and advancement to candidacy.
Independent investigation in general field of the dissertation.

898. Doctoral Special Study (1-8) Cr/NC/SP

Prerequisite: An officially constituted doctoral committee and advancement to candidacy.
Individual study in the field of specialization.

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

Prerequisite: An officially constituted dissertation committee and advancement to candidacy.
Preparation of the dissertation for the doctoral degree. Enrollment is required during the term in which the dissertation is approved.

For additional courses applicable to the Master of Arts degree for Teaching Service see:

Mathematics 600: Geometrical Systems
Mathematics 601: Topics in Algebra
Mathematics 602: Topics in Analysis

For additional courses related to mathematics education see:

Teacher Education 511: Diagnosis and Remediation of Difficulties in Mathematics
Teacher Education 610A: Seminar in Mathematics Education-Elementary School
Teacher Education 613: Seminar in Mathematics Education-Secondary School
Teacher Education 625: Instruction in Mathematical Problem Solving

Music

In the College of Professional Studies and Fine Arts

Faculty

Martin J. Chambers, M.M., Professor of Music, Chair of Department
 Frank W. Almond, Ph.D., Professor of Music
 Donald P. Barra, Ed.D., Professor of Music
 Conrad Bruderer, D.M., Professor of Music
 Brenton P. Dutton, M.M., Professor of Music
 Jane M. Kolar, Ph.D., Professor of Music
 Jack D. Logan, Ph.D., Professor of Music
 Eddie S. Meadows, Ph.D., Professor of Music
 Danlee G. Mitchell, M.S., Professor of Music
 Terry L. O'Donnell, D.M.A., Professor of Music
 Lewis E. Peterman Jr., Ph.D., Professor of Music
 David Ward-Steinman, D.M.A., Professor of Music
 Bill Yeager, M.M., Professor of Music
 Karen J. Follingstad, D.M.A., Associate Professor of Music
 Howard Hill, M.A., Associate Professor of Music
 Marian Liebowitz, D.M.A., Associate Professor of Music
 Thomas D. Stauffer, M.A., M.M., Associate Professor of Music (Graduate Adviser)

Applied Music Instruction

Piano: Bruderer, Darby, Follingstad, Katz, Kolar
Harpsichord: Paul
Organ: Spelman
Voice: Allman, Chambers, Chase, MacKenzie, Westbrook
Flute: Buckley, Bursill-Hall, Lukas
Oboe: Michel
Clarinet: Liebowitz
Saxophone: Hunter, Rekevics
Early Instruments: Peterman
Bassoon: Michel
French Horn: Cable, Lorge
Trumpet: Price
Trombone: Friedrichs, Yeager
Baritone Horn: Dutton
Tuba: Dutton
Percussion: Mitchell, Moore
Violin: Gaisler, Hill
Viola: Elaine
Cello: Stauffer
Contrabass: G. Biggs
Harp: Hays
Classical Guitar: Benedetti, Kilmer, Romero
Composition: Dutton, Stauffer, Ward-Steinman
Non-Western Instruments: Specialists from specific cultures as available each semester
Jazz Studies: Helzer, Yeager
Opera: Chambers, Eaton, O'Donnell

Scholarships

Information on music scholarships may be obtained by writing to the Chair, Music Scholarship Committee, Music Department, San Diego State University.

OFFICE: Music 111
 TELEPHONE: (619) 594-6031

General Information

The Department of Music, in the College of Professional Studies and Fine Arts, offers graduate study leading to the Master of Arts degree in music and the Master of Music degree. The department is a member of the National Association of Schools of Music.

With approval of the department, students electing to pursue the Master of Arts degree may specialize in one of the following fields: composition; ethnomusicology; music history and literature; musicology; piano, voice and Suzuki string pedagogy and theory. Master of Music students may specialize in performance, composition, jazz and choral or instrumental conducting.

Specializations of the music faculty include:

Composition and theory: Aesthetics; comprehensive musicianship; contemporary music; electronic music; relationships among the arts.

Conducting: Literature and score analysis, hand techniques, rehearsal techniques, general preparation and performance in both the choral and instrumental areas.

Ethnomusicology: African, African-American, American folk, East Asian, European, South Asian, and Southeast Asian musics. Students may elect research in other areas with approval of the faculty adviser.

Music history/literature, and musicology: Students may select (with the approval of the faculty) a topic in medieval, renaissance, baroque, classical, romantic, twentieth century music, or American music.

Performance: Performance studies are offered on all instruments.

Piano pedagogy: Techniques in training the piano teacher for the child, adolescent and adult.

Voice pedagogy: Training the singing teacher through physiological and empirical methods.

Suzuki string pedagogy: This field is under the direction of a Suzuki Association of the Americas Registered Teacher Trainer.

The 78,000 square-foot music building, completed 1970, includes a 200-seat recital hall, rehearsal rooms for instrumental and choral organizations, an electronic music studio, three class-piano rooms, a listening library with a collection of over 13,000 titles available for faculty/student study and 21 listening rooms, 71 individual practice rooms, and approximately 160 pianos and 800 other musical instruments. The University library contains an extensive collection of over 75,000 music books and scores.

The Department of Music has established a new 12 station student computer lab located in the record listening library. This lab will provide facilities for computer assisted instruction in music theory and ear training, word processing programs for essays and term papers, programs for graphics and composing music, a program for a MIDI sequencer from an electric keyboard, and programs for printing music.

The electronic music studio has been completely renovated and includes the latest electronic music equipment available.

The Department of Music houses numerous instruments, scores, and books owned by the Center for World Music. This collection includes ten Balinese and Javanese Gamelans and numerous other musical instruments of the world. The department's holdings also include an extensive collection of early Western musical instruments.

The Department of Music has the following scholarship funds and endowments: Nadine Bolles Piano, Chinese Violin Fund, Elsie Hiland Fox Memorial, M. H. Golden Memorial, Lois Greeno Memorial, Joseph E. Johnson, Kiwanis Club, Lieber-Flower, Jan Lowenbach Musicology, Music Department Fund, Bessie S. Purdy Memorial, Edith Savage Memorial, SDSU Opera Theatre, Sigma Alpha Iota Alumni, SPEBQSA, Paul C. Stauffer Memorial, University Band, Ellen Woolley Orchestra; Marvin Yerkey Memorial.

Admission to Graduate Study in Music

- 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.
- Applicants admitted to the department will be accepted with conditional graduate standing. Placement examinations will be administered in Western music history, Western music theory, and performance studies. Normally one semester will be allowed to remove deficiencies indicated by the examinations through no-credit remedial work in the form of undergraduate courses or other projects and instruction.

In addition to the general requirements for admission to the University with classified graduate standing, as described in Part Two of this bulletin, students must satisfy the following requirements before they will be recommended for classified graduate standing:

- Complete a bachelor's degree with a major in music including full preparation in performance, theory, music history and literature, or hold a bachelor's degree from an accredited institution and present sufficient evidence of study and experience in music to demonstrate the equivalency of a bachelor's degree with a major in music.
- Satisfactorily complete placement examinations in Western theory, Western music history and literature, and performance. Details may be obtained from the Department of Music.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Two of this bulletin, and must have removed any deficiencies assigned on the basis of the placement examinations.

Admission to Master of Arts Degree in Music

In addition to meeting the admission requirements listed above, students who seek a specialization in music history and literature, piano, Suzuki string or vocal pedagogy must pass an audition on an instrument or voice. The Master of Arts degree in music is available with the following specializations: composition, ethnomusicology, music history and literature, musicology, music theory, piano pedagogy, suzuki string pedagogy, and vocal pedagogy.

Specific Requirements for the Master of Arts Degree

(Major Code: 10051)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a 30-unit graduate program of which at least 18 must be in 600- and 700-numbered courses and which includes the following core: Music 613, 652, and 690.

All students in the Master of Arts in Music must complete Music 799A, Thesis or Project. A thesis will be required in theory and musicology. A final project in the form of a lecture-recital with accompanying document will be required in music history and literature. In the composition specialization, students will submit an original composition with analysis. A thesis or project may be chosen in ethnomusicology, and voice/piano/Suzuki string pedagogy.

Master of Arts candidates in ethnomusicology, music history and literature, and musicology must have a reading ability in an approved foreign language. Students in vocal pedagogy must satisfy department requirements in French, German, and Italian.

In addition to the requirements stated above, students must complete requirements in the selected specialization.

Composition

Core: Music 613, 652, 690.

Program: Music 607 (3 units); 6 additional units of 613B or 613D; 651 (4 units); 658; 799A.

Electives: Two units.

Ethnomusicology

Core: Music 613, 652, 690.

Program: Music 561 (6 units); 562; 614; 651 (4 units); 656; 799A.

Music History and Literature

Core: Music 613, 652, 690.

Program: Music 554, 651 (4 units); nine units from 652, 655, 658, 660, 665, 670; 799A.

Electives: Three units.

Musicology

Core: Music 613, 652, 690.

Program: Three units from Music 652; 655; nine units from 658, 660, 665, 670; 799A.

Electives: Three units.

Music Theory

Core: Music 613, 652, 690.

Program: Six additional units selected from Music 613; nine units selected from Music 562, 569-589 (1-4 units), 592, 613F, 655, 658; 799A.

Electives: Three units.

Piano Pedagogy

Core: Music 613, 652, 690.

Program: Music 541A, 542A, 554G, 554H, 641 or 642; 651 (4 units); 799A.

Electives: Two units.

Suzuki String Pedagogy

Core: Music 613, 652, 690.

Program: Music 541B, 542B, 554, 600A, 651 (4 units); 799A.

Electives: Four units.

Vocal Pedagogy**Core:** Music 613, 652, 690.**Program:** Music 541C, 542C, 554, 643, 651 (4 units); 799A.

Electives: Four units.

Refer to Department of Music Student Handbook for further details.

Admission to Master of Music

In addition to meeting the admission requirements listed above, students who seek a performance specialization must pass an audition. Students seeking a composition specialization must submit musical scores of their original work. Those seeking a conducting specialization must submit evidence (programs, videotape) of their conducting expertise. The Master of Music is available with the following specializations: composition, instrumental and choral conducting, instrumental and vocal performance, jazz studies and early music. Please consult the Department of Music for further information concerning admission.

Specific Requirements for the Master of Music Degree**(Major Code: 10041)**

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Two of this bulletin, the student must complete a 30-unit graduate program, of which at least 18 must be in 600- and 700-numbered courses.

Vocal students to be advanced to candidacy must satisfy either a departmental foreign language examination, or attain a satisfactory grade in an introductory course in an appropriate foreign language selected with approval of the graduate adviser. A final oral comprehensive examination is required for all Master of Music candidates.

In addition to the requirements stated above, students must complete requirements in the specific program selected:

Composition**Core:** Music 613, 652, 690.**Program:** Music 607; three additional units from Music 613; 651 (9 units); 767.

Electives: Three units.

Conducting (Choral)**Core:** Music 613, 652, 690.**Program:** Music 554E, 586 (2 units), 600B, 648, 651 (6 units); 767.

Electives: Three units.

Conducting (Instrumental)**Core:** Music 613, 652, 690.**Program:** Music 554, 569-589 (2 units), 591, 649, 651 (6 units); 767.

Electives: Four units.

Early Music**Core:** Music 613, 652, 690.**Program:** Music 569 (3 units), 651 (9 units), 670, 767, three units selected from Music 652, 660, 665.**Jazz Studies****Core:** Music 613, 652, 690.**Program:** Music 651 (9 units), 767, six units from Music 507, 510, 511, 566A-566B, 570-589 (1-3 units), 607, 658.

Electives: Three units.

Performance (Instrumental)**Core:** Music 613, 652, 690.**Program:** Music 554, 569-589 (3 units), 651 (9 units); 767.

Electives: Four units.

Performance (Vocal)**Core:** Music 613, 652, 690.**Program:** Music 554, 569-589 (3 units), 651 (9 units); 767.

Electives: Four units.

Refer to Department of Music Student Handbook for further details.

Courses Acceptable on Master's Degree Program in Music**UPPER DIVISION COURSES****507. Composition Laboratory (1)**

Three hours of laboratory.

Prerequisites: A grade of C (2.0) in Music 207 and consent of instructor.

Continuation of Music 207. Maximum credit two units.

510. Advanced Electronic Music (3)

Two lectures and three hours of laboratory.

Prerequisite: A grade of C (2.0) in Music 310.

Complex waveform generation, remote voltage control generation, and historic aspects of electronic music.

511. Advanced Electronic Music Composition Laboratory (1) I, II

Three hours of laboratory.

Prerequisites: Music 510 and consent of instructor.

Discussion and presentation of independent electronic music works in progress. Maximum credit four units.

541. Performance Studies Pedagogy (3)

Two lectures and three hours of laboratory.

Prerequisite: Consent of instructor.

Teaching beginning and intermediate applied music. Survey and evaluation of teaching materials. Observation of individual or group lessons.

A. Piano

B. Strings

C. Voice

542. Performance Studies Laboratory (2)

One lecture and three hours of laboratory.

Prerequisite: A grade of C (2.0) in Music 541A, 541B, 541C. Music 541A is prerequisite to 542A and 541B is prerequisite to 542B, and 541C is prerequisite to 542C.

Practical experience in the teaching of individual or group lessons.

A. Piano

B. Strings

C. Voice

543. Diction (1)

Principles of pronunciation and enunciation.

Application to song and opera in English, Italian, German, and French.

553. Opera Theatre (2)

Six or more hours per week.

Prerequisite: By audition.

Interpretation and characterization of light and grand opera. Specific work in coordination of opera ensemble. Maximum credit eight units of which six units are applicable to a master's degree.

554. Music Literature (2) I, II

Prerequisite: Music 255B.

A concentrated study of the literature in the several areas listed. Analysis of scores and recordings. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

A. Chamber Music Literature

B. Symphonic Literature

D. Song Literature

E. Choral Literature (Cantata, Mass, Oratorio)

F. Opera Literature

G. Keyboard Literature (Seventeenth Century through Beethoven) (Formerly numbered Music 554C.)

H. Keyboard Literature (Schubert to the Present)

556. Proseminar in Ethnomusicology (3)

Prerequisite: Music 255B.

Ethnomusicological theory and methodology, including history of the field and its relation to such disciplines as anthropology and linguistics.

561. Area Studies: Ethnomusicology (3)

Prerequisites: Music 351E and 351F.

Music of a specific culture. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

562. World Music in Context (2)

One lecture and two hours of activity.

Prerequisites: Music 351E or 351F and consent of instructor.

Practical experience in the performance of specialized traditional genres of world music, social and environmental context in which they exist. Relationship of music, dance, and theater. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

566A-566B. Jazz Arranging and Composition (2-2)

Prerequisite: Music 255B.

Analysis of jazz compositions and arrangements; arranging and composing for large and small jazz ensembles.

569. Advanced Collegium Musicum (1) I, II

Prerequisite: Music 369.

Preparation and performance of representative works by a specific medieval or renaissance composer on historical instruments. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

570. Advanced Chamber Music (1) I, II

Three hours.

Prerequisite: Consent of instructor.

Study and public performance of established repertory as well as new compositions. Sections for string, woodwind, brass, piano and mixed ensemble groups. May be repeated with new

course content. See Class Schedule for specific content. Maximum credit four units.

576. Symphonic Band (1) I, II

Five hours.

Prerequisite: Consent of instructor.

Study and public performance of representative literature for the ensemble. Practical experience in rehearsal techniques. Maximum credit four units.

581. Symphony Orchestra (1) I, II

Five hours.

Prerequisite: Consent of instructor.

Study and public performance of representative literature for the ensemble. Practical experience in rehearsal techniques. Maximum credit four units.

585. Concert Choir (1) I, II

Five hours.

Prerequisite: Consent of instructor.

Study and public performance of representative literature for the ensemble. Practical experience in rehearsal techniques. Maximum credit four units.

586. Chamber Singers (1) I, II

Five hours.

Prerequisite: Consent of instructor.

Study and public performance of representative literature for the ensemble. Practical experience in rehearsal technique. Maximum credit four units.

589. Jazz Ensemble (1) I, II

Three hours.

Prerequisite: Consent of instructor.

Study and public performance of representative literature for the ensemble. Practical experience in rehearsal techniques. Maximum credit four units.

591. Theory and Practice of Musical Expression and Interpretation (2)

Prerequisite: Music 255B.

Musical perception as it pertains to expressive aspects of performance. Theories of interpretation and ways in which performers can create the impulse to shape its inherent architectonic structure.

592. Analogs in Music, Art and Literature (3)

Prerequisite: At least one survey course in music history or appreciation, art history, or comparative literature.

Cross-influences and correspondence in the arts from the standpoints of style, texture, rhythm, and form. (Formerly numbered Music 580.)

596. Special Topics in Music (1-3)

A specialized study of selected topics from the several areas of music. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of for specific content. Limit of nine units of any combination of for specific content. Limit of nine units of any combination of for specific content. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

GRADUATE COURSES**600. Seminar in Music Education (3)**

Prerequisite: Consent of instructor.

Seminars in music education are offered to provide an opportunity for concentrated study in the several areas listed.

A. Development and Teaching of Strings

B. Choral and Vocal Techniques

607. Seminar in Composition (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.

613. Seminar in Music Theory (3)

Prerequisite: Music 556 is prerequisite to 613F.

Current advanced analytic techniques in various areas of music.

- A. History and Development of Music Theory
- B. Problems in Analysis
- C. Functional Harmony and Schenkerian Analysis
- F. Ethnomusicology Notation and Transcription
- G. Conceptual Analysis of the Jazz Idiom

614. Field Research Methods in Ethnomusicology (3)

Prerequisites: Music 556 and 613F.

Field recording, interviews, operation of audiovisual equipment. Analysis of collected materials.

641. Piano Pedagogy: The Adolescent (3)

Two lectures and three hours of laboratory.

Prerequisite: Music 542A.

Study of music through the piano for the adolescent with analysis and application of appropriate teaching procedures and learning theories. Analysis of literature with corresponding techniques, musical skills and creativity. Supervised teaching.

642. Piano Pedagogy: The Adult (3)

Two lectures and three hours of laboratory.

Prerequisites: Music 541A and 542A.

Study of music for teaching the advanced teenager, college student or adult student. Analysis of solo and ensemble literature. Problem solving and practice. Supervised fieldwork.

643. Seminar: History of Vocal Pedagogy (3)

Prerequisite: Music 541C.

Techniques and practices used to train the human voice in music from the seventeenth century to the present.

648. Seminar in Advanced Choral Conducting (2)

Prerequisite: Music 348.

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. (Formerly numbered Music 648A.)

649. Seminar in Advanced Instrumental Conducting (2)

Prerequisite: Music 349.

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. (Formerly numbered Music 648B.)

651. Advanced Performance Studies (1-3)

Fifteen one-half hour private lessons (1 unit); fifteen one-hour private lessons (2 units); twenty-two hours private lessons (3 units).

Prerequisite: Audition before music faculty. Music 651B for one unit includes M.F.A. in drama students.

Advanced studies in technical, stylistic, and aesthetic elements of artistic performance culminating in a graduate recital. Maximum credit nine units, four of which are applicable to a master of

arts degree. Music 651M will include regular ensemble conducting experience. (Formerly numbered Music 650.)

- | | |
|-------------------|------------------------------------|
| A. Keyboard | H. Harp |
| B. Voice | I. Jazz Instrument |
| C. Woodwind | J. Medieval/Renaissance Instrument |
| D. Brass | K. Non-Western Instrument |
| E. Percussion | L. Composition |
| F. Strings | M. Conducting |
| G. Classic Guitar | |

652. Seminar in Music History (3)

Prerequisites: Music 452B and consent of instructor. Music 351F is prerequisite to 652F. Music 364A-364B and 452C are prerequisite to 652G.

Seminars in music history are offered for intensive study in each of the historical eras as listed below.

- A. Music of the Middle Ages and Renaissance
- B. Music of the Baroque Era
- C. Music of the Eighteenth and Nineteenth Centuries
- D. Twentieth Century Music
- E. American Music
- F. History of Asian Music
- G. History of Jazz

655. Seminar in Musicology (3)

Prerequisite: Music 452B.

Problems and research in musicology. Projects in bibliography, source materials, music history, criticism, aesthetics and related fields. Writing and presentation of a scholarly paper.

656. Seminar in Ethnomusicology (3)

Prerequisite: Music 556.

Variable topics. Maximum credit nine units applicable to a master's degree.

658. Advanced Practicum in Music (3)

One lecture and six hours of activity.

Prerequisites: Completion of undergraduate requirements in an area related to one of the specializations in the M.A. or M.M. degrees, and consent of instructor in the area.

Students will be assigned to appropriate class sections within selected undergraduate area as instructional assistants under staff supervision. Maximum credit six units applicable to a master's degree.

660. Seminar: A Major Composer (3)

Prerequisite: Music 452B. Completion of a seminar in Music 652A is recommended.

The life, milieu, and works of a major composer, such as Bach, Mozart or Schubert will be studied. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

665. Seminar: Notation of Polyphonic Music (3)

Prerequisite: Music 452B. Completion of Music 652A is recommended.

Selected problems related to the notation of Medieval, Renaissance, and Baroque music: scores and tablatures; White mensural notation; Black notation to the end of Franconian notation; French, Italian, mixed and mannered notation. Examples will be transcribed into modern notation. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

670. Seminar: Interpretation of Early Music (3)

Prerequisites: Completion of Music 652A and 652B is recommended.

Performance practice in Medieval, Renaissance and Baroque music; projects in music editing; reports; performance on historical instruments. Participation in the Collegium Musicum required.

690. Seminar in Research Procedures in Music (3)

Reference materials, bibliography, investigation of current research in music, processes of thesis topic selection and techniques of scholarly writing.

696. Special Topics in Music (1-3)

Prerequisite: Graduate standing.

Intensive study in specific areas of music. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum combined credit of six units of 596 and 696 applicable to a 30-unit master's degree.

767. Graduate Recital (3)

Prerequisites: Advancement to candidacy. Consent of department chair.

Selection of literature for recital program of at least one hour in length; theoretical analysis and historical study of scores

chosen; preparation and public performance; and examination before a graduate committee of music department faculty. Conductors must conduct a public performance.

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

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

Individual study. Maximum credit six units applicable to a master's degree.

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

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

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

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

Prerequisite: Prior registration in Thesis or Project 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.

